

# Review of Environmental Factors

Macquarie University  
Early Works – Physics, Astronomy and Engineering Building

Prepared on behalf of Macquarie University

Ethos Urban acknowledges the Traditional Custodians of Country throughout Australia and recognises their continuing connection to land, waters and culture.

We acknowledge the Gadigal people, of the Eora Nation, the Traditional Custodians of the land where this document was prepared, and all peoples and nations from lands affected.

We pay our respects to their Elders past, present and emerging.



**'Gura Bulga'**

Liz Belanjee Cameron

'Gura Bulga' – translates to Warm Green Country. Representing New South Wales.

By using the green and blue colours to represent NSW, this painting unites the contrasting landscapes. The use of green symbolises tranquillity and health. The colour cyan, a greenish-blue, sparks feelings of calmness and reminds us of the importance of nature, while various shades of blue hues denote emotions of new beginnings and growth. The use of emerald green in this image speaks of place as a fluid moving topography of rhythmical connection, echoed by densely layered patterning and symbolic shapes which project the hypnotic vibrations of the earth, waterways and skies.

# Foreword

This Review of Environmental Factors (REF) has been prepared for Macquarie University to assess the potential environmental impacts that could arise from the early works proposed Physics, Astronomy and Engineering Building located at 7 and 9 Wally's Walk, Macquarie University

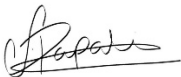
This REF has been prepared in accordance with the Environmental Planning and Assessment Act 1979, the Environmental Planning and Assessment Regulation 2021, State Environmental Planning Policy (Transport and Infrastructure) 2021 and other applicable Commonwealth and State Legislation including Environmental Protection and Biodiversity Conservation Act 1999.

Based on the information presented in this REF and the mitigation measures indicated, it is unlikely that there will be any significant environmental impacts associated with the Proposal.

## Certification

This REF provided an accurate review of the proposal in relation to its potential effects on the environment.

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<b>N</b>	Asbestos Containing Materials Statement

*Pickford & Ryder Consulting*

- O** Hydraulics Services Statement  
*Arup*
- P** Wet and Dry Fire Services Statement  
*Arup*
- Q** Electrical and ICT Services Statement  
*Arup*
- R** Utility Services Report  
*Arup*
- S** Railway Assessment Report  
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# 1.0 Introduction

This Review of Environmental Factors (REF) has been prepared by Ethos Urban for Macquarie University (the University). The University is building on the principles of the Macquarie University Masterplan 2014 to allow for the co-location and integration of industry partnerships within the University campus and to celebrate the rich ecosystem between students, researchers and industry partners.

This REF identifies that the proposed activity can be carried out under Sections 2.45, 2.109, 2.137 and 3.47 of *State Environmental Planning Policy (Transport and Infrastructure) 2021* (Transport and Infrastructure SEPP) as 'Development Permitted without Consent'. It considers the requirements of Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act), as well as Section 171 of the *Environmental Planning and Assessment Regulation 2021* (EP&A Regulations). This REF also sets out a range of mitigation measures to manage any environmental impacts arising from the proposal.

This report describes the site, its environs, the proposed activity and provides an assessment of the environmental impacts and identifies the steps to be taken to protect or lessen the potential impacts on the environment.

## 1.1 Background

The University is currently undergoing significant redevelopment, in line with the Macquarie University Concept Plan 2009 (as modified) and Master Plan 2014. The establishment of a new Physics, Astronomy and Engineering (PAE) Building will work towards the following principles:

- *allow the integration of research and commercial uses within the campus*
- *allow for the co-location of business and faculty if necessary to achieve 'best in class' research outcomes*

The new PAE building will co-locate facilities for the School of Engineering and Macquarie University's key industry partners, the Australian Astronomical Optics (AAO).

This REF relates to site preparation and early works for the site to accommodate the new PAE building, which will be subject to a separate Development Application (DA) to City of Ryde Council.

## 1.2 Proposal Identification

The Physics, Astronomy and Engineering Building is located at the eastern portion of the University campus and is bound by Wally's Walk to the north, Eastern Road to the west, Innovation Road to the south and Building East 2 to the east.

The proposal is described in detail in Section 3 of this REF and is detailed in the Architectural Drawings prepared by Woods Bagot, including in **Appendix A**.



## 2.0 Site Analysis

### 2.1 Site Location and Context

The Macquarie University campus is set in 126 hectares of parkland and is located 15km to the north-west of the Sydney CBD, at the western end of the Macquarie Park Corridor. The campus is located at 192 Balaclava Road and is within the Ryde Local Government Area (LGA). To the north of the main University campus is the M2 Motorway with the Lane Cove River and National Park beyond. Areas to the south and west of the campus are largely residential. The Macquarie Shopping Centre is located immediately east of the campus across Herring Road, with the majority of the Macquarie Park Corridor further to the south east.

The proposed development site is located within the eastern portion of the Macquarie University campus and is known as 7 and 9 Wally's Walk. **Figure 1** below shows the location of 7 and 9 Wally's Walk within the context of the University campus and the broader area.



**Figure 1** Site Context Map

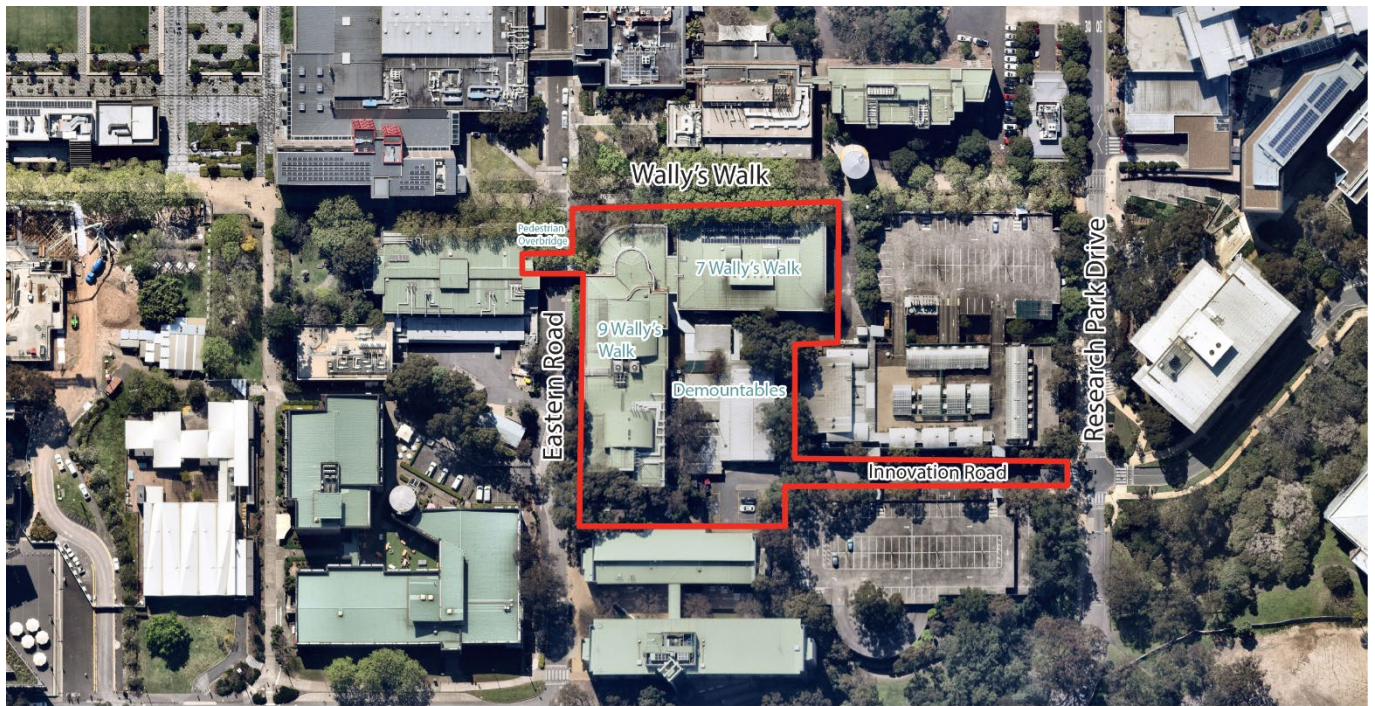
Source: Nearmap, Ethos Urban

### 2.2 Site Description

The majority of the University campus, including 7 and 9 Wally's Walk is legally described as Lot 220 in DP 1266103. A detailed survey plan is located at **Appendix E**. The land is owned by Macquarie University. The site is located on the corner of Wally's Walk to the north and Eastern Road to the west, which is a major intersection within the campus. Innovation Road is located to the south and the East 2 Building is located to the west.

**Figure 2** below provides an aerial image of the proposed development site.





**Figure 2 Aerial Photo**

Source: Nearmap, Ethos Urban

### 2.3 Existing Development

The site has two main existing buildings, including 7 and 9 Wally's Walk. The buildings each comprise a rectilinear wing that are connected via a recessed glazed link at the front boundary, forming an L-shaped structure on the site.

Both buildings are three storeys in height with a sub-terranean ground level, and are constructed of brick and concrete, with aluminium windows. The northern portion of 9 Wally's Walk forms the corner of the L-shaped building and is differentiated from the two wings through a curved façade supported on round concrete columns. It is noted that 9 Wally's Walk is also connected to 11 Wally's Walk by a pedestrian overbridge across Eastern Road.

The buildings are currently used for teaching and theatre spaces largely by the Faculty of Science and Engineering, and the Department of Physics and Astronomy. It is noted that 9 Wally's Walk also houses a data centre, comms room, and other plant within the lower ground level.

In addition to the two buildings, two demountable sheds are located behind the buildings, which are used for the contractor purposes.

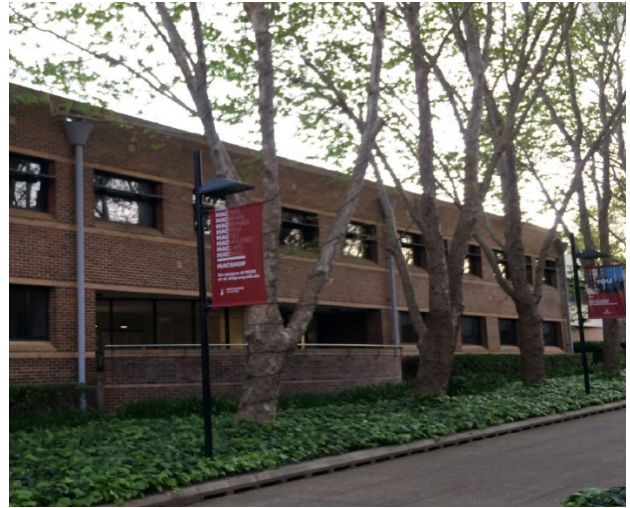
The broader Macquarie University campus is densely vegetated, particularly along Wally's Walk. As such, the northern boundary of the site along Wally's Walk contains significant vegetation and trees. This is further discussed in **Section 122.8**.

**Figure 3** below provides images of the existing buildings on the site.





9 Wally's Walk viewed from corner of Wally's Walk and Eastern Road



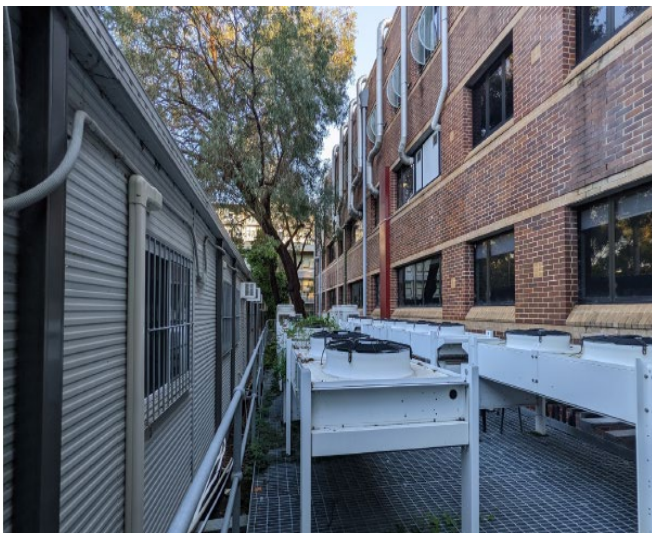
7 Wally's Walk viewed from Wally's Walk



9 Wally's Walk viewed from Eastern Road



Interface between 9 and 7 Wally's Walk viewed from Wally's Walk



Interface between 9 and 7 Wally's Walk viewed from Innovation Road



Interface between 7 and 2 Wally's Walk, viewed from Innovation Road

**Figure 3 Photographs of Existing Site**

Source: Woods Bagot



## 2.4 Surrounding Development

The site is located within the eastern portion of the University Campus, only 500m from the Macquarie University Metro Station to the south of the campus. Uses surrounding the campus include residential, aged care, retail and residential uses.

Within the campus, the site is generally central within the University, with frontages to Wally's Walk to the north and Eastern Road to the west, which are both major pedestrian thoroughfares within the campus.

Figure 4 below provides a map of the Macquarie University campus.



Figure 4 Map of Macquarie University Campus (site outlined in blue)

Source: Macquarie University Website

## 2.5 European Heritage

The majority of the University campus is identified as a local heritage item under *Ryde Local Environmental Plan 2014* (Ryde LEP 2014) under the listing 'Macquarie University (ruins)' (Item 10). The State Heritage Inventory includes the following Statement of Significance for the Macquarie University Ruins:

*The ruins of the stone building built between 1930 and 1943 are of historical significance as a representative of the highpoint of market gardens, orchards and poultry farms located on the Macquarie University site from the 'Field of Mars' subdivision of 1885 to the resumption of the land in 1965 under the Macquarie University Resumption Act.*

The sites is located to the south-east of the heritage item. The location of the Macquarie University ruins in relation to the site is shown as **Figure 5**



The Site



Macquarie University Ruins



**Figure 5** Location to Macquarie University Ruins

Source: Nearmap / Ethos Urban

## 2.6 Aboriginal Archaeology

An Aboriginal Cultural Heritage Assessment Report (ACHAR) has been prepared by Extent Heritage Advisors and is provided at **Appendix V**. The study found no evidence of site-specific cultural values and the study area is likely to comprise low density artefact scatters. Cultural significance of the Lane Cove River was also noted.

The areas identified as possibly retaining archaeological potential are those comprising relatively undisturbed land in close proximity to natural water sources and grinding groves in areas of sandstone outcrop associated with water sources and steep/flat topography. These areas generally coincide with areas that will be retained for other environmental values (significant remnant vegetation) and are well separated from the proposed development site.

## 2.7 Bushfire Prone Land

Parts of the University campus are identified as bushfire prone land. Council's Bush Fire Prone Land Map indicates that a portion of the campus comprises Vegetation Category 2 and Vegetation Buffer areas. This area of land is located 500m north-west of the site. Accordingly, the area of affected land is not within proximity of the site and will not impact on the proposed development.

## 2.8 Topography

The site slopes approximately 2m from the north-western corner towards the south-eastern side of the site, being Innovation Road. Innovation Road then falls further towards Research Park Drive.

## 2.9 Ecology

A Biodiversity Assessment for 7 and 9 Wally's Walk has been prepared by Lesryk Environmental and is provided at **Appendix H**. The assessment outlined that there was one threatened flora species Magenta Lilly Pilly (*Syzygium paniculatum*) identified during the site investigation. It is noted that two individuals of *Syzygium paniculatum* are present on site within the north-western Tree Protection Zone, which will be retained as part of this development.

Furthermore, one hollow-bearing tree is proposed for removal which may provide suitable habitat for one or more hollow-dependent microbats. However, an assessment was undertaken, which confirmed that no microbats, or their habitats would be significantly impacted. Additionally, the report notes that no other significant habitat features important for nature threatened fauna were present on the site. Further details of the Ecology impacts is provided in **Section 6.2.2**.



## 2.10 Flooding

As depicted from Macquarie Park's Floodplain Risk Management Study and Plan 2010 by Bewsher, the site sits above the 20year, 100 year and Probable Maximum Flood (PMF).



Excerpt from 20 year ARI Flood Map from Macquarie Park Floodplain Risk Management Study & Plan by Bewsher (2010)



Excerpt from 100 Year ARI Flood Map from Macquarie Park Floodplain Risk Management Study & Plan by Bewsher (2010)



Excerpt from PMF (Probable Maximum Flood) Flood Map from Macquarie Park Floodplain Risk Management Study & Plan by Bewsher (2010)

**Figure 6** Context to Flooding

Source: Woods Bagot

## 2.11 Access and Public Transport

The main pedestrian access to 9 Wally's Walk is via the corner of Wally's Walk and Eastern Road. There are also several firestairs that lead into 9 Wally's Walk. Direct access to the data centre on the lower ground level is provided via a separate set of stairs and ramped access off Wally's Walk. 7 Wally's Walk can be accessed internally from 9 Wally's Walk or from the interface between 7 and 9 Wally's Walk. Access to the lower ground of 7 Wally's Walk is made available via stairs on the eastern façade of the building.

A car park is located towards the rear of the site and provides accessible parking spaces and permit-only parking spaces. Buildings East 2 and East 3 are currently multi-deck car parking building and are located to the east of the site.

Pedestrian and cycle access to the site from the surrounding campus is primarily via Wally's Walk and Sir Christopher Ondaatje Avenue in the south and east, and from Gymnasium Road in the west.

More broadly, the MU campus benefits from excellent public transport connections in the form of both rail and bus services. The Macquarie University Metro Station provides services to Tallawong, Epping and Chatswood.

In addition, the campus is served by both public and private bus services. A number of routes stop along University Avenue, with other routes stopping along Herring Road and Waterloo Road. In addition to public bus services, there are a number of private bus services in operation (i.e. Forest Coach Lines, Transdev NSW Buses and Hillsbus).

## 2.12 Proximity to the Epping to Chatswood Metro

The Epping to Chatswood Metro corridor passes through the south-west corner of 9 Wally's Walk at a depth of approximately 25m. The alignment depths of the existing Epping to Chatswood Metro Corridor have been provided by Transport for NSW (TfNSW), which indicates that the existing development footings lie within the tunnel zone of influence.



## 3.0 Scope of Works

### 3.1 Overview of the Proposed Activity

This REF relates to the early works for the Physics, Astronomy and Engineering (PAE) building. Specifically, the scope of works will include the following:

- Full demolition of 7 Wally's Walk
- Full demolition of the north portion of 9 Wally's Walk
- Full demolition of the pedestrian over pass connecting 9 and 11 Wally's Walk
- Full demolition of the existing in ground services.
- Internal demolition and strip out of main body of 9 Wally's Walk.
- Demolition of existing heat rejection plant walkway east of 9 Wally's Walk, following Data Centre relocation.
- Installation of 3 new substation kiosks and retention of 1 existing substation kiosks.
- Removal of existing High Voltage (HV) cables along the eastern boundary and installation of new HV cables along Innovation Road and Research Park Drive
- Minor make good works and regrading works to Innovation Road as a result of the new HV cable and substation
- Associated tree removal
- Minor adjustments to existing stormwater infrastructure
- Construction of sacrificial pavement layer along Innovation Road to mitigate construction damage
- Relocation of parking spaces south of the site to East 3 carpark

Further details of the proposed works are provided below.

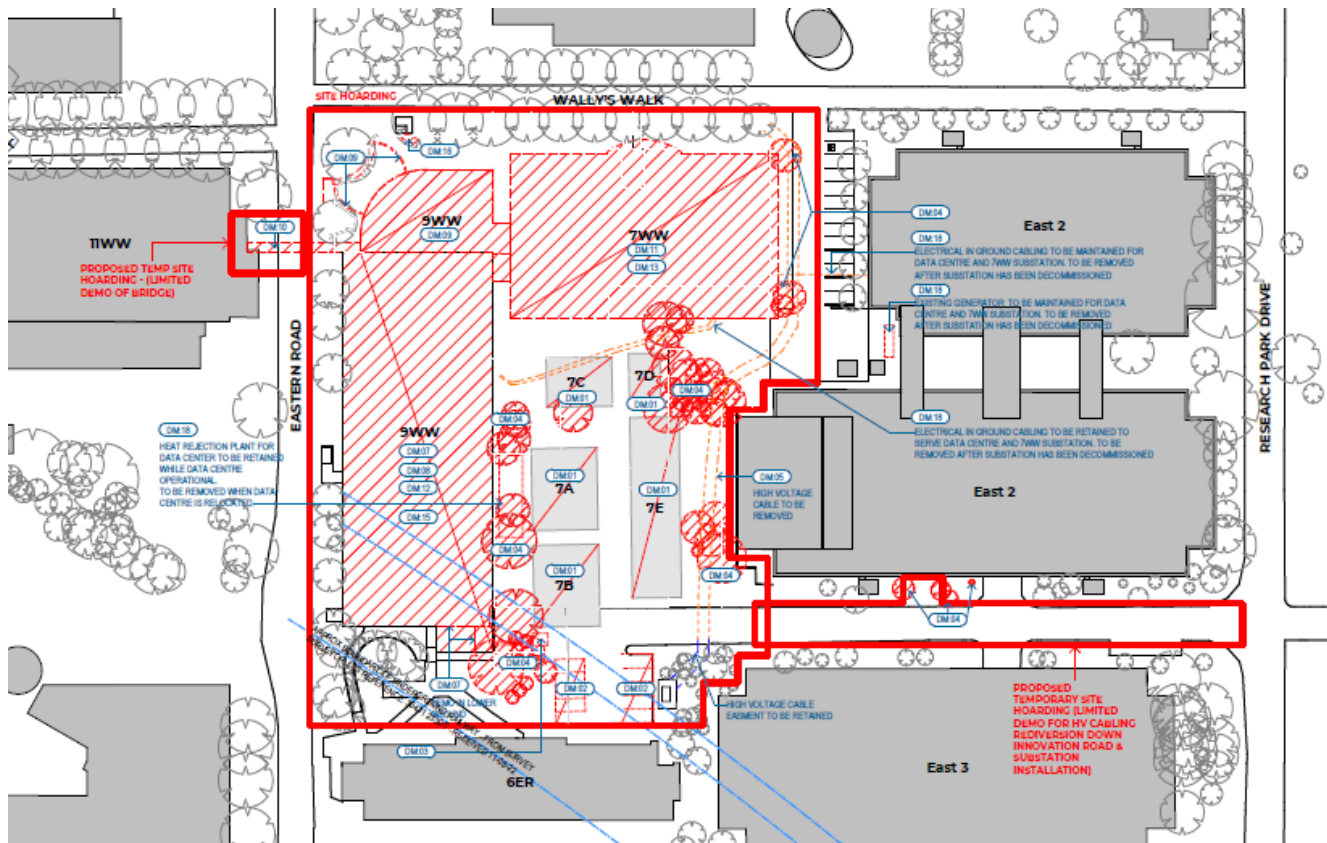
### 3.2 Demolition

The proposal requires significant demolition on the site to facilitate the new PAE building. Specifically, the demolition works proposed include the full demolition of 7 Wally's Walk and the pedestrian bridge over Eastern Avenue. The demountable buildings are also proposed to be demolished, including all structures, footings, pavings, supports, services and associated in ground services.

Additionally, full demolition of the northern portion of 9 Wally's Walk is also proposed, while only internal demolition (no structural or façade demolition) is proposed to the remaining building. It is noted that the proposal also includes the demolition of the lower ground switchboard room located within the southern portion of the building.

The proposal seeks further removal works on the site, including the demolition of the southern carpark, which is to be relocated to the East 3 carpark, and the demolition of blockwork gas storage room.

**Figure 7** provides an excerpt of the demolition plan. Further details on the scope of work is provided in the demolition plans and report at **Appendix A** and **B**.



**Figure 7 Demolition Plan**

Source: Woods Bagot

### 3.3 New Substations

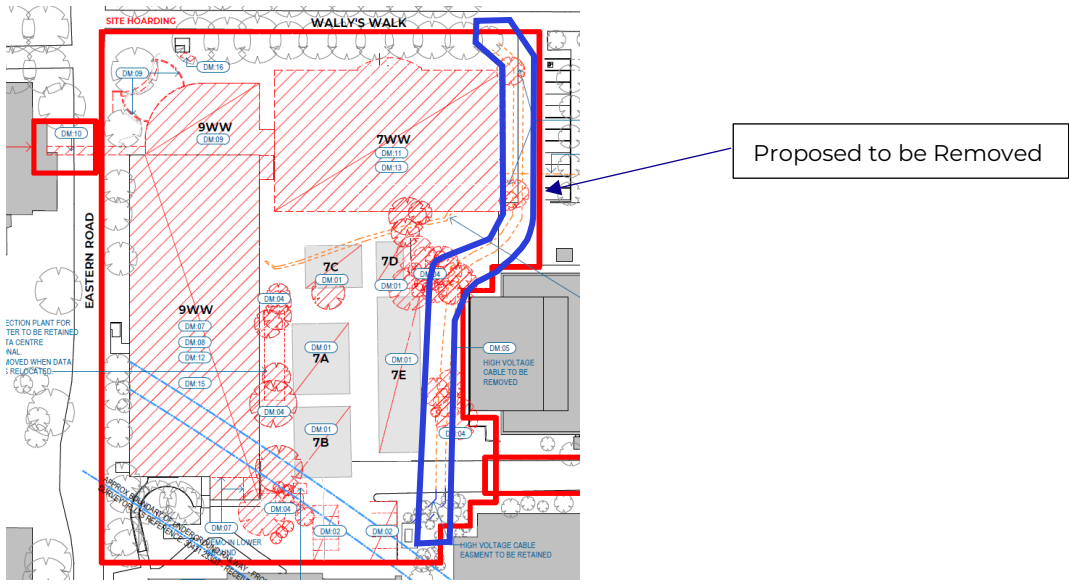
The proposal includes the installation of three new electrical substations and the retention of one existing substation.

As illustrated in **Figure 8** below, two substations are proposed to be located to the south of the site, which will be screened to ensure they are appropriately integrated with the site and its context.

Additionally, one substation is proposed to be located to the south of East 2 and along Innovation Road. Due to its location along a service road and behind a carpark, this substation is not proposed to be screened as it is not considered to have any visual impact. It is noted that should the East 2 carpark be redeveloped in the future, this substation will be redesigned and incorporated as part of the redevelopment.

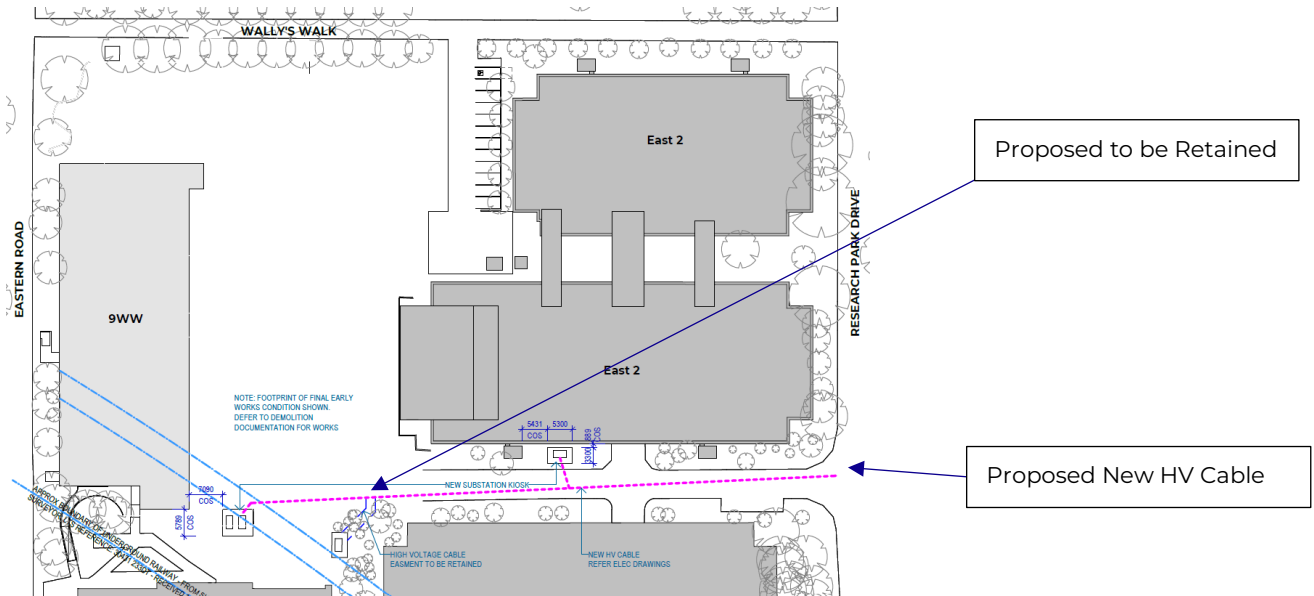
The existing substation to the south of the site will not be changed or amended and will remain in its current location and condition.





**Figure 9 Proposed Removal of HV Cable**

Source: Woods Bagot



**Figure 10 New proposed and retained HV Cable**

Source: Woods Bagot

**3.5 Regrading of Innovation Road**

As noted above, a new HV cable is proposed along Innovation Road. As such, trenching will be required in the centre of the Innovation Road carriageway. Once the HV cable is installed, the road will need to be regraded.

**3.6 Tree Removal**

The proposal requires the removal of 48 trees, as specified below:

- Seven (7) trees will require removal due to the demolition of Building 7WW.
- Twenty-six (26) trees will require removal to facilitate the removal of existing HV cables.
- Fifteen (15) trees will require removal due to the demolition of existing services and construction of a new kiosk substation.

Generally, the trees proposed for removal are identified as low to medium retention value.

It is noted that a total of sixty-four (64) trees will be retained, of which seven (7) trees will require pruning under the relevant Australian Standard. Further assessment of tree removal impacts is provided at **Section 6.2.1** and in the Arborist Report prepared by Truth About Trees (**Appendix G**).

### 3.7 Stormwater Management

As part of the proposed development, minor adjustments to existing stormwater infrastructure will be required. The proposed changes are summarised below:

- The existing stormwater line that runs from the 9 Wally's Walk building to the Innovation Road carpark will be temporarily relocated as a downpipe suspended along the façade of 9 Wally's Walk.
- Two stormwater lines that run under the proposed substation in the existing car park area will be relocated in a single pipe around the substation easement.

It is noted that peak stormwater runoff from the site at the conclusion of the early works phase will be reduced through the removal of the demountable building footings and hydroseeding of the newly exposed ground areas. Further detail on the proposed stormwater management plan is provided in the Civil Plans and Report at **Appendix C** and **D**.

### 3.8 Construction protection works

It is proposed that construction vehicles will enter and exit the site via Innovation Road. As such, it is proposed to lay a sacrificial asphalt surfacing layer along Innovation Road from the intersection of Research Road. This surface will serve to protect the existing pavement.

Pavement reinstatement will be required to existing pavements within the campus along proposed stormwater and utility trench alignments. These pavements will match existing pavement compositions.



## 4.0 Planning Context

The proposed activity qualifies as 'Development permitted without Consent' under the Transport and Infrastructure SEPP. As a result, development consent under Part 4 (Development Assessment) of the EP&A Act is not necessary. Therefore, an assessment under Part 5 (Environmental Assessment) of the EP&A Act is required, and as such, this REF has been prepared.

### 4.1 Commonwealth Environment Protection and Conservation Act 1999

The provisions of the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) do not affect the proposed works as it is not development that takes place on or affects Commonwealth land or waters. Further, it is not development carried out by a Commonwealth agency, nor is the proposed development a matter considered to be of national significance and there is unlikely to be any significant impact on the critical habitats or threatened species. The proposal does not require referral to the Australian Government Department of Sustainability, Environment, Water, Population and Communities.

**Table 1 Matters for Consideration**

Factor	Impact Assessment
Any significant impact on a declared World Heritage Property?	No
Any significant impact on a declared National Heritage Place?	No
Any significant impact on a declared Ramsar Wetland?	No
Any significant impact on Commonwealth listed threatened species or endangered community?	No
Does any part of the proposal involve nuclear actions?	No
Any significant impact on Commonwealth marine areas?	No
Any significant impact on Commonwealth land?	No

### 4.2 Environmental Planning and Assessment Act 1979 (NSW)

This REF considers the requirements of Section 5.5 of the EP&A Act, as well as Section 171 of the *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation) (refer to **Section 6.1** of this REF).

To attain the objectives of the EP&A Act relating to the protection and enhancement of the environment a determining authority shall examine and take into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of that activity (refer to sub-section 1 of section 5.5). Any other provisions of the Act or the provision of any other Act or of any instrument made under EP&A Act or any other Act should also be taken into consideration.

This REF addresses the provisions of Section 5.5 of the EP&A Act. The table below demonstrates the effect of the proposed activity on the matters listed for consideration in Sub-section 3 of Section 5.5 Further, under Schedule 1 of the EP&A Regulation, Macquarie University is a public authority for the purposes of development under Chapter 2 and 3 of the Transport and Infrastructure SEPP.

**Table 2 Matters for consideration under Sub-Section 3 Section 5.5 of the EP&A Act**

Matter for Consideration	Impact of Activity
Sub-Section 3: Without limiting subsection 1, a determining authority shall consider the effect of any activity on any wilderness area (within the meaning of the <i>Wilderness Act 1987</i> ) in the locality in which the activity is intended to be carried on.	No effect, as the site is not located within or in the vicinity of a wilderness area as defined under the <i>Wilderness Act 1987</i> .
Note: If a biobanking statement has been issued in respect of a development under Part 7A of the <i>Threatened Species Conservation Act 1995</i> , the determining authority is not required to consider the impact of the activity on biodiversity values.	

## 4.3 State Environmental Planning Policies

The following SEPPs apply to the site and location of proposed activity, however, many apply only by virtue that they apply to the state:

- *State Environmental Planning Policy (Housing) 2021*;
- *State Environmental Planning Policy (Planning Systems) 2021*;
- *State Environmental Planning Policy (Biodiversity and Conservation) 2021*;
- *State Environmental Planning Policy (Resilience and Hazards) 2021*;
- *State Environmental Planning Policy (Transport and Infrastructure) 2021*;
- *State Environmental Planning Policy (Industry and Employment) 2021*;
- *State Environmental Planning Policy (Resources and Energy) 2021*;
- *State Environmental Planning Policy (Primary Production) 2021*;
- *State Environmental Planning Policy (Precincts – Eastern Harbour City) 2021*; and
- *State Environmental Planning Policy (Exempt and Complying Development Code) 2008*.

The SEPPs that apply to the site and are relevant to the assessment of the activity are outlined below.

### 4.3.1 State Environmental Planning Policy (Transport and Infrastructure) 2021

The Transport and Infrastructure SEPP aims to facilitate the delivery of infrastructure across the State. The following Divisions are applicable to the proposed works.

#### Division 5 – Electricity transmission or distribution

In accordance with Section 2.44 of Division 5 of the Transport and Infrastructure SEPP, development for the purposes of an electricity transmission or distribution network can be undertaken as development without consent by a public authority, on any land.

Under this Section, electricity transmission or distribution networks includes the “*laying and installation of cables and cable pits, co-location of cabling and erection of ventilation and access structures...*”, as well as the “*establishment of a new substation*”. As such, these activities can be carried out by Macquarie University as ‘development permitted without consent’.

Further details of the consultation that has been undertaken is provided in **Section 5.0** of this REF.

#### Division 17 – Roads and Traffic

Division 17 of the Transport and Infrastructure SEPP contains provisions relating to development for the purpose of roads and traffic related infrastructure. Sections 2.109(1) and 2.109(3)(c) are of relevance to the proposal.

Under Section 2.109(1), development for the purposes of a road or road infrastructure facility may be carried out by a public authority without consent on any land, provided that the works are not generally on land reserved under the *National Parks and Wildlife Act 1974*. It is noted that the definition of road infrastructure facilities includes, amongst other things, pedestrian bridges. Accordingly, as Macquarie University is a public authority for the purposes of the Transport and Infrastructure SEPP and as the subject land is not reserved under the *National parks and Wildlife Act 1974*, the proposed road works can be carried out as ‘Development permitted without consent’.

Further, under Section 2.109(3), a range of works connected to development for the purposes of a road and road infrastructure facility can also be undertaken as ‘Development permitted without consent’. These include alterations or additions to an existing road (such as widening, narrowing, duplication or reconstruction of lanes, changing the alignment or strengthening of the road).

The proposed regrading and lane alignment alterations to Innovation Road is therefore considered to be works able to be carried out as ‘Development permitted without Consent’ under Section 2.109 of the Transport and Infrastructure SEPP.

## Division 20 – Stormwater Management Systems

Division 20 of the Transport and Infrastructure SEPP deals with stormwater management systems, which are defined to include works for the collection, detention, distribution or discharge of stormwater, and stormwater quality control devices.

Under Section 2.137 of the Transport and Infrastructure SEPP, development for the purposes of stormwater management systems can be carried out by or on behalf of a public authority without consent on any land. Accordingly, as Macquarie University is a public authority for the purposes of the Transport and Infrastructure SEPP, the proposed upgrades to the stormwater system are able to be carried out as 'Development permitted without Consent'.

### Part 3.5 – University Specific Development Controls

Part 3.5 of the Transport and Infrastructure SEPP provides specific controls for universities, including development that can be carried out as 'Development permitted without Consent'. An extract from Section 3.47(1) of the Transport and Infrastructure SEPP is provided below (emphasis added).

*3.47 Universities—development permitted without consent*

- (1) Development for any of the following purposes may be carried out by or on behalf of a public authority without development consent on land within the boundaries of an existing university—**
- (a) Construction, operation or maintenance, more than 5 metres from any property boundary with land in a residential zone and more than 1 metre from any property boundary with land in any other zone, of—
- ...
- (d) Demolition of structures or buildings (unless a State heritage item or local heritage item).**

Accordingly, under Section 3.47(1)(d) of the Transport and Infrastructure SEPP, the proposed demolition works by Macquarie University (as described in **Section 3.0** of this REF) is 'Development permitted without Consent'. The broader University campus is mapped as a local heritage item under Ryde LEP 2014, under the listing 'Macquarie University (ruins)' (Item no. 10). However, the item is located approximately 500m from the subject site. As such, the proposed works are not considered to have any heritage significance and do not form part of the described heritage item on the campus.

Further, all activities remain compliant with the provisions of Section 3.47(2) of the Transport and Infrastructure SEPP, as:

- The works will not necessitate any alterations to existing traffic or transport arrangements;
- The works will not contravene any existing condition of the development consent currently operating that applies to the university with respect to hours of operation, noise, car parking, vehicular movement, traffic generation, loading, waste management, landscaping or student or staff numbers (refer to discussion below); and
- The works will not create any additional GFA.

### Compliance with a Consent Currently Operating at the Campus

Section 3.47(2)(b) of the Transport and Infrastructure SEPP requires that the works satisfy or are not in contravention of any existing condition of a development consent currently operating that applies to the university relating to hours of operation, noise, car parking, vehicular movement, traffic generation, loading, waste management, landscaping or student or staff numbers.

Specifically, the most relevant consent on the site is MP 06\_0016 MOD 1 for the Concept Plan. An assessment against the Concept Plan is provided at **Section 4.6**. The assessment demonstrates that the proposed development does not contravene any existing condition of the Concept Plan approval.

Accordingly, the works are not in contravention of any existing condition of a development consent currently operating that applies to the university. The proposed works are able to be maintained within the 'Development permitted without Consent' approval pathway.

## Summary

In addition to the above, Division 1 of the Transport and Infrastructure SEPP contains provisions for public authorities to consult with local councils and other public authorities prior to the commencement of certain types of development. Consultation, including consultation as required by the Transport and Infrastructure SEPP (where applicable), is discussed in **Section 5.0** of this REF.

Therefore, development consent under Part 4 (Development Assessment and Consent) of the EP&A Act is not required. Instead, the proposal is required to be assessed as an 'activity' in accordance with Part 5 of the EP&A Act. This provides that the determining authority for an activity must take into account to the fullest extent possible all matters affecting or likely to affect the environment before undertaking the activity itself or granting an approval enabling the activity to proceed.

For this proposal, Macquarie University is both the proponent and the determining authority under Part 5 of the EP&A Act. This REF will assist Macquarie University in meeting the above obligations prior to proceeding with the proposal.

### 4.3.2 State Environment Planning Policy (Resilience and Hazards) 2021

The Resilience and Hazards SEPP aims to promote the remediation of contaminated land for the purpose of reducing the risk of harm to human health or any other aspect of the environment. The SEPP specifies when consent is required for remediation of contaminated land.

Extensive contamination investigations have occurred across the University campus over the years. The Preliminary Site Investigation prepared by Douglas Partners for 7 and 9 Wally's Walk (refer to **Appendix L**) confirms that in overall terms, the potential for contamination is generally considered to be low risk of soil contamination and can be made suitable for redevelopment subject to recommendations provided within the report.

Further discussion is provided in **Section 6.6.2**.

### 4.3.3 State Environment Planning Policy (Biodiversity and Conservation) 2021

#### Vegetation in Non-Rural Areas

Chapter 2 Biodiversity and Conservation SEPP establishes controls for the clearing of native vegetation in NSW on land zoned for urban and environmental purposes that is not linked to a development application. The proposed activity will necessitate the removal of several trees. All relevant permits will be sought prior to the carrying out of these works. In addition, an Arboricultural Impact Assessment has been prepared to ensure that the proposed activity is consistent with AS4970-2009: Protection of Trees on Development Sites and all other relevant legislative requirements. The assessment identifies the tree protection zones for each tree, and where possible, has provided alternative methods to tree removal, such as pruning. Refer to **Appendix G** for further information as well as **Section 6.2** of this report.

#### Water Catchments

The site is located within the Sydney Harbour Catchment and therefore, Chapter 6 relating to water catchments relates to the proposed development. As such the proposal has given regard to the controls in Section 6.2 of the Biodiversity and Conservation SEPP, relating to water quality and quantity, aquatic ecology, flooding, recreation and public access, and total catchment management.

### 4.3.4 State Environment Planning Policy (Exempt and Complying Development Codes) 2007

The proposed works cannot be carried out under Exempt and Complying Codes SEPP as Exempt or Complying Development due to the scope of the proposed works.

## 4.4 Ryde Local Environmental Plan

The Macquarie University Concept Plan (as amended) establishes the planning regime and development framework for the campus and prevails over Ryde LEP 2014 to the extent of any inconsistency. An assessment against the Concept Plan is provided at **Section 4.6**. Notwithstanding, consistency with Ryde LEP 2014 is considered in **Table 3** below.

**Table 3** Consistency with Ryde LEP 2014

Clause	Provision	Compliance
<b>Part 2 Permitted or Prohibited Development</b>		
<b>Clause 2.1</b> Land Use Zones	The site is zoned B4 – Mixed Use in which educational establishments are permitted with consent.	✓ The proposed works are ancillary to the use of the site as an Educational Establishment, and are permissible with consent.
<b>Clause 2.3</b> Zone Objectives	<ul style="list-style-type: none"> <li>To provide a mixture of compatible land uses.</li> <li>To integrate suitable business, office, residential, retail and other development in accessible locations so as to maximise public transport patronage and encourage walking and cycling.</li> <li>To ensure employment and educational activities within the Macquarie University campus are integrated with other businesses and activities.</li> <li>To promote strong links between Macquarie University and research institutions and businesses within the Macquarie Park Corridor.</li> </ul>	✓ The proposal will support the activities of the University.
<b>Part 4 Principal Development Standards</b>		
<b>Clause 4.3</b> Height of Buildings	The majority of the site is not subject to any height of buildings control.	✓ No additional height is proposed.
<b>Clause 4.4</b> Floor Space Ratio	The majority of the site is not subject to any FSR control.	✓ No additional GFA is proposed.
<b>Part 5 Miscellaneous Provisions</b>		
<b>Clause 5.10</b> Heritage Conservation	The majority of the University campus is identified as an item of local heritage significance under Ryde LEP 2014., due to the presence of the Macquarie University ruins.	✓ The site of the proposed development is located some 500m from the ruins. Due to the significant distance between the site and the ruins, there will be no impacts to any heritage fabric.

## 4.5 Ryde Development Control Plan 2014

Whilst the objectives of the DCP have been considered, the approved Macquarie University Concept Plan and Campus-wide Design Excellence Strategy and Urban Design Guidelines ultimately provide the design controls for the site.

The DCP includes overarching aims for development within the Macquarie Park Corridor, along with specific design and location-based outcomes for good public domain and urban design outcomes. The proposal is generally consistent with the DCP and will not hinder the achievement of the aims and purpose of the DCP, which amongst other things seeks to:

- Ensure that the Corridor matures into a premium location for globally competitive businesses with strong links to the University and research institutions and an enhanced sense of identity.
- Ensure that the employment and education activities within the Corridor are integrated with other businesses and activities within Sydney's Global Economic Arc.
- Provide an urban structure that allows balance of commercial and non-commercial uses within the Corridor.

The proposed development meets these general objectives as it is complimentary to the education activities within the corridor and will support the operation of Macquarie University in achieving these aims.

## 4.6 Consistency with Concept Plan and Design Excellence Strategy and Urban Design Guidelines

The approved Macquarie University Concept Plan sets the planning regime and development framework for the campus over the next 25 to 40 years. Following the repeal of the University's State Significant Site (SSS) listing under Schedule 3 Part 21 of the former *State Environmental Planning Policy (State Significant Precincts) 2005*, the key development standards for the campus are now contained in the Ryde LEP 2014.



Whilst the SSS listing no longer applies, the Macquarie University Concept Plan (which was approved by the Minister for Planning on 13 August 2009) continues to apply. The approved Concept Plan will continue to apply in accordance with Schedule 2 of the *Environmental Planning and Assessment (Savings, Transitional and Other Provisions) Regulation 2017*. The provisions of the Concept Plan apply despite any provisions in any environmental planning instrument or development control plan. This provision provides the Concept Plan with unprecedented power and, until this provision is amended or repealed, the Concept Plan will continue to prevail over the Ryde LEP 2014 to the extent of any inconsistency.

A Section 75W application to modify the Concept Plan sought approval for increased height and floor space ratio controls along the campus' Herring Road frontage to align with the changes to the Ryde LEP, an increase in the quantum of academic floor space, and the partial removal of the precinct-by-precinct GFA limitations to provide greater flexibility to locate floor space and uses across the campus. The Section 75W modification to the Concept Plan was approved by the then Minister for Planning in November 2018.

Neither the Concept Plan nor the Design Excellence Strategy and Urban Design Guidelines (the Guidelines) provide for a final design outcome for 7 and 9 Wally's Walk. However, it is noted that the proposed works will facilitate the development of a new building, which will be consistent with the intent of the Concept Plan and Guidelines.

Further assessment against the Concept Plan and Design Excellence Strategy and Urban Design Guidelines will be provided in the future development application.

## 4.7 Other Legislation

### 4.7.1 Roads Act 1993

Approvals under the Roads Act 1993 are not required since works are not proposed to a public road. Access will be provided by the private University Roads.

### 4.7.2 Water Management Act 2000

Approval is not required under the Water Management Act 2000 since the proposed works are internal only and do not constitute a water management, use or activity requiring approval.

### 4.7.3 Rural Fires Act 1997

Whilst parts of the campus are bushfire prone, the proposed works do not trigger the requirement to obtain a Bushfire Safety Authority under Section 100B of the *Rural Fires Act 1997* as the works do not involve the subdivision of land or a special fire protection purpose. The *Rural Fires Act 1997* therefore does not apply to the proposed development.

### 4.7.4 Biodiversity Conservation Act 2016

The *Biodiversity Conservation Act 2016* came into effect on 25 August 2017 and replaces the *Threatened Species Conservation Act 1995*. It aims to protect native vegetation, species of threatened flora and fauna, endangered populations and endangered ecological communities and their habitats in NSW. An Ecological Review prepared by Macquarie University Property (**Appendix H**) has confirmed that there is no remnant vegetation on the site and that the proposed activity will not result in any impact to native or threatened species. As such, no further assessment will be required.

### 4.7.5 Fisheries Management Act 1994

No approvals are required under the *Fisheries Management Act 1994*.

### 4.7.6 Contaminated Land Management Act 1997

Extensive contamination investigations have been undertaken throughout the University grounds since 1965. The proposed works will not involve penetration of the ground. The provisions of the *Contaminated Land Management Act 1997* do not apply.

### 4.7.7 Heritage Act 1977

There is a locally listed heritage item within the University Campus. The locally listed heritage item on the University Campus is located some 500m to the north west of the site and the works will not impact on this item. The provisions of the Heritage Act 1977 therefore do not apply to the proposed development.

### 4.7.8 National Parks and Wildlife Act 1974

The *National Parks and Wildlife Act 1974* (NPW Act) relates to the establishment, preservation and management of national parks, historic sites and certain other areas and the protection of certain fauna, native plants and Aboriginal objects.

There are no national parks, historic sites, Aboriginal objects or other such sites or objects as legislated for by the NPW Act, that are located on, or in the vicinity of, the subject site of the works. Provisions of the NPW Act therefore do not apply to the proposed development.

### 4.7.9 Other Approvals

Aside from those approvals identified above, there are no separate approvals or authorisations required in relation to the proposed development activity prior to determination under Part 5 of the EP&A Act. Certification under Section 6.28 of the EP&A Act will be required before certain work commences on site.

## 4.8 Strategic Context

### 4.8.1 Greater Sydney Region Plan

The Greater Sydney Region Plan outlines the strategic vision for Sydney to 2056, conceptualising the metropolitan region as the Eastern Harbour City, Central River City and the Western Parkland City. Macquarie University is located in the Eastern Harbour City, which is focussed on leveraging its strong financial, professional, health and education sectors.

Macquarie Park maintains its role as a strategic centre and health and education precinct, as well as a Priority Growth Area. The proposal is consistent with this strategic direction for Macquarie Park, providing improved education facilities to strengthen Macquarie University's ongoing role as a key attractor and fostering innovation in the area.

The Greater Sydney Regional Plan sets 10 directions for delivering and monitoring the plan, supported by 40 objectives. The proposed development is particularly consistent with Objective 21 as it will reinforce Macquarie University as an internationally competitive, health, education, research and innovation precinct

### 4.8.2 North District Plan

The North District Plan establishes the 20-year vision for the North District, to 2056. The Plan sets key priority actions for the North District, one of which is to create a sense of place, grow jobs and diversify activity in Macquarie Park.

- Macquarie University is recognised as a major asset within the district and the eastern economic corridor.
- Macquarie Park is identified as a strategic centre and health and education precinct and is also a Collaboration Area.
- Collaboration Areas are identified as areas where a significant productivity, liveability or sustainability outcome is achieved through the collaboration of different levels of government, and in some cases, the private sector or landowners.
- In addition, the Macquarie Park Strategic Centre is identified as the third largest centre for employment in Greater Sydney behind Sydney City and Greater Parramatta. By 2036, Macquarie Park is set to deliver between 73,000 and 79,000 jobs. It is noted that in 2015 / 2016, the Ryde district (together with the Sydney CBD area and the inner northern suburbs) delivered nearly 24% of Australia's gross domestic product growth.

Whilst the aims of the North District Plan are broad in nature and not necessarily directly relevant to the proposed works, the proposal will foster the growth of Macquarie University and allow for its recognition as a major asset within the district and the eastern economic corridor.

## 5.0 Consultation

In accordance with the provisions of Section 3.48 of the Transport and Infrastructure SEPP, Macquarie University is not required to provide written notice to City of Ryde Council or the occupiers of adjoining land for the proposed work being carried out under Section 3.47(1)(d), being the proposed demolition work.

However, consultation is required under Section 2.45 for works relating to electricity substation development, as discussed in **Section 4.3.1**. A notification letter was sent to City of Ryde Council on 5 October 2022 (**Appendix S**). A period of 21 days is set for those notified to respond to the application, after which time the application can be determined.

On 31 October 2022, Council responded to the notification with a letter outlining their concerns and feedback for the proposed development. This feedback has been considered as part of the REF process. **Appendix U** provides a response to the matters raised by Council.

In addition to this, with respect to the occupiers of adjoining land, it is emphasised that land adjoining the subject site is also owned and occupied by Macquarie University (refer to **Figure 1**) and as such no additional notification is required.

## 6.0 Environmental Impact Assessment

The following Section outlines the potential impacts of the activity on the environment, and how these potential impacts will be managed.

### 6.1 Environmental Planning and Assessment Regulations 2021

**Table 4** below provides a summary checklist of matters to be considered under Section 171 of the EP&A Regulations.

**Table 4** Summary Checklist of Matters to be Considered

Factor	Impact
<p><b>(a) the environmental impact on a community</b> There may be minor environmental impacts on residents and University housing, and students/teachers/visitors coming and going from the University during construction. Overall, the proposed works are sought to support the ongoing operation of the university.</p>	Positive
<p><b>(b) the transformation of the locality,</b> The proposal involves works that will alter the landscape of the site through the removal of trees, changes to landform and land levels, etc. The establishment of the new and realigned roads are not considered to unduly transform the locality given roads are a common feature in the locality. The present road network in this part of the University is the result of ongoing and fragmented improvements. Despite the extent of physical works proposed as part of this REF, the resulting transformation of the locality is considered to be positive.</p>	Nil
<p><b>(c) the environmental impact on the ecosystems of the locality,</b> There will be impacts associated with the removal of a number of trees from the site. The extensive landscape planting scheme proposed throughout the public domain, together with offset planting will minimise impacts to satisfactory levels.</p>	Nil
<p><b>(d) reduction of the aesthetic, recreational, scientific or other environmental quality or value of the locality,</b> There will be an initial temporary reduction in the aesthetics of the locality due to the proposed development. Longer term however, once the new Physics, Astronomy and Engineering (PAE) building and landscape embellishments have had time to establish, the aesthetics of the area will return, to an improved degree. Further, proposed works are consistent with an accepted and approved vision of the transformation of this part of the University.</p>	Nil
<p><b>(e) the effects on any locality, place or building that has—</b> <b>(i) aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance, or</b> <b>(ii) other special value for present or future generations,</b> The development will not significantly increase or decrease the significance of the site.</p>	Nil
<p><b>(f) the impact on the habitat of protected animals, within the meaning of the <i>Biodiversity Conservation Act 2016</i>,</b> The development will not impact on the habitat of any protected fauna.</p>	Nil
<p><b>(g) the endangering of a species of animal, plant or other form of life, whether living on land, in water or in the air,</b> The development will not endanger any species of animal, plant or other living thing.</p>	Nil
<p><b>(h) long-term effects on the environment,</b> There will be no long term effects on the environment.</p>	Nil
<p><b>(i) degradation of the quality of the environment,</b> There will be a minor, but temporary, degradation of the quality of the environment as a result of the works being carried out. The long-term vision for the PAE will be realised in part by the proposed works under a separate Development Application. The ultimate objective of the broader development is to create a high-quality built form to facilitate research and education.</p>	Nil
<p><b>(j) risk to the safety of the environment,</b> There will be no change to the safety of the environment.</p>	Nil
<p><b>(k) reduction in the range of beneficial uses of the environment,</b> There will be no reduction of beneficial uses of the environment. The proposed works support the continued use and future operation of the site as an educational establishment.</p>	Nil
<p><b>(l) pollution of the environment,</b></p>	Nil

Factor	Impact
Minor air, noise, and water quality impacts may be generated during construction. Mitigation measures are proposed to minimise pollution to the environment.	
<b>(m) environmental problems associated with the disposal of waste,</b> No environmental problems are anticipated with the disposal of waste from the proposed works. Appropriate measures will be undertaken to manage and dispose of waste in accordance with legislative requirements and OH&S documents.	Nil
<b>(n) increased demands on natural or other resources that are, or are likely to become, in short supply,</b> The activity will have no significant impacts in terms of demand for scarce resources.	Nil
<b>(o) the cumulative environmental effect with other existing or likely future activities,</b> The proposed works will not contribute to a cumulative environmental effect with existing or likely future activities.	Nil
<b>(p) the impact on coastal processes and coastal hazards, including those under projected climate change conditions,</b> The proposed works will have no impact on coastal processes and coastal hazards, including those under projected climate change conditions.	Nil
<b>(q) applicable local strategic planning statements, regional strategic plans or district strategic plans made under the Act, Division 3.1,</b> The proposed activity directly aligns with the strategic planning context as outlined in A Plan for Growing Sydney, the Greater Sydney Region Plan and the North District Plan. Further detail is provided in <b>Section 4.8.</b>	Positive
<b>(r) other relevant environmental factors.</b> As identified in the sections below, there are no other environmental factors that will result in any unacceptable impact to the environment.	Nil

## 6.2 Tree Removal and Ecological Impacts

### 6.2.1 Tree Removal

An Arborist Report has been prepared by Truth about Trees to assess the existing trees on the site, and the retention value of the trees that are proposed to be removed (refer to **Appendix G**).

The proposal requires the removal of 48 trees. Generally, the trees proposed for removal are identified as being of low to medium retention value, as follows:

- High – 0
- Medium – 21
- Low – 27

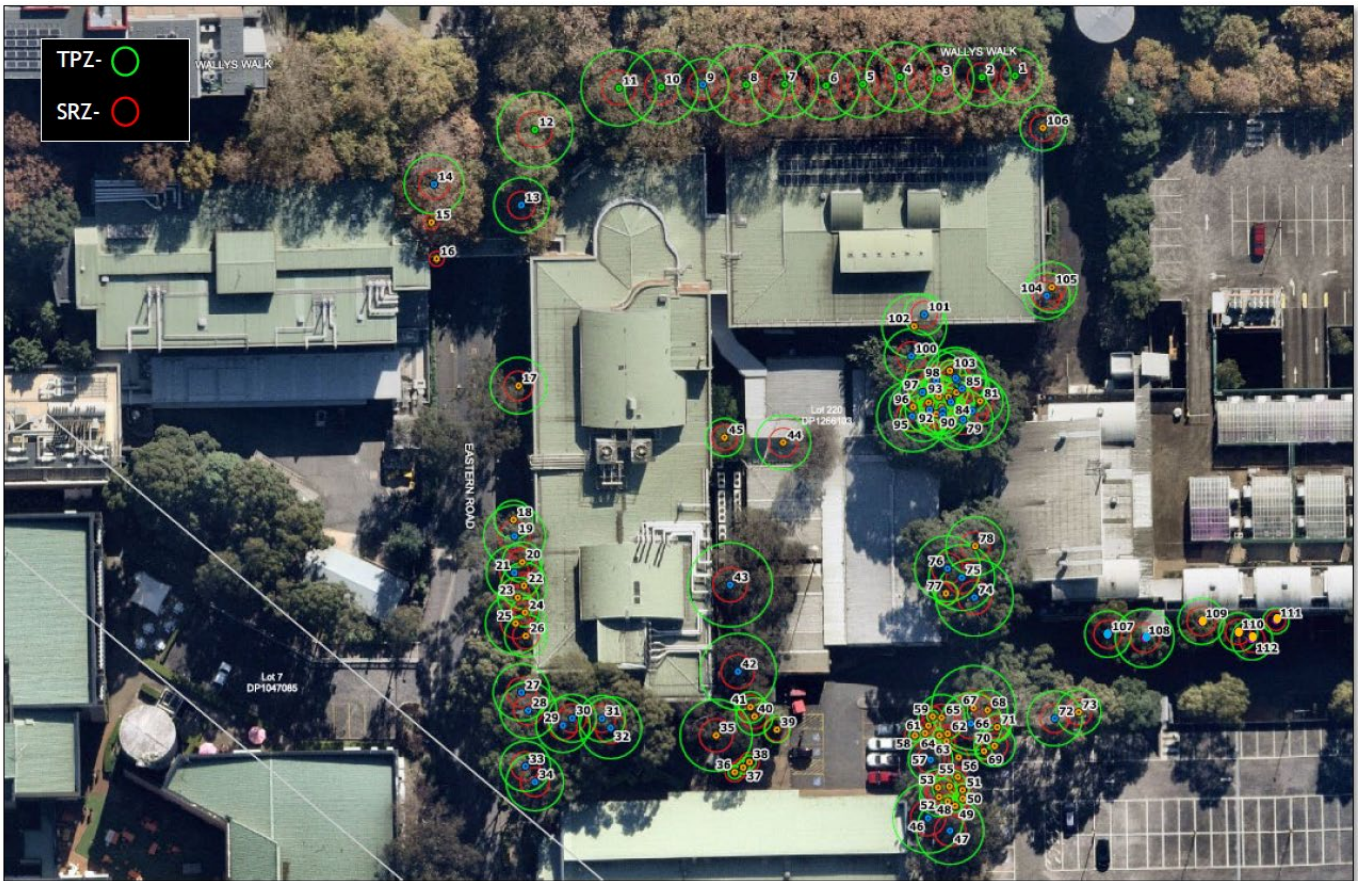
A total of 64 trees are proposed for retention and will be protected in accordance with the relevant Australian Standards, *AS4970-2009: Protection of trees on development sites*. Of these 64 trees, 7 trees will require pruning.

The Arborist Report also outlines a series of tree protection measures which will form part of a detailed tree protection plan, to be prepared in consultation with the Contractor.

In accordance with university policy, tree replacement planting will be provided at a ratio of 2:1 unless the tree is identified as having native habitat value or is connected to heritage of the local area. There are eight trees which could be considered to have native habitat value as they are locally occurring species within the area. These eight trees are to be replaced at a 3:1 ratio. This will result in a total of 104 replacement trees to be planted to compensate for the tree removal required as part of this proposal. The new trees will be planted as part of a subsequent Development Application.

Further assessment of tree removal impacts is provided below.





**Figure 11** Location of trees on site

Source: Truth about Trees

## 6.2.2 Ecological Impacts

A Biodiversity Investigation and Assessment has been prepared by Lesryk Environmental (**Appendix H**).

The results of the field investigation found one threatened flora species, being the Magenta Lilly Pilly (*Syzygium paniculatum*), which is listed as endangered under the *Biodiversity Conservation Act 2016* (BC Act) and vulnerable under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Two individuals of *Syzygium paniculatum* are present within the north-western Tree Protection Zone. However, since these individuals would not require removal, assessments drawing on criteria under Section 7.3 of the BC Act are not necessary and therefore, were not conducted.

The report notes that one tree, being Tree 35 is considered to be hollow-bearing and therefore, a precautionary approach has been adopted in regard to the presence of threatened species, particularly microbats. It is confirmed that an assessment drawing on the criteria provided under Section 7.3 of the BC Act has been undertaken on these threatened microbats, which concluded that the proposal would not have a significant effect on these microbats, or any areas of their habitats and therefore, the preparation of a Species Impact Statement was not recommended.

The report confirms that no other significant habitat features important for native threatened fauna or threatened ecological communities under the EPBC and BC Act are present within, or in close proximity to, the proposed works and subject site.

During the course of the investigation, no significant ecological constraints to the undertaking of the proposal were recorded. Minimising disturbance on the recorded trees, and adopting those recommendations present, including those within the Arboricultural Impact Assessment, would reduce the overall ecological impact of the work.

The adoption of the mitigation measures provided in the report and summarised at **Section 7.0** would ensure that the proposal is undertaken in an ecologically sustainable manner.



## 6.3 Traffic, Transport and Pedestrian Access

A Traffic and Parking Statement has been prepared by Arup and is provided at **Appendix I**. The report outlines the existing traffic and transport conditions surrounding the project and also assesses the potential traffic and transport impacts relating to the construction phase.

### 6.3.1 Traffic generation and vehicle volumes

Based on the proposed works, the largest vehicle expected to be accessing the site is a Heavy Rigid Vehicle (HRV). All vehicles accessing the site will be required to enter and exit in forward gear with any reversing movements occurring within the construction site.

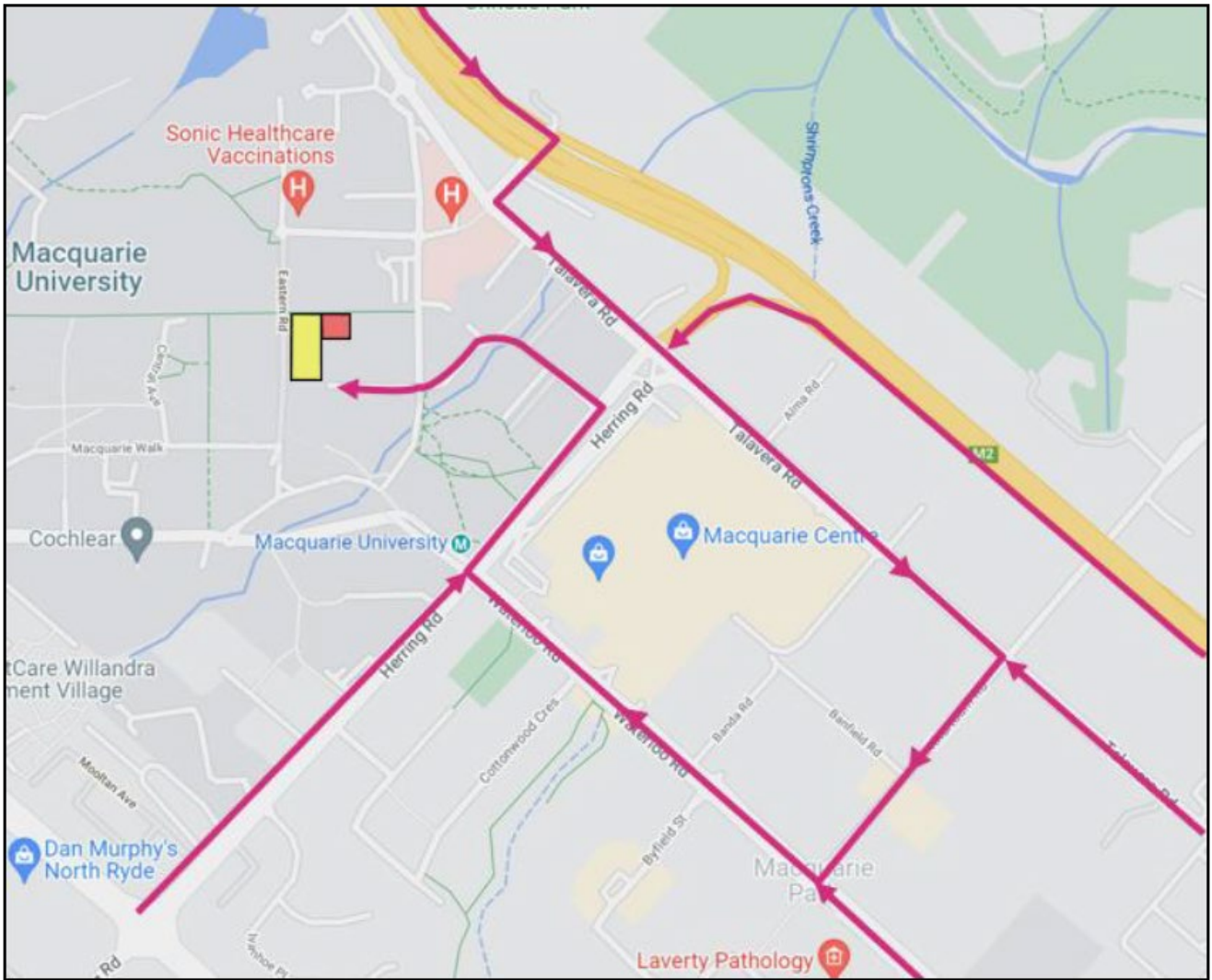
The results of the report have estimated that there will be a maximum of 50 construction vehicles per day associated with the proposed scope of works. A linear profile has been assumed for the arrival distribution to the site throughout an eleven-hour operational day from 7:00am to 7:00pm from Monday to Friday with reduced working hours of 8:00am to 4:00pm on Saturdays.

It is anticipated that there may be up to 6 two-way truck movements (3 trucks inbound and 3 trucks outbound) during the AM, PM and Saturday peak periods. Given the low volumes, this traffic is expected to have negligible impact on the surrounding road network.

Additionally, construction workers will generate additional traffic to the site in the form of vans, utes and small rigid vehicles. A maximum workforce of approximately 20 personnel could be expected throughout the delivery of the proposed works. Site workers generally start and finish earlier than the commuter peak periods and would likely not result in any significant impact on the surrounding road network during peak periods. It is noted that all construction workers will be required to park within the project site or use public transport.

### 6.3.2 Construction Vehicle Route

**Figure 12** below provides an excerpt of the likely construction vehicle roads. As seen, vehicles will use Herring Road to access Innovation Road, which terminates at the proposed site. It should be noted that all vehicles will need to approach from the west as Herring Road is westbound only. This will lead to some construction traffic having to circulate the wider network.



**Figure 12 Construction routes for heavy vehicles**

Source: ARUP

### 6.3.3 Construction Impacts on road network

#### Innovation Road

The proposed works will result in the temporary closing of the eastern portion of Innovation Road and the parking area to the south of 7 Wally's Walk while the HV works are being undertaken. The temporary closure of Innovation Road would apply to the west of the access points to car parks East 2 and 3 so that these car parks can remain fully operational and access can be maintained during the construction. It is emphasised that the temporary closure of Innovation Road will only be while the HV works are being undertaken.

Additionally, it is also noted that there will be restricted access to the site and staff vehicles entering and exiting car parks East 2 and East 3 due to the regrading works proposed on Innovation Road. The appointed contractor will need to develop a traffic management plan that minimises these impacts. It is intended that trenching works will occur outside of the peak times when construction and staff vehicles need access.

#### Eastern Road

It is also noted that the pedestrian over pass connecting 9 and 11 Wally's Walk will also be demolished. As a result, this Eastern Road will be temporarily closed and appropriate diversion signs and routes will be provided throughout the campus. As Eastern Road is owned by Macquarie University approvals from other road authorities are not required to undertake these works.

Due to the temporary road closure, cyclists and pedestrians will either use Sir Christopher Ondaatje Avenue or Research Park Drive for north/south access along the campus. Vehicles will be diverted to use Research Park Drive for north/south access.

The appointed contractor will need to develop a traffic management plan that minimises these impacts for all road users.

### Herring Road and Innovation Road Intersection

Initial swept path analysis has suggested that Herring Road and Innovation Road intersection will need to be adjusted to enable access for construction vehicles without overrunning the pedestrian island. It should be noted that the nominated contractor will be responsible for developing a suitable traffic management plan to submit to MQU prior to any works commencing. This traffic management plan will have to address any issues or conflicts relating to construction access or egress. It is also noted that relevant approvals from the road authority will also be required.

### 6.3.4 Mitigation Measures

The identified traffic and transport impacts relating to the proposal can be appropriately mitigated through the mitigation measures provided within the Traffic and Parking Report at **Appendix I**. These are summarised in **Section 7.0** below.

## 6.4 Water Quality and Quantity

A Civil Engineering Report has been prepared by Arup and is provided at **Appendix D**. The civil design involves regrading of the demountable building area after removal of building footings, minor stormwater adjustments and appropriate sediment and erosion control measures to be implemented during construction.

The construction activities of the proposed development have the potential to impact on water quality in downstream tributaries through stormwater and wastewater runoff from the site when dispersed into University Creek. The detailed Erosion and Sediment Control Plans included within the Civil Drawings at **Appendix C** outline the strategy proposed to be implemented in order to minimise impacts on water quality during construction. The measures that have been adopted to minimise water quality impacts are indicated on the plan and include:

- Implementation of appropriate controls in place before the removal of topsoil and commencement of earthworks.
- Designated site access locations to enable management of sediment removed from site.
- Onsite water management using sediment traps, silt fencing and diversion banks.
- Stockpile management.
- Management of sediment runoff in above-ground sediment tanks as there is sufficient space for a basin on site.
- Hydroseeding of exposed earth areas.

It is noted that the Erosion and Sediment control plan is prepared to be used as a guide only. It will be the construction contractor's responsibility to develop and adapt this erosion and sediment control plan to suit the site conditions, construction staging and requirements of City of Ryde Council and other relevant authorities.

Subject to the implementation of the measures outlined within the Erosion and Sediment Control Plan, the proposed development is not considered to give rise to significant impacts on water quality. Ultimately, the proposed works aim to improve the overall quality of water leaving the University campus through the introduction of additional stormwater management measures including swales and biofiltration devices.

Additional controls and mitigation measures dealing with stormwater and waste water are also included within the A Preliminary Construction Management Strategy prepared by Johnstaff (refer to **Appendix F** and **Section 7.0** of this REF).

## 6.5 Acoustic Impacts

An assessment of the Noise and Vibration Impacts of the proposed demolition and construction activity is provided at **Appendix J**. **Figure 13** below illustrates the site layout showing subject site and identified sensitive receivers.





**Figure 13 Proximity of site to nearby sensitive receivers <**

Source: Arup

The proposed works are predicted to result in an exceedance of the relevant noise management levels at all identified sensitive receivers. However, it is noted that the predicted exceedances are temporary and are only expected during periods of intense activity subject to the type of equipment. Mitigation and noise mitigation management procedures will need to be considered for the works.

It is recommended that a detailed Construction Noise and Vibration Management Plan for the project is prepared, in which specific consideration is given to mitigating and managing potential impacts upon the surrounding receiver location and the occupants within the buildings on the subject site. It is expected that the detailed CNVMP would be prepared by the contractor prior to the commencement of works.

## 6.6 Geology and Soils

### 6.6.1 Geotechnical

Douglas Partners have provided an assessment of the geotechnical implications of the proposed works (**Appendix K**). The subject site is mostly identified as being underlain by Hawkesbury Sandstone, with the northwest corner being mapped as Ashfield Shale. It is also noted that the Ashfield Shale overlies the Hawkesbury Sandstone and, in some areas, there is a transitional geotechnical unit between two main rock formations known as the Mittagong Formation.

The field work undertaken by Douglas Partners for this investigation, included the drilling of seven (7) boreholes. These boreholes encountered relatively uniform conditions over the site with a variable depth of filling over residual clays in the southern portion of the investigation. The typical sequence of subsurface materials encountered at the site, in increasing depth order, is summarised in the table below.

**Table 5 Summary of the Subsurface Ground Profile**

Material	Depth range to Top of Unit (m)	RL Range to Top of Unit (m AHD)	Thickness (m)	General Description
Filling	0	59.6 to 56.7	0.3 to 3.7	Typically clay material with some gravel and sand. At all boreholes except BH103, layers of asphaltic concrete over road base gravel, were also observed.
Residual Soil, Stiff to Hard Clay	0.3 to 3.7	55.0 to 59.2	0.4 to 2.7	Medium to high plasticity, stiff to hard residual clays and sandy clays
Very Low to Low Strength Sandstone	2.1 to 4.3	54.6 to 56.7	0.2 to 5.3	Very low to low strength sandstone.
Medium Strength Sandstone or Stronger	4.5 to 8.3	50.5 to 55.0	3.1 to 5.1	Medium strength or stronger sandstone

It is noted that groundwater was not observed during the drilling of any of the boreholes. A groundwater monitoring well was installed in BH103 following completion of drilling. Groundwater was measured in BH103 at a depth of about 8.3m or RL 51.1m AHD five days after purging of the well.

## 6.6.2 Contamination

A Preliminary Site Investigation has been undertaken by Douglas Partners and is included at **Appendix L**. The report provides an assessment of the potential for contamination on the site based on past and present land uses and commentary on further investigation and management of the site.

Overall, the site is considered to have a low risk of soil contamination, and it is considered that the site can be made suitable for the proposed development subject to the following:

- A Detailed Site Investigation (DSI) is completed to investigate soil contamination in the western part of the site and in the building footprints, upon completion of demolition.
- An assessment of the groundwater contamination beneath the site (although considered to be a low risk), which should form part of the DSI.
- A Hazardous Building Materials (HAZMAT) survey, within the existing buildings E6A and E6B prior to demolition to identify any potential HAZMAT (including asbestos) and development of a demolition plan accordingly.

## 6.7 Air Quality

The proposed development involves excavation and construction activities that have the potential to cause dust impacts on surrounding sensitive land uses.

Potential dust generating activities to occur on the site include.

- Works involved in the removal of existing pavement and road base.
- Works involved in the demolition of existing infrastructure and structures.
- Bulk earthworks.
- Removal of vegetation.
- Transportation and stockpiling of spoil and construction materials.
- Re-grading of roads and preparation for new road and footpath works.

Accordingly, appropriate mitigation measures are required to ensure that there are no significant impacts upon air quality is accordingly essential.

Johnstaff has prepared a Preliminary Construction Management Strategy covering the proposed development (included at **Appendix F**) which includes details relating to air quality management. Dust control will be achieved primarily through application of water or road base gravel, provision of hessian windbreaks to stockpiles, and covering material that may potentially generate dust from vehicles entering and leaving the site. These measures, together with the mitigation measures outlined at **Section 7.0**, will ensure potential impacts are minimised to acceptable levels.

## 6.8 Waste Management

A Waste Management and Minimisation Plan is provided at **Appendix M**. The plan provides estimated quantities of waste that will be generated during the demolition of the existing structures on site. The plan provides specific methods of reuse, recycling and disposal for each of the waste types anticipated to be generated. During this stage of the development, construction waste will be minimal and therefore will be further established during the base building development application.

## 6.9 Hazardous Materials

A Hazardous Materials (HAZMAT) Survey for both 7 Wally's Walk and 9 Wally's Walk was undertaken by Pickford & Rhyder Consulting, which is provided at **Appendix N**. The HAZMAT surveys confirm that no asbestos-containing materials were found present within the buildings.

Notwithstanding, an Asbestos Management Plan will also be developed to assist with the management and disposal of potential asbestos. This Plan will set out procedures for dealing with the findings or suspected findings of asbestos on campus. Construction will be undertaken in accordance with the Asbestos Management Plan.

## 6.10 Construction Management

A Preliminary Construction Management Plan has been prepared by Johnstaff and has been provided at **Appendix F**.

Key measures to be implemented are outlined below:

- The principal contractor will submit a Construction Traffic Management Plan in line with the existing Macquarie University Property Campus Traffic Management Plan.
- Hours of construction will be:
  - Between 7:00am and 7:00pm, Mondays to Fridays inclusive.
  - Between 8:00am and 4:00pm, Saturdays.
  - No work on Sundays and public holidays.
- Procedures will be established to minimise the impacts of dust, noise, or vibration during construction.
- Waste management practices will be undertaken in accordance with implemented Waste Management Plan.
- The contractor is responsible for the control and decontamination of hazardous substances.

## 6.11 Cumulative Impacts

The proposed works will be undertaken at a time when the University is undergoing considerable change, responding to the development and design objectives outlined within the approved Concept Plan and accompanying Design Excellence Strategy and Urban Design Guidelines.

A range of mitigation measures are to be implemented to minimise any localised adverse impacts that will result from the proposed works, and works will be carefully managed and staged to avoid any adverse impacts on students, staff and visitors.

## 6.12 Public Interest

Whilst resulting in the removal of vegetation from the site, offset planting is proposed in order to reduce any adverse cumulative impacts associated with the loss of habitat areas from the site. Furthermore, once completed, the proposed works will facilitate a new Physics, Astronomy and Engineering (PAE) building, which will be used for the purposes of research and education. As such, it is considered that the overall public benefits significantly outweigh any impacts.



## 7.0 Mitigation Measures

This part of the REF provides an analysis of all possible impacts from the proposed activity and a description of any proposed mitigation measures. This assessment is provided at **Table 6**.

**Table 6 Mitigation Measures**

Matter	Applicable?	Reason(s)	Mitigation Measures
<b>Management of Construction Activities</b>			
A Construction Management Plan is to be prepared prior to the commencement of works. The Construction Management Plan is to include the following management measures.			
Construction Management (General)	Y	Construction activities must comply with all applicable requirements and standards, including (but not limited to) those relating to noise, stormwater management, and waste management.	A final Construction Management Plan shall be prepared by the contractor and endorsed by the University addressing all the necessary requirements of construction that form part of this REF approval.  Please refer to the Preliminary Construction Management Plan ( <b>Appendix F</b> ) for further information.
Construction Hours	Y	Construction hours must be reasonable in the context of the proposal and applicable standards/guidelines.	The hours of demolition or construction, including delivery of materials to and from the site, shall be restricted as follows: <ul style="list-style-type: none"> <li>• Between 7:00am and 7:00pm, Monday to Friday, inclusive.</li> <li>• Between 8:00am and 4:00pm Saturday.</li> <li>• No work or deliveries on Sunday and/or public holidays.</li> </ul> Please refer to the Preliminary Construction Management Plan ( <b>Appendix F</b> ) for further information.
Stormwater Management	Y	Appropriate management measures will be required to manage works that may generate sediment runoff or stormwater management systems.	The Head Contractor will be required to prepare a detailed Stormwater Management Plan which will cover all aspects of stormwater and sediment management and control during construction.  Please refer to the Preliminary Construction Management Plan ( <b>Appendix F</b> ) and Civil Drawings and Specification ( <b>Appendix C</b> ) for further information.
Construction Traffic Management	Y	Appropriate construction traffic management measures are required to minimise any operational disruptions, safety concerns, and access restrictions that could be associated with the proposed works.	The Head Contractor is required to submit a Construction Traffic Management Plan (CTMP) for approval prior to commencement of the works. The CTMP will detail site access, pedestrian protection measures and all associated vehicle movements which will be restricted to the permitted working hours of the site.  Please refer to the Preliminary Construction Management Plan ( <b>Appendix F</b> ) for further information.
Hazardous Materials Management	Y	The proposed works do not require extensive demolition. Notwithstanding, it is necessary to ensure that if any hazardous materials are encountered during the works that they are managed appropriately.	Appropriate management measures will need to be included in a hazardous materials Asbestos Management Plan. These measures include (but are not limited to) the following: <ul style="list-style-type: none"> <li>• Any hazardous materials discovered during execution of the works should be dealt with by the Head Contractor in accordance with the requirements set out in the <i>HGC21 Preliminaries document</i>.</li> <li>• The removal, handling and disposal of asbestos materials would be undertaken by a suitably qualified professional in accordance with standards set by Safework NSW and the NSW Office of Environment and Heritage (NSW OEH).</li> </ul>

Matter	Applicable?	Reason(s)	Mitigation Measures
Noise and Vibration Management	Y	<p>Construction activities will be undertaken in accordance with the Construction Management Plan (<b>Appendix F</b>), which will implement measures to ensure compliance with all applicable requirements and Australian Standards, including those relating to the management of noise and vibration impacts.</p> <p>For an exhaustive overview of the proposed management measures for noise and vibration impacts, please refer to the Acoustic Impact Assessment (<b>Appendix J</b>). A summary overview of the proposed construction noise and vibration management measures is provided below:</p>	
Plant Equipment	Y	<p>It is expected that plant equipment will be used to facilitate construction works.</p> <p>Appropriate management procedures and methods will need to be established and implemented as necessary for the use of this equipment.</p>	In accordance with WorkSafe all plant and equipment used in construction work must comply with the relevant Australian Standards and manufacturer specifications.
			No vehicle maintenance would be permitted in the demolition and construction areas except in emergencies.
			All plant/equipment would be inspected daily to avoid leakage of fuel, oil or hydraulic fluid to the work sites. Machinery found to be leaking would be repaired or replaced.
			All machinery would be secured against vandalism outside working hours.
			No batching plant would be permitted on site.
Disconnection of Services	Y	<p>As mentioned, the augmentation and extension of existing underground services is proposed.</p> <p>Suitable management measures will be necessary to prevent any operational disruptions.</p>	<p>Appropriate management measures are proposed in respect to the disconnection of existing services in the Construction Management Strategy. These measures include (but are not limited to) the following:</p> <ul style="list-style-type: none"> <li>The Head Contractor must comply with University Isolation Procedures during the disconnection of services.</li> <li>Services impacts on the existing facility will be done with full coordination, development and input with the client and its relevant stakeholders and will only proceed with approval via a Disruption Notice process.</li> <li>Impacts on the University will be kept to a minimum.</li> <li>If the Head Contractor proposes to carry out 'out of hours' work, the Head Contractor must provide details of the time and frequency of such work. It is anticipated that such work will be kept to a minimum.</li> <li>Comply with all requirements from the supply authority being Essential Energy including any conditions specified in connection approvals.</li> </ul>
		<p>Any utility networks and/or underground services that may be impacted will need to be identified prior to the commencement of works.</p>	<p>Prior to commencement of construction activities, any services near the building site which may be impacted by the works would be accurately located.</p>
<b>Ecology and Vegetation Management</b>			
Tree Removal	Y	<p>Tree removal and retention works are proposed in accordance with the Tree Assessment Schedule that is appended to the Arborist Report (<b>Appendix G</b>). Appropriate management measures need to be established to minimise impacts associated with the proposed tree removal works.</p>	<p>The recommendations of the Arborist Report (<b>Appendix G</b>) are to be implemented during the construction process. Including:</p> <ul style="list-style-type: none"> <li>Demolition of the northern extent of 7WW must be undertaken under direct supervision of the project Arborist.</li> <li>Tree pruning and removal works are to be undertaken by a suitably qualified, experienced and insured Arboricultural contractor with a minimum AQF level 3 qualification in Arboriculture.</li> <li>Tree removal works should be undertaken in accordance with the following: <ul style="list-style-type: none"> <li>(AS4373 – 2007) <i>Pruning of Amenity Trees</i></li> <li>NSW Code of Practice for the Amenity Tree Industry 1998</li> </ul> </li> </ul>

Matter	Applicable?	Reason(s)	Mitigation Measures
			<ul style="list-style-type: none"> <li>- <i>NSW Code of Practice for Work Near Overhead Power Lines 2006</i></li> <li>- <i>NSW Work Health &amp; Safety Act &amp; Regulations 2011</i></li> <li>- <i>Safe Work Guide to managing Risks of Tree Trimming and Removal Work 2016</i></li> <li>• Sixty-four (64) trees are proposed for retention and are to be protected in accordance with Australian Standard AS4970-2009: Protection of trees on development sites.</li> <li>• A detailed Tree Protection Specification has been included with Section 15 of the report. This specification provides detailed guidance as to the proper management and protection of trees proposed for retention on site.</li> <li>• Section 10.1 of the report highlights the key tree protection items to be considered as part of this development. These items should be reviewed carefully as they will form an integral part of successful tree management and retention associated with this project.</li> <li>• Any trees and tree numbers not specifically listed, recorded and discussed within this report are to be retained in accordance with AS4970-2009.</li> </ul>
Ecology and Biodiversity	Y	To ensure the proposal is undertaken in an ecologically sustainable manner as per <b>Appendix H</b> .	<ul style="list-style-type: none"> <li>• A qualified ecologist must be present onsite during the clearing of Tree 35.</li> <li>• The ecologist should provide a description on a suitable way to remove this tree and collect any sheltering fauna.</li> <li>• Any fauna present within Tree 35 should be collected and relocated locally. <ul style="list-style-type: none"> <li>- If microbats, or any other nocturnal fauna, are present, these should be released at dusk.</li> </ul> </li> <li>• To offset the loss of Tree 35, the installation of 2 purpose-built microbat habitat boxes are to be installed in proximity to the proposed works area. <ul style="list-style-type: none"> <li>- To ensure they don't benefit exotic species, the boxes should be monitored for a period of at least two years (biannual surveys conducted during that time). If the boxes benefit species such as the exotic European Honeybee, these should be removed and replaced.</li> </ul> </li> <li>• As part of the ongoing maintenance of the MU grounds, the occurrences of African Olive and Asparagus Fern should be addressed.</li> </ul>
<b>Management of Heritage Items</b>			
Heritage (general)	Y	Appropriate measures need to be in place in the unlikely event of discovering heritage relics or sites.	Should any heritage relics or sites be discovered during construction they shall be reported to the University. Any proposal to disturb any suspected relics or heritage sites may require consultation with the Office of Environment and Heritage.
Aboriginal Heritage	Y	Appropriate measures need to be in place in the unlikely event of discovering an item of Aboriginal heritage significance.	<p>Should any evidence of Aboriginal relics be discovered during construction they shall be reported to the University.</p> <p>Any proposal to disturbance suspected relics or Aboriginal heritage site may require consultation with the Office of Environment and Heritage.</p> <p>All work is to cease on site until the relevant permit is received or advice is provided by the University that work can recommence.</p>
<b>Design</b>			

Matter	Applicable?	Reason(s)	Mitigation Measures
Compliance	Y	The proposed works must comply with the relevant provisions of the Building Code of Australia and all applicable Australian Standards.	The proposal will comply with all applicable provisions of the Building Code of Australia and relevant Australian Standards, including (but not limited to) AS 1428.
<b>Community Consultation</b>			
Construction Outside Hours	Y	If construction is to occur outside of regular hours, appropriate consultation activities will need to be undertaken by the Proponent.	Where construction works is undertaken outside of the construction hours specified above, the Proponent will notify the occupier of any land within 40 metres of the property boundaries of the project site.
Complaints	Y	Procedural requirements for any complaint(s) need to be outlined.	Complaints received shall be recorded and attended to promptly. On receiving a complaint, works shall be reviewed to determine whether issues relating to the complaint can be avoided or minimised. Feedback shall be provided to the complainant explaining what remedial actions were taken.
	Y	As above, a complaints management system will be necessary.	The Proponent shall develop a complaints management system and record details of all complaints received and the means of resolution of those complaints. The Complaints register shall be made available to Council on request.
Site Notice Board	Y	A site notice board will be needed to convey key information associated with the construction phase of the proposal. Refer right.	A site notice board must be located at the main entrance to the site in a prominent position and must include the following: <ul style="list-style-type: none"> <li>• 24-hour contact person for the site;</li> <li>• telephone and facsimile numbers and email address; and,</li> <li>• site activities and time frames.</li> </ul>
	Y	The site notice board must be erected within a reasonable timeframe.	The site notice must be erected no less than 2 days prior to the commencement of works.
<b>All other requirements</b>			
Works-as-executed Drawings	Y	Appropriate documentation should be provided to all relevant parties to confirm the completion of the proposed works.	Works-as-executed drawings are to be supplied to the University for information purposes at the completion of the project.
Roads Act Approval	Y	Innovation Road is a privately owned road, the proposed works involve the regrading and realignment which will impact on a public road, and involve the reconnection of an existing road to a Regional Road managed by Council (Herring Road).	Consent is required under Section 138 of the Roads Act 1993 for an approval from City of Ryde Council as the relevant road authority for Herring Road and Waterloo Road.
<b>Traffic and parking</b>			
Parking	Y	Access to accessible and standard parking south of 7WW removed.	Parking south of 7WW to be relocated in East 3. This aligns with changes planned for the final PAE scheme.
Traffic Management	Y	Trenching for an HV connection in Innovation Road restricting access for construction and staff vehicles	Traffic management plan to be developed by the appointed contractor which minimises impacts to construction and staff vehicles.

Matter	Applicable?	Reason(s)	Mitigation Measures
	Y	Overrunning of the pedestrian island at the Herring Road / Innovation Intersection.	Appointed contractor to develop suitable traffic management plan to submit to MQU and adjust intersection layout to address any identified conflicts.
	Y	Walking connection from Eastern Road to Innovation Road restricted.	Hoarding extent will be designed to ensure a 1.2m footpath is still maintained between these two streets.
	Y	Pedestrian bridge over Eastern Road removed for pedestrians, cyclists and vehicles during demolition of the bridge.	Traffic Management Plan to be developed by the appointed contractor which minimises north/south access impacts along Eastern Road and proposes appropriate diversion routes.
	Y	This condition is to ensure that appropriate measures/controls are in place to assist with the safety of all affected road users within the public domain when construction works are being undertaken.	Traffic management procedures and systems must be in place and practised during the construction period to ensure safety and minimise the effect on adjoining pedestrian and vehicular traffic systems. These procedures and systems must be in accordance with AS 1742.3 - 2019 and Part 8.1 of City of Ryde Development Control Plan 2014: Construction Activities.
Construction Pedestrian and Traffic Management Plan	Y	This condition is to ensure that a plan is prepared to address traffic impacts during construction to minimise any inconvenience and safety risks to the public.	<p>A Construction Pedestrian and Traffic Management Plan (CPTMP) shall be prepared by a suitably qualified traffic engineering consultant and submitted to and approved by Council's Transport Department prior to issue of any Construction. Due to heavy traffic congestion within Macquarie Park, truck movements will be restricted during the major commuter peak times being 8.00- 9.30am and 4.30- 6.00pm. Truck movements must be agreed with Council's Transport Department, prior to submission of the CPTMP.</p> <p>All fees and charges associated with the review of this plan are to be paid in accordance with Council's Schedule of Fees and Charges with payment to be made prior to receipt of approval from Council's Transport Department for the CPTMP.</p> <p>The CPTMP must include but not limited to the following:</p> <ul style="list-style-type: none"> <li>• Make provision for all construction materials to be stored on site, at all times.</li> <li>• Specify construction truck routes and truck rates. Nominated truck routes are to be restricted to State Roads or non-light vehicle thoroughfare routes where possible.</li> <li>• Make provision for parking onsite once the basement level parking is constructed. All Staff and Contractors are to use the basement parking once available.</li> <li>• Specify the number of truck movements to and from the site associated with the construction works. Temporary truck standing/ queuing in a public roadway/ domain in the vicinity of the site are not permitted unless approved by City Works Directorate.</li> <li>• Include Traffic Control Plan(s) prepared by a SafeWork NSW accredited designer for any activities involving the management of vehicle and pedestrian traffic and results in alterations to the existing traffic conditions in the vicinity of the site.</li> <li>• Specify appropriate parking measures for construction staff and subcontractors to minimise the impact to the surrounding public parking facilities.</li> <li>• Specify that a minimum Fourteen (14) days notification must be provided to adjoining property owners prior</li> </ul>

Matter	Applicable?	Reason(s)	Mitigation Measures
			<p>to the implementation of any temporary traffic control measure.</p> <ul style="list-style-type: none"> <li>• Include a site plan showing the location of any site sheds, location of requested Work Zones, anticipated use of cranes and concrete pumps, structures proposed on the footpath areas (hoardings, scaffolding or shoring) and any tree protection zones around Council street trees.</li> <li>• Take into consideration the combined construction activities of other development(s) and/or roadworks in the surrounding area. To this end, the consultant preparing the CPTMP must engage and consult with relevant stakeholders undertaking such works within a 250m radius of the subject site to ensure that appropriate measures are in place to prevent the combined impact of construction activities. These communications must be documented and submitted to Council prior to work commencing on site.</li> <li>• Specify spoil management process and facilities to be used on site.</li> <li>• Specify that the roadway (including footpath) must be kept in a serviceable condition for the duration of construction. At the direction of Council, undertake remedial treatments such as patching at no cost to Council.</li> <li>• Comply with relevant sections of the following documents: <ul style="list-style-type: none"> <li>- The Australian Standard Manual of Uniform Traffic Control Devices (AS1742.3-2019),</li> <li>- TfNSW' Traffic Control at Work Sites technical manual; and</li> <li>- Part 8.1 of City of Ryde Development Control Plan 2014: Construction Activities.</li> </ul> </li> </ul>
Road Activity Permits	Y	Specific activities on public roads where Council is the consent authority requires Council approval prior to such activities being undertaken.	<p>To carry out any work in, on or over a public road (including verge), consent from Council is required as per the Roads Act 1993. Prior to the commencement of the relevant works and considering the lead times required for each application, permits for the following activities, as required and as specified in the form "Road Activity Permits Checklist" (available from Council's website) are to be obtained and copies submitted to Council with the Notice of Intention to Commence Public Domain Works.</p> <ol style="list-style-type: none"> <li>a) <b>Road Use Permit</b> - The applicant shall obtain a Road Use Permit where any area of the public road or footpath is to be occupied as construction workspace, other than activities covered by a Road Opening Permit or if a Work Zone Permit is not obtained. The permit does not grant exemption from parking regulations.</li> <li>b) <b>Work Zone Permit</b> - The applicant shall obtain a Work Zone Permit where it is proposed to reserve an area of road pavement for the parking of vehicles associated with a construction site. Separate application is required with a Traffic Management Plan for standing of construction vehicles in a trafficable lane.</li> <li>c) <b>Road Opening Permit</b> - The applicant shall apply for a road-opening permit and pay the required fee where the applicant is required to dig into or adjust Council Assets (Assets include all facilities within the road reserve). Additional road opening permits and fees are required where there are connections to public utility services (e.g. telephone, telecommunications, electricity, sewer, water or gas) within the road reserve. No opening of the road or footpath surface shall be carried out without this permit being obtained and a copy kept on the site.</li> <li>d) <b>Elevated Tower, Crane or Concrete Pump Permit</b> - The applicant shall obtain an Elevated Tower, Crane</li> </ol>



Matter	Applicable?	Reason(s)	Mitigation Measures
			<p>or Concrete Pump Permit where any of these items of plant are placed on Council's roads or footpaths. This permit is in addition to either a Road Use Permit or a Work Zone Permit.</p> <p>e) <b>Crane Airspace Permit</b> - The applicant shall obtain a Crane Over Airspace Permit where a crane on private land is operating in the air space of a Council road or footpath. Approval from the Roads and Maritime Services for works on or near State Roads is required prior to lodgement of an application with Council. A separate application for a Work Zone Permit is required for any construction vehicles or plant on the adjoining road or footpath associated with use of the crane.</p> <p>f) <b>Hoarding Permit</b> - The applicant shall obtain a Hoarding Permit and pay the required fee where erection of protective hoarding along the street frontage of the property is required. The fee payable is for a minimum period of 6 months and should the period be extended an adjustment of the fee will be made on completion of the works. The site must be fenced to a minimum height of 1.8 metres prior to the commencement of construction and throughout demolition and/or excavation and must comply with WorkCover (New South Wales) requirements.</p> <p>g) <b>Skip Bin on Nature Strip</b> - The applicant shall obtain approval and pay the required fee to place a Skip Bin on the nature strip where it is not practical to locate the bin on private property. No permit will be issued to place skips.</p>
Road Occupancy	Y	Requirement for Transport for NSW	Prior to commencement of the associated works, the applicant shall obtain a Road Occupancy License from Transport Management Centre for any works that may impact on traffic flows on a State Road (e.g. lane closures, etc.) and/or within 100m of a signalised intersection.
Implementation of Construction Pedestrian and Traffic Management Plan	Y	This condition is to ensure that the measures/protocols stated in the approved CPTMP are carried out by the builder during construction.	All construction activities are to be undertaken in accordance with the approved Construction Pedestrian and Traffic Management Plan (CPTMP). All controls in the CPTMP must be maintained at all times and all traffic management control must be undertaken by personnel having appropriate SafeWork NSW accreditation. Should the implementation or effectiveness of the CPTMP be impacted by surrounding major development not encompassed in the approved CPTMP, the CPTMP measures and controls are to be revised accordingly and submitted to Council's Traffic, Transport and Development Department for approval. A copy of the approved CPTMP is to be kept onsite at all times and made available to the accredited certifier or Council on request.