URaP – TTW

Consulting Engineers

Traffic

Traffic and Parking Report for Tyree Building, University of New South Wales - Kensington Campus

Prepared for
The University of New South Wales

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1 INTRODUCTION

1.1 Background

This report has been prepared for the University of New South Wales Ltd in support of a new Energy Technologies Building to be known as the Tyree Building.

The building will provide high quality space to accommodate leading edge research facilities in key energy areas, including photovoltaics, carbon capture and storage, oil and gas reservoir characterisation, carbon trading, nano materials and policy and market analysis.

The purpose of this report is to provide assessment of traffic and parking requirements for the design documentation with consideration to UNSW Kensington Campus Development Control Plan (DCP), Australian Standards and Roads and Traffic Authority's Guidelines.

1.2 The Development Site

The University of New South Wales (UNSW) Kensington Campus is located approximately six kilometres southeast of the Sydney CBD. The main campus is bound by High Street to the north, Botany and Willis Streets to the east, Barker Street and Oval Lane to the south and Anzac Parade to the west. There is a western campus located on the opposite side of Anzac Parade which accommodates the Parade Theatre, NIDA and a small number of other facilities. The main campus is divided into upper, middle and lower campus zones.

The site of the proposed building is at UNSW on the lower campus at the junction of University Mall, Anzac Parade and Day Avenue. The site is located to the north of New College, west of Sam Cracknell Pavilion and Village Green and south of University Mall. It is identified in the Campus 2020 Master Plan, adopted by Randwick Council in 2005, as both an icon site, because of its landmark location, and a potential development site.

The site is located within the Randwick Local Government Area.

1.3 Scope of the Report

The report is divided into three sections, following the introduction.

- Section 2; covering the development proposal and transport implications.
- Section 3 containing the summary & conclusions.

2 PROJECT PROPOSAL

2.1 The Proposal

The proposed development consists of a new four and a half (4.5) storey Energy Technologies Building of approximately 15,200m2 of floor space area and associated servicing, landscape and public domain works on the site of the existing tennis courts, Grounds Depot and cricket nets on the south-eastern corner of Anzac Parade and University Mall at UNSW's Kensington Campus. Specifically the proposed development comprises:

- a standalone building with 4 and a half floors and a lower ground/semi-basement level
- learning and teaching spaces including tutorial rooms, computer laboratories, and lecture theatres, laboratories and workshops, administration, meetings rooms and offices
- lobby, exhibition spaces, circulation, amenities and cyclist facilities
- a café with associated kitchen and storeroom
- a central atrium space with access stairs and pedestrian bridges connecting the floor levels through the full height of the building
- standard building services including air conditioning, ventilation, lighting, power, communications, security, hydraulic and fire detection systems, storage and plant spaces
- specialised dangerous goods storage and handling, and
- external works around the building including roadworks, pavements, retaining walls and landscaping.

The overall population of the building will be in order of 1200 persons considering that 1100 of these will be transferred from the main campus.

2.2 Transport

The access and transport for the University Campus is well established. This is supported by a full range of options and strategies for travel to the University and it surrounding areas.

The University provides a list of travel options associated with the Campus and these are readily available to users via media release booklets and websites. These options as listed by the University include:

- Buses
- Cofa Shuttle bus
- Security Shuttle bus
- Train/bus connections
- Disabled Access
- Staff Travel Pass
- Cycleways

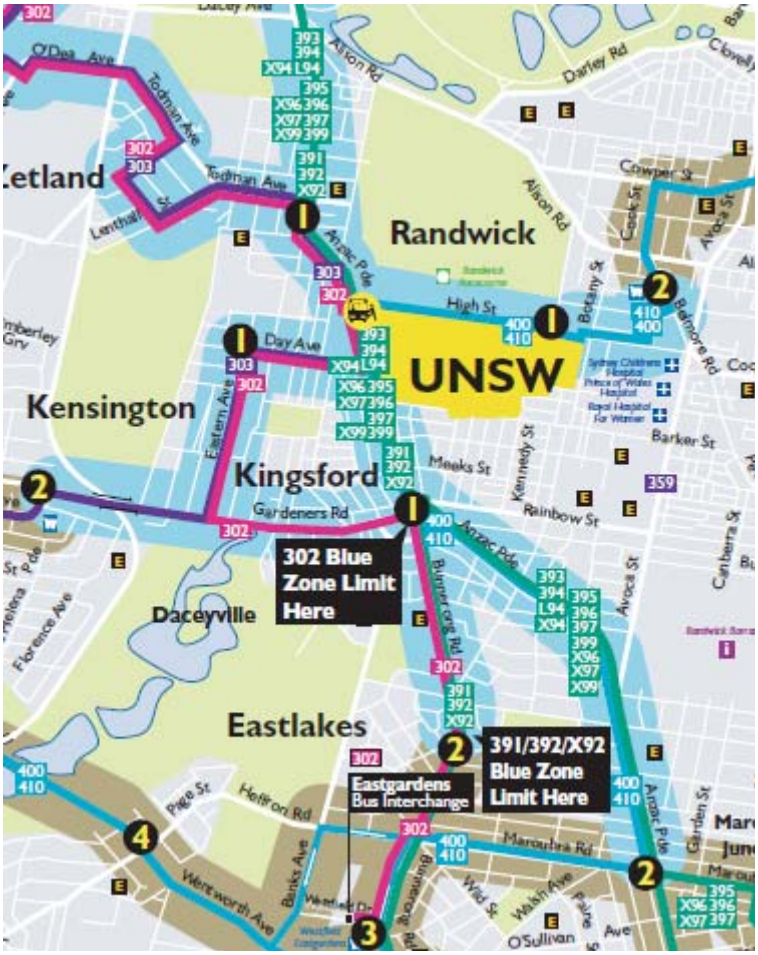

Figure 1 Bus Routes

Making transport more sustainable is one of the key platforms of the Campus 2020 Master Plan. This is to be achieved by improving access to the campus by public transport in preference to private vehicle use. Parking is to be reduced over time, but made more available across the day and night for students, staff and visitors. Other modes of transport such as cycling and walking are also to be made more attractive and safer.

A DCP (adopted by Council) has been prepared to guide future development at the university (Campus 2020 UNSW Kensington Campus Development Control Plan). The DCP includes a number of provisions in relation to transport and parking, including the following:

- reducing travel by private car and reducing on-site parking;
- annual surveys of travel behaviour;
- working with bus and rail operators to improve public transport services;
- introducing resident and short term parking on streets around the campus;
- measures to determine and manage future on-site parking provision; and
- measures to encourage walking, cycling and public transport at the campus.

The DCP for the University Campus states that:

"Council and the UNSW to enter into an agreement on the Management of Parking and Traffic for a five year period and review progress thereafter. The short term management agreement to include:

a) BUS TRAVEL
(i) Council and the UNSW to work together on preparing a submission to Sydney Buses, through their Regional Board, for additional services to the University. The submission to be based on the transport analysis completed for the Campus 2020 Master Plan.
(ii) Council and the UNSW to work together on a management scheme to improve bus operations in High Street. This work to commence with an origin and destination survey to determine the proportion of traffic turning right into Botany Street from High Street (west). Options include banning the right turn into Botany Street thereby clearing delays from High Street and a bus lane from Wansey Road to Botany Street thereby giving priority to buses.

b) RAIL TRAVEL
Council and the UNSW to work together on preparing a submission for a rail connection to the University.

c) LOCAL STREET PARKING PLAN
The University and Council to reach agreement on a parking control plan for the streets surrounding the University. It is anticipated that this plan may have the following objectives.
(i) Provide 50% of kerb space for residents and short term parking (time may vary according to local need) with 50% of kerb space to remain unrestricted. The plan is intended to comfortably accommodate all residential users and their visitors leaving a large proportion of short term spaces unoccupied. Unrestricted spaces will also be used by residential visitors wishing to stay a long time in the area.
(ii) Introduce the plan over three years.
(iii) Review the plan after three years.

d) SHORT TERM PARKING
Consideration to be given to introducing short term parking in streets immediately surrounding the University until such time that 10% of spaces remain unoccupied at 11:00 am on weekdays, which is the peak accumulation of staff and students on campus.
Achievement of unoccupied spaces demonstrates that demand has been met by allowing turnover of spaces."

2.3 Road Network and Access

The major approach routes to the site are via Anzac Parade and Barker Street. Vehicular access to the site is from Gate 14 off Barker Street from driveway which is over 6.0 metre wide in accordance with the Council's code and the Australian Standards. Gate 14 links to the development site via the internal road *Southern Drive*.

Anzac Parade is a major north-south road and carries over 40,000 vehicles per day (at Barker Street). Barker Street runs in an east-west direction and has a four lane carriageway with on street parking on each side.

The intersection of Anzac Parade with Barker Street is controlled by traffic signals with pedestrian crossing facilities.

Service and delivery vehicles will gain access to the site from Gate 14, off Barker Street via Southern Drive. The loading area for the site is located on the south-east corner of the proposed building. It is envisaged that vehicular access to and from the site will be in forward directions (turning paths for medium rigid trucks are shown in Appendix A).

Access to the site during the construction period will also be from Gate 14 off Barker Street. There is already a loading area available on south-eastern part of the site which also can be used during the construction period.

2.4 Parking

The DCP for UNSW states the following in relation to parking provision:

"The total number of parking spaces on campus is to be maintained until such time as it is demonstrated through the annual parking survey that the total number may be reduced without adversely impacting parking on the surrounding streets. In the event of development that would increase the total population of staff or students then the prevailing mode of travel and distribution of parking (as measured in the latest survey) to be used to assess the future travel patterns and parking demand. The additional campus population arising from the development to be considered as the same proportion of the existing peak population (at 11:00 am weekdays) of students and staff to the total number of students and staff respectively."

"Parking fees on campus to be increased annually subject to ongoing monitoring. This is not anticipated to have any appreciable impact on on-street parking but will leave the way open to a continued disincentive to driving in the 10 to 15 year period. It will also pave the way to introduce some student parking (including permit parking) onto the campus at a higher fee than staff sometime after the initial five year period."

"As parking becomes available on campus, as a result of increased use by staff of public transport and increased fees, these spaces to be reassigned for short term and student parking. UNSW to continue to optimise the use of spaces on campus."

"The short term parking requirements of external users for special events to be accommodated on campus as part of event coordination and parking management. (This will not stop the use of short term parking on the surrounding streets)."

In line with DCP for the UNSW and the University's policy, the proposed development does not provide any parking for its additional users. This reflects the fact that most users of the proposed development will continue to use their current parking arrangements per their existing situation.

It is anticipated that the proposed building will accommodate some 1100 persons. Of these a total of some 1000 are part of the existing campus population and will continue to have their parking arrangements similar to the existing situation. The additional parking demand for additional 100 staff of the site could only result in a maximum 24 spaces. This is on the basis that the 2009 travel survey (UNSW) showed that 44% of staff travelled to the campus by car and the remaining 56% were either car passengers, travelled by motorbike, public transport, walked or cycled i.e. 56% created no demand for parking. In 2 years time (see clause 6 of the DCP Transport Strategy) when the Tyree Building opens it could be reasonably argued that the 44% would decrease further – say to a conservative 40%.

It could therefore be reasonably assumed that 40 of the additional 100 additional staff to be accommodated in the Tyree Building would then be drivers. Calculation of their parking requirement would be based on the 60% of staff attending at the 11am peak period using the DCP transport strategy. Therefore 60% of 40 additional staff equates to 24 additional parking spaces.

Further, considering, that not all the users will be on site at one time, it is well justified to assume that any additional parking demand from the proposed development will be small and could easily be accommodated within the University Campus.

Such measures will also encourage more use of public and active transport associated with the campus which is among main objectives of the DCP for UNSW, Kensington Campus.

Therefore, the additional parking demand from the proposed development would be small and would not have any adverse impact on parking demand of the area.

Parking spaces for bicycles will be provided as part of the proposed development.

2.5 Impact of the Proposal

The proposed development site will accommodate some 100 additional staff on the site. As discussed earlier the travel mode to and from the University will account for 40% who drive a car. Therefore, the maximum number of vehicular trips per day would be in order of 80 trips (40 in and 40 out). In addition to this a total of some 40 vehicular trips associated with deliveries could occur during a day as the result of the proposed building.

Considering, that not all trips would occur during a one hour period and also their low number (120 trips per day for in and out – deliveries and users), there would be a minimal impact on operation of the road network. This effectively means a maximum number of some 30 vehicles per peak period (i.e. 1 car per 2 minutes).

Therefore, additional traffic generation from the site would have an insignificant impact on the street system and intersection performances in the vicinity of the site.

Therefore, the traffic and parking implications from the proposed development will be well within the existing operation of the site. This is based on number of factors such as

- DCP for UNSW (Randwick Council) where the reduction of car parking is encouraged to reduce the need for car use.

- Availability of public transport options for site as part of the UNSW campus.

- High level of public and active (cycleway/walk) transport among users of the site.

Therefore, no adverse impact in terms of vehicular traffic generation or parking demand will be experienced as a result of the proposed development.

2.6 Points of Consideration

The following points address the relevant key issues with respect to traffic and transport aspects of the proposed project.

- The assessment of traffic impact on the road network and the expected traffic generation from the proposed project are reviewed and discussed as part of this report.

- The proposal for the site is well in line with current transport strategies and guidelines such as “Action for Transport 2010” and Council’s objectives on reducing car use.

- The proposed development provides an integrated land use and transport development not only to satisfy the current initiatives (by governmental instruments) but taking appropriate actions to implement such measures. In summary, the project contains the following characteristics:

1. The project site is located in the Randwick Local Government Area.

2. The site has a high accessibility to pubic transport. Buses provide services in the vicinity of the site (within walking distance) with connection to train stations.

3. The project site is located along Anzac Parade within UNSW Campus.

4. Ample transport choices are available for the site's patrons and include: various buses, bicycle, walk, private car and taxi. Bicycle storage areas will be provided at appropriate locations within the project site.

5. A safe and efficient access for all modes of transport is available in the vicinity of the site.

6. Loading area for service and delivery vehicles are accommodated as part of the proposal and all vehicular movements (in and out) will be in forward direction.

7. The site will accommodate 2 spaces for loading vehicles and 5 spaces for electric cars (as part of its research and technology program).

3 CONCLUSION

The approach routes to the site are Anzac Parade and Barker Street. These roads will continue to have a similar level of service to the existing situation once the proposed facility is in operation.

Vehicular access to and from the site will remain as existing situation. The access layout is in accordance with the Roads and Traffic Authority's Guidelines, Australian Standard and Council's Code.

No adverse impact in terms of vehicular traffic generation or parking demand will be experienced as the result of the proposed development

Bus routes provide numerous services to the development site which are situated within walking distance to the project site.

Pedestrian facilities and footpaths are available along streets in vicinity to the site. Pedestrian amenities such as ramps and access ways also are included as part of the proposal.

It is recommended, that bicycle parking facilities be provided as part of the project proposal.

The loading area and access arrangements are acceptable and should comply with Australian Standards. As well, the development should have no unacceptable traffic implications.

Service and delivery vehicles will gain access to the site from Gate 14, off Barker Street via Southern Drive. The loading area for the site is located on the south-east corner of the proposed building. It is envisaged that vehicular access to and from the site will be in forward directions.

Access to the site during the construction period will also be from Gate 14 off Barker Street. There is already a loading area available on south-eastern part of the site which also can be used during the construction period.

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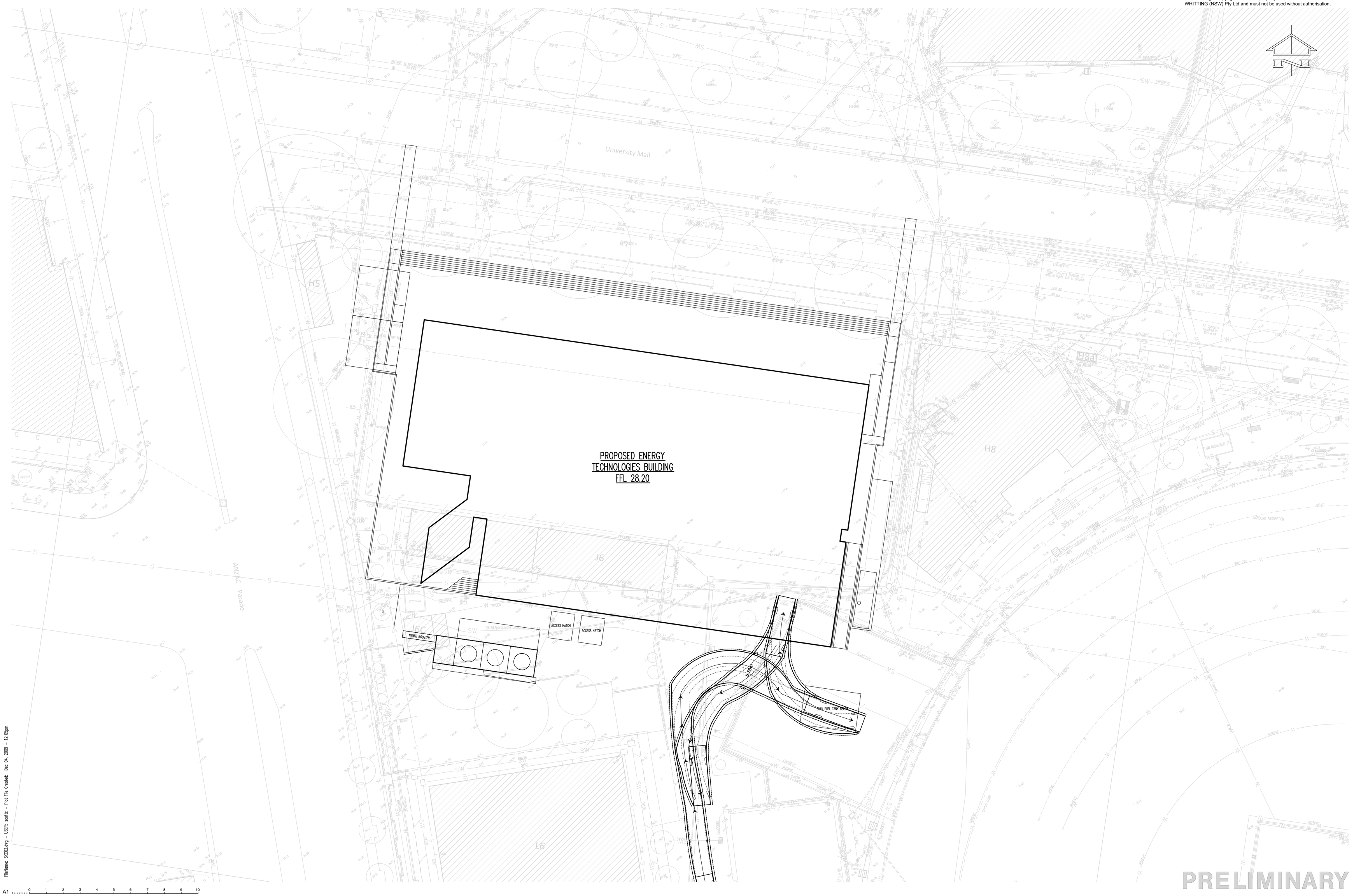

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Project
UNSW
ENERGY TECHNOLOGIES
BULIDING
ANZAC PARADE, KENSIGNTON

Sheet Subject
TURNING CIRCLE
8.8M LIGHT TRUCK

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