

University of Wollongong **Western Building** Infrastructure Management Plan

EL-IMP-01

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This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 255953

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1 Introduction

University of Wollongong (UoW) propose to build a new 10,334 m² (approximately) multi-storey building on Campus Ring Road, opposite to Building 21 Early Start Facility, for the Social Sciences (SOC) and Law, Humanities and Arts (LHA) faculties.

This is a brownfield site with a number of utility services located across the site. A dial before you dig application was made to ascertain the utility assets that are currently located on the site. Further information was received from UoW regarding privately owned infrastructure.

The intent of this document is to highlight existing utility services located on the site and advise of any works that are required in order to remove or relocate the existing services to allow for the redevelopment.

The relevant utility owners have yet to be consulted on the recommendations outlined in this document and will be within the next design stage.

2 Existing Electrical Services

A dial before you dig (DYBY) investigation was carried out to identify the existing utilities located on the proposed development site. The dial before you dig survey highlighted that there are existing Endeavour Energy assets crossing the site boundary. However, there is no dedicated Endeavour Energy substation on site. This can be seen in figure 1 below.

The information recovered via the dial before you dig service shows approximate locations only. Surveys to determine the exact depth and location must be carried out to verify this information.

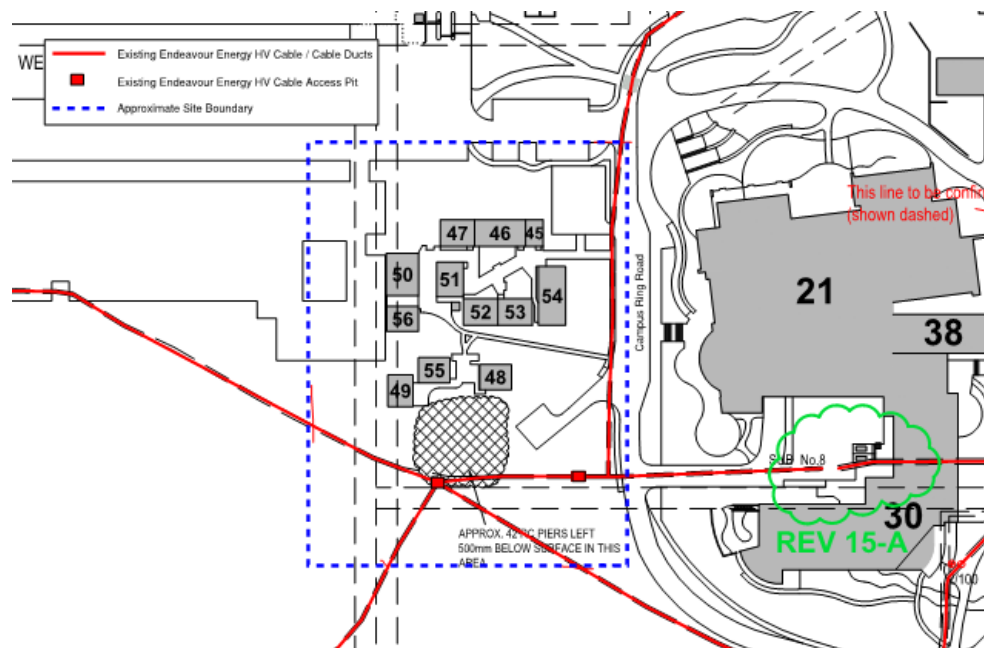


Figure 1 - Existing Endeavour Energy HV

It seems that the location of the existing HV cables routing within below ground ducts across the site are mainly through proposed soft landscaping areas. The HV cable routing North-South is within close proximity to the edge of the planned new building, however this looks to be within the proposed paved area and may not be affected. The locations provided are indicative only and a survey will be required to confirm this.

Therefore, it is not anticipated that these existing services will be affected by these works. Careful coordination of any new electrical services within the landscaping area will be considered as the design develops.

The current site is made up of a number of demountable buildings (buildings 45 to 65 inclusive). There is an existing university owned main LV switchboard located adjacent building 54 which appears to serve the majority of the existing buildings (45-47 & 49-56), as well as services within the main western car park.

The switchboards supply feed appears to originate from substation # 32529, adjacent to building 30 on the opposite side of the campus ring road.

There appear to be some redundant cables within pits from old installations.

Figure 2 below shows the extent of LV supplies known to exist on site.

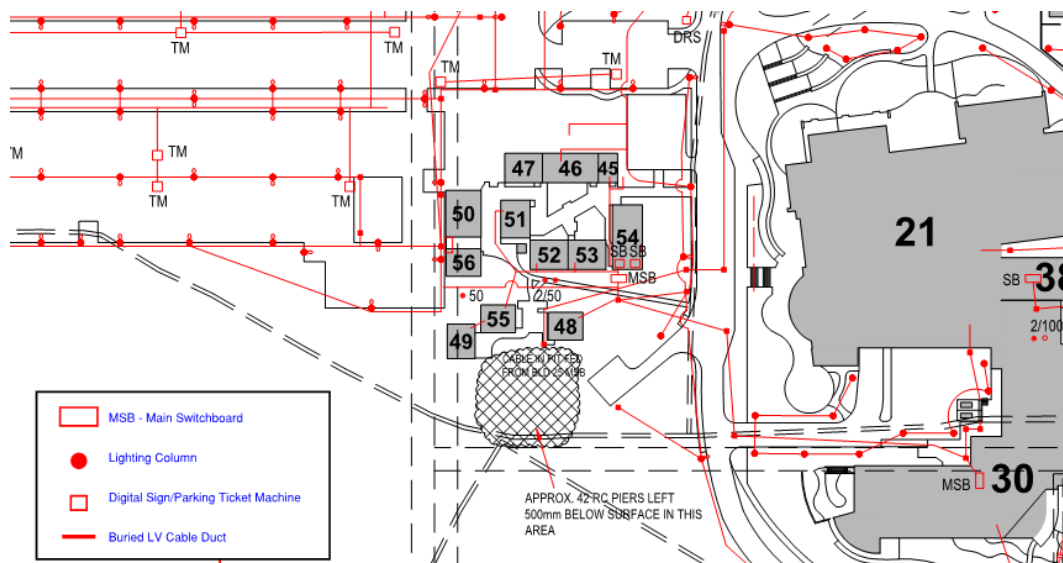


Figure 2: Existing UoW LV services

The cables seem to be routed within a buried pit and duct network. It will be required that the LV supplies to the demountable buildings will be isolated and stripped out as part of the demolition works. Detailed survey will be required to confirm the origin of these supplies from buildings 25 and 30.

Other retained services that are fed from these redundant supplies will be reconnected to other switchboards. This includes the car park lighting, some security cameras and ring road street lighting. This will be investigated on site further to determine the suitable alternative supply.

3 Existing Telecoms Services

A dial before you dig (DBYD) application was made to investigate the presence of existing telecoms services within the site boundary. However, Telstra withheld the DBYD information and therefore it is unknown whether any Telstra assets exist within the site.

There is existing NBN infrastructure within the site boundary. This can be seen within figure 3. It would appear that these lead in services are present for services provided to the existing buildings. However, this will require to be further confirmed with NBN.

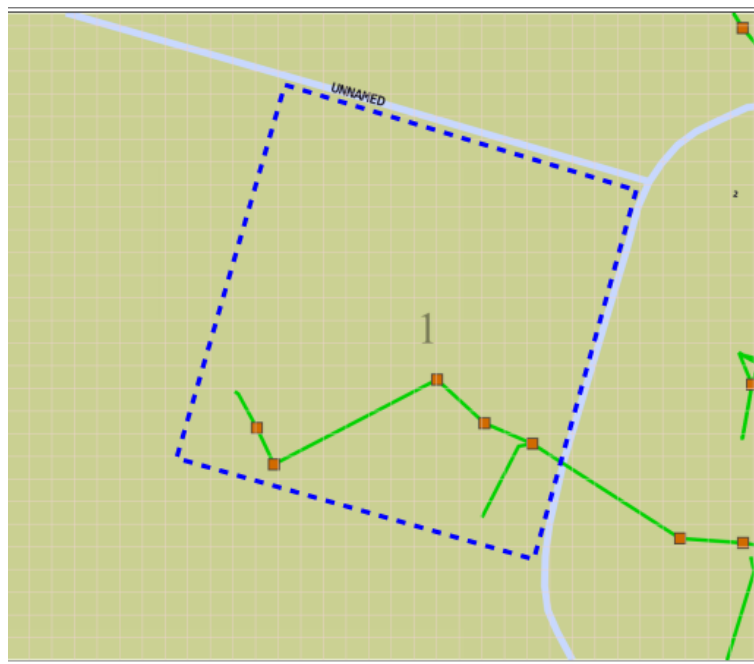


Figure 3 - Existing NBN Telecoms assets

It is understood that the university wish to apply for a new telecoms connection for telephone service to the new Western building. It can be seen in figure 4 that the area is deemed ready for connection via NBN Co fibre network and it is anticipated that this will effectively be the required provider.

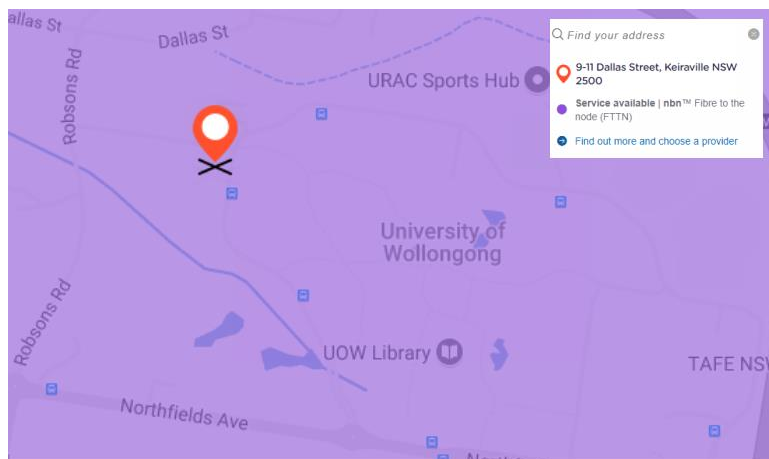


Figure 4 - NBN service ready areas

There are existing UoW private network telecoms services within the site boundary and the adjacent Western carpark. The extent of services can be seen in figure 5.

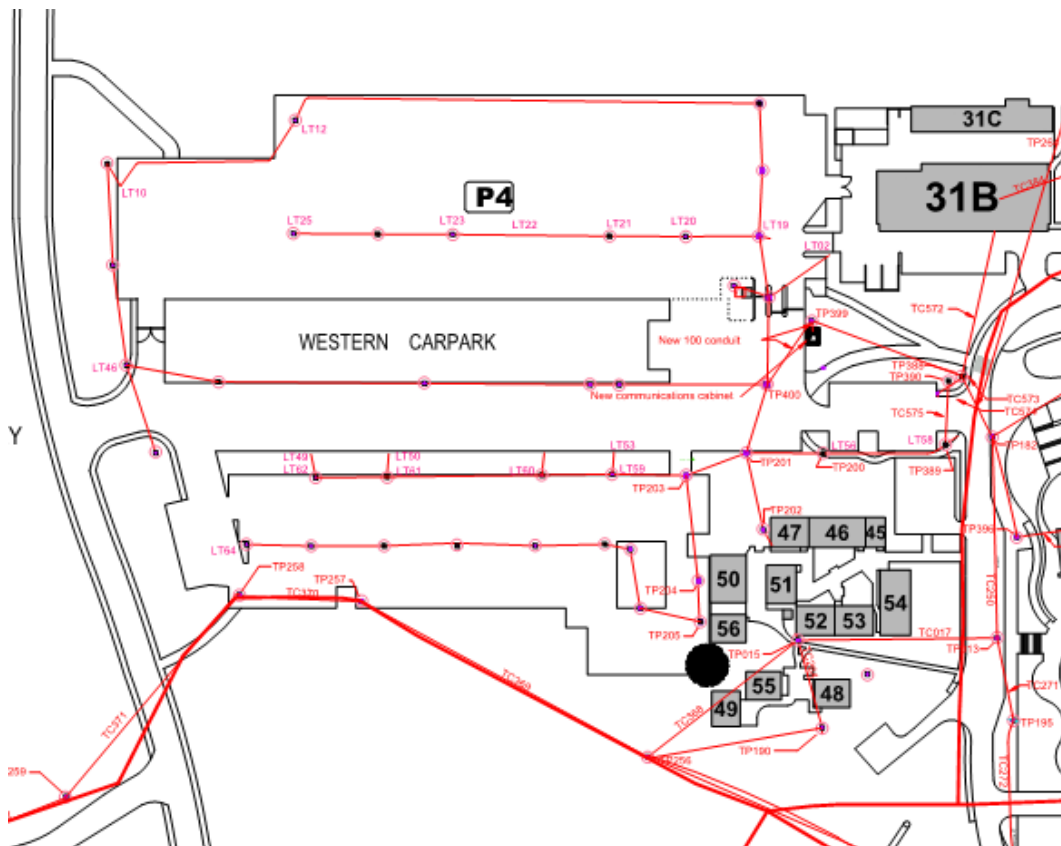


Figure 5 - Existing UoW ICT cabling

It will be determined with the university to understand the extent of the required modifications to provide a new connection into Western Building. This will include removal of existing backbone links to the existing demountable buildings and re-provision of ICT cabling to the carpark pay stations and other end points as required.

The origin and lead in point of the new connection to Western building will be discussed and determined with the university at the next design stage.

4 New Electrical Services

A preliminary maximum demand (MD) for Western Building has been calculated to establish the new electrical requirements for the redevelopment. The preliminary MD was calculated at a total of 987 kVA. The average load density is in the order of 96VA/m². This is based on the current design GFA of 10,334m².

An application for connection of load has yet to be submitted to Endeavour Energy. This will be submitted once approval from the university has been established and a NMI number has been allocated.

The current proposal is to provide a new Endeavour Energy kiosk 1.5MVA substation within the site boundary. It is anticipated that it will be connected from

the existing Endeavour Energy HV assets described in the existing services section above. This is subject to confirmation from Endeavour Energy.

The current proposal is to locate the kiosk to the South East of the site adjacent the existing HV line running parallel (North-South) to the campus ring road. This location and feasibility of this proposal will be determined following application to Endeavour Energy and confirmation of existing capacity.

UoW will engage a Level 3 Accredited Service Provider to undertake the design and prepare the documentation for this scope of work.

5 New Telecoms Services

A new incoming utility telecoms service will be required for the new Western Building for telephone services.

It is anticipated that this will likely be required provided via NBN fibre connection. A new application will need to be submitted to request provisions to allow for the services described above.

New incoming telecommunications pits will be required and laid as part of the new development to a pit located on the boundary of the site to allow the connection of the new telecoms services from the chosen service provider.

UoW will provision connection to campus data centre over privately owned fibre network. In addition to a fibre loop.

6 Conclusion

The existing electrical services on site have been reviewed and identified. It is anticipated that the existing Endeavour Energy HV lines will be unaffected by these works. Existing UoW services will be stripped out where no longer required and/or modified to re-supply the UoW western carpark.

The existing telecoms services have been reviewed on site. Existing NBN services have been identified. It is anticipated that the NBN services feed only the existing demountable buildings, and may therefore be stripped back and modified as necessary to re-provide to the new Western Building.

It has not been possible to identify whether there are existing Telstra assets within the site boundary. This will be subject to further confirmation with Telstra.

Application is required to both LV and Comms connections.