



# Infrastructure Report

Western Sydney University,  
Milperra

PREPARED FOR MIRVAC HOMES PTY LTD

DOCUMENT CONTROL

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## 1 Introduction

This Infrastructure Report has been prepared to inform the Planning Proposal for the proposed rezoning of the site known as “Western Sydney University, Milperra” from Special Activities (Educational Precinct) (S1) to Medium Density Residential and Neighbourhood Centre (B1). The site is proposed to ultimately comprise of approximately 437 medium density residential dwellings. It is located in the Canterbury Bankstown City Council LGA and is bounded by the M5 Motorway, Ashford Avenue, Bullecourt Avenue and Horsley Road.

This report initially assesses the capacity of the existing infrastructure utility services to service the proposed rezoning and provides a commentary on the issues and constraints in providing these services.

A Dial Before You Dig enquiry was undertaken on 14 May 2020 to inform the existing servicing infrastructure adjacent to the site.

Reference is made throughout this report to the Infrastructure Report prepared by Arup Pty Ltd (*ref: 257182 Draft WSU Milperra Infrastructure Assessment, Arup Pty Ltd, February 2018*). It is noted as the Arup Infrastructure Report.

## 2 Site Location

The project site is located within the suburb of Milperra, approximately 8km from Bankstown CBD, 8km from Liverpool CBD and 30 km from Sydney CBD. The existing land use is educational consisting of the Milperra campus of the Western Sydney University. The site location is shown in Figure 2.1.



Figure 2.1 Site Location



### 3 Proposed Development

The proposed development will comprise approximately 437 residential dwellings and is expected to be fully developed within five years once rezoned. Figure 3.1 below presents the indicative proposed lot layout for the proposed development.



Figure 3.1 Indicative Master Plan for the Site.

## 4 Water Supply

### 4.1 Existing Water Supply Infrastructure

The site is currently supplied from the Milperra Reservoir Supply Zone via an existing 250mm trunk watermain located on Ashford Avenue. This trunk watermain branches into a 200mm and 150mm CICL main along Bullecourt Avenue.

Watermains servicing the site include a 150mm CICL in Bullecourt Avenue and Ashford Avenue, a 150mm DICL in Horsley Road and a 100mm CICL in Ashford Avenue. Figure 4.1 shows the existing water supply (shown in blue) adjacent to the proposed site.



Figure 4.1 Existing Water Supply (Source: Sydney Water)

## 4.2 Water Supply Demands

Estimated water demands for the proposed development site are shown in the table below. The rates adopted are based on design rates outlined in Sydney Water's "Water System Planning Guidelines". These demands are only preliminary and will be refined during the detailed planning phase of the project.

**Table 4.1 Water supply demands**

Number of dwellings to be serviced	437
Assumed occupancy rate	3 people per dwelling
Estimated average day demand (@ 0.75kL/dw/day)	0.33 MLD
Estimated maximum day demand (@ 2.2kL/dw/day)	0.96 MLD
Estimated maximum hour demand (@ peaking factor of 2.5)	2.40 MLD

## 4.3 Proposed Water Supply Strategy

No application or discussions have been made to Sydney Water in regard to servicing the site. The following assumptions have been made but will require consideration and confirmation by Sydney Water. Figure 4.2 shows the proposed sewerage network within the proposed site.

- Development to be supplied via the Milperra Water Supply System.
- The existing 150mm watermain along Bullecourt Avenue and Ashford Avenue are available for connection.
- Internal reticulation would comprise a series of 100mm and 150mm diameter watermain.
- Based on the intended demand it is anticipated that the existing water infrastructure surrounding the site will have sufficient capacity to service the proposed development.
- It is expected that there will be sufficient capacity to service the proposed commercial uses inclusive of café/restaurant, small retail and shared community facilities.
- No existing trunk infrastructure is likely to require significant adjustment/deviation (subject to confirmation of final lot layout and road alignment).
- Modelling of the existing and proposed water supply network will be required during the design phase to confirm the above assumptions.





Figure 4.2 Proposed Water Supply Infrastructure



## 5 Wastewater

### 5.1 Existing Wastewater Infrastructure

The site currently drains in a southerly direction to a 225mm VC and 400mm VC sewer along the southern boundary, adjacent to the M5 Motorway. These lines join and then discharge through a 450mm VC line that drains to SPS207 and the Panania carrier. Figure 5.1 shows the existing sewerage network (shown in brown) adjacent to the proposed site.



Figure 5.1 Existing Sewerage Infrastructure (Source: Sydney Water)

## 5.2 Proposed Wastewater Servicing Strategy

No application or discussions have been made to Sydney Water in regards servicing of the site. The Arup Infrastructure Report identifies a proposed strategy and has been referenced to provide the following assumptions. These assumptions will require consideration and confirmation by Sydney Water. Figure 5.2 shows the proposed sewerage network within the proposed site.

- Preliminary assessments have indicated that the 450mm sewer should have sufficient capacity to service the site.
- Internal reticulation will comprises pipe sizes of 150mm, 225mm and 300mm, joining in to the existing 225mm and 400mm sewer lines at the south of the site.
- Estimated ADWF for the site is 4 L/s.
- The capacity of SPS 207 is unknown and the impact on this station will need to be assessed with hydraulic modelling.
- Modelling of the existing and proposed sewerage reticulation will be required during the design phase to confirm the above assumptions.



Figure 5.2 Proposed Sewerage Infrastructure

## 6 Electricity

### 6.1 Existing Electricity Supply

The DBYD enquiry has indicated the electrical infrastructure within and surrounding the development are owned by Ausgrid. The services are predominantly overhead, with some assets underground.

As indicated in the Arup Infrastructure Report, the existing 11kV reticulation in the area may have sufficient capacity to service 400 to 600 dwellings. The development proposal from Mirvac indicates 437 dwellings, so would be in line with utilizing the existing network. It would be expected that the small commercial facilities to be provided would be serviced by the existing infrastructure.

However, if Ausgrid determine that there is insufficient capacity, a new feeder cable would be required from one of the two Zone Substations in the area. These are located at Marigold Street, Revesby (1.1 km distance) and near Revesby Railway Station (3.5 km distance).

Based on the provision of 437 residential dwellings, the provision of 6 to 8 substations would be anticipated to facilitate the residential electrical demand and street lighting network.

From recent enquiries, it is noted that the position advised within the Arup Infrastructure Report for electrical infrastructure has not changed.

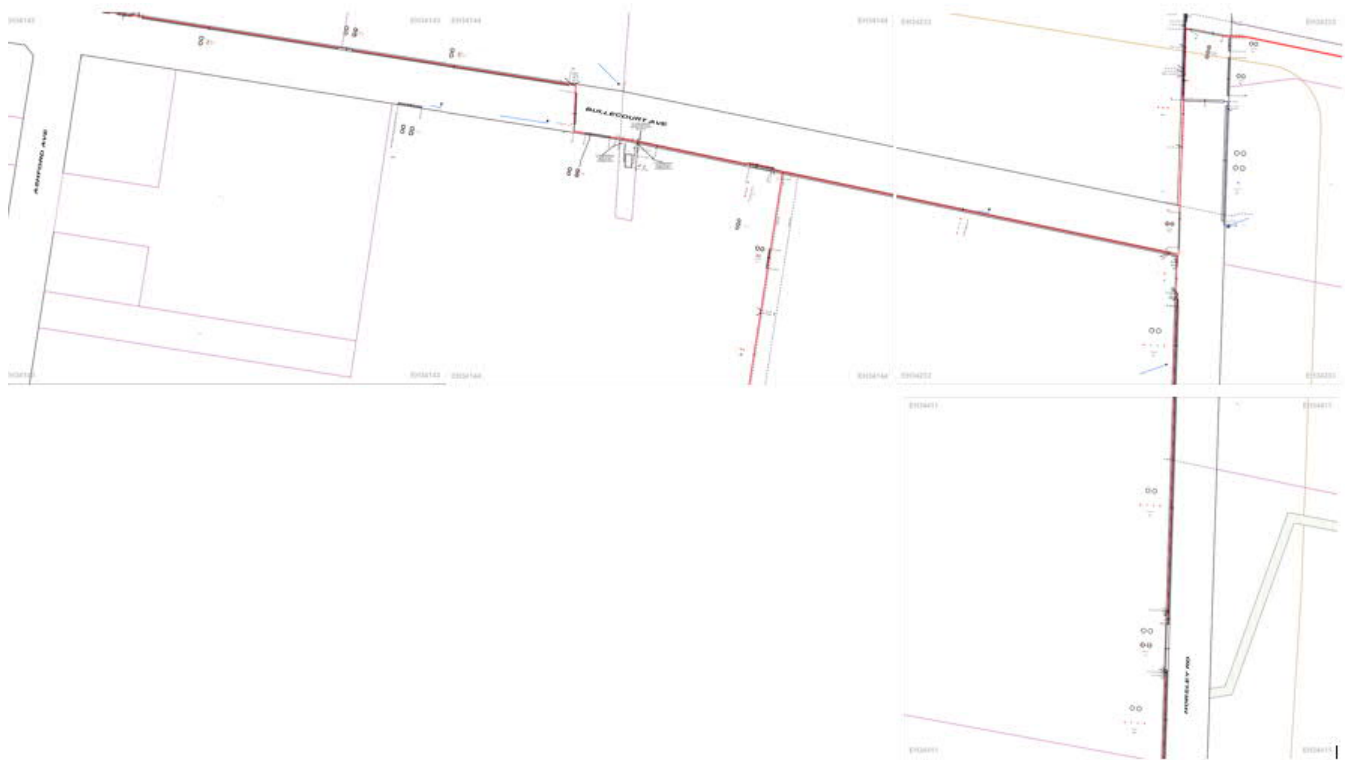


Figure 6.1 Existing Electricity to Bullecourt Avenue and Horsley Road (Source: Ausgrid)





## 8 Telecommunications

As part of the DBYD enquiry, the following telecommunication assets were identified as existing within the vicinity of the proposed development:

- NBN
- Australia's Academic & Research Network (AARNet)
- Optus
- Telstra
- TPG

### 8.1 NBN Co.

Based on the scale of the development, it is assumed that NBN Co will service the proposed development. The DBYD enquiry indicates existing NBN services along Bullecourt Avenue and Horsley Road. There are NBN communication lines extending into the WSU grounds that are most likely servicing existing facilities.



Figure 8.1 Existing NBN Co. Network (Source: NBN Co)

No feasibility request has been submitted to NBN Co regarding the deployment of a communications.

The infrastructure required to connect new developments to the wider telecommunications network (ie optical fibre link) is referred to as the NBN backhaul. As there is NBN infrastructure adjacent to the development site, it is assumed that no backhaul costs will be applicable. This however, will need to be confirmed by NBN Co.

Government Policy currently stipulates that the following will apply to the development site:

- Developers will meet the cost of pit and pipe.
- Developers will be required to contribute to the cost of providing phone and internet infrastructure.
- Developers will be required to provide “fibre ready facilities” in all new lots in the development.

Further to discussions with NBN providers regarding the allocation of costs will be carried out post rezoning.

## 8.2 AARNet

It is noted that the existing AARNet communication line is running through the site from a connection point in Horsley Road to Ashford Avenue. The requirements of this service will need to be verified with the relevant authority but will most likely need to be relocated within the proposed road network.

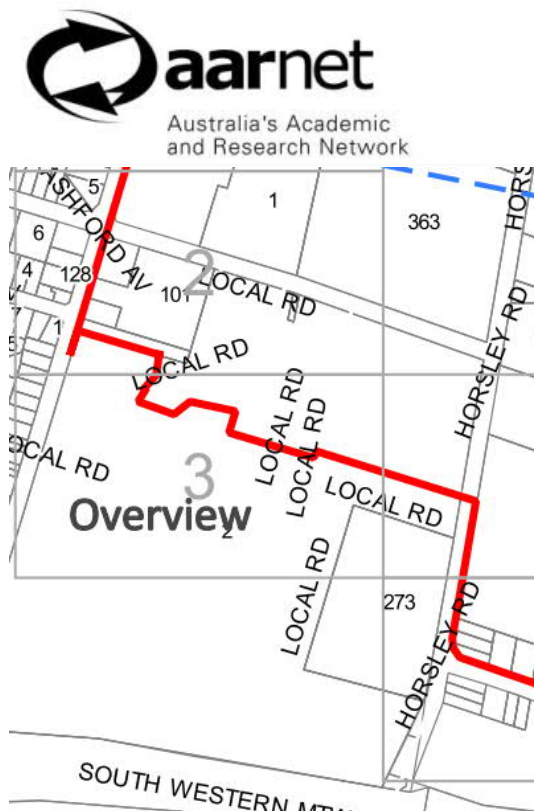


Figure 8.2 Existing AARNet Communication Cable (Source: AARNet)

## 9 Conclusion

From this assessment of infrastructure, it has been found that there is either existing uncommitted spare capacity available or readily upgradable (via system amplifications/extensions) capacity of the existing infrastructure system to service the Proposed Residential and Commercial development.

- Water Supply can be provided by the existing trunk infrastructure located within Ashford Avenue.
- Sewerage can be reticulated to the existing main at the southern end of the property.
- Based on the proposed dwellings, there is sufficient power is readily available.
- Gas can be readily supplied via existing mains, depending on Jemena's assessment.
- NBN is available around and within the site and can be upgraded.

Further engagement with all authorities will be necessary to confirm the above assumptions and to further develop designs and approvals.





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