

Investa

105 Miller Street, North Sydney

Preliminary Utilities Infrastructure Assessment Report

Reference: 304321-CS-RPT-0003

1 | 24 January 2025

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.

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1. Introduction

This Preliminary Utility Services Infrastructure assessment report is submitted to Department of Planning Housing and Infrastructure on behalf of our client, Investa Custodian (2) Pty Ltd as Trustee for 105 Miller Street North Sydney Trust (Investa) to support a State Significant Development Application (SSDADA) for the redevelopment and adaptive reuse of an existing State Heritage listed building at 105 Miller Street, North Sydney (the site) as a new tertiary education building.

Specifically, the proposed works include the following:

- Adaptive reuse and restoration of the Miller Street wing;
- Demolition of the Denison Street wing and construction of a new 22 storey building;
- Alterations to the ground level to deliver a significantly enhance public domain;
- Construction of a almost double height ground floor retail and the delivery of a new public open space along Miller Street; and
- Basement carparking and loading dock accessed form a relocated entry off Denison Street.



Figure 1: 105 Miller Street, North Sydney

For a detailed site and project description, refer to the Environmental Impact Assessment prepared by Beam Planning and the Architectural Drawings prepared by FJC.

1.1 Purpose of Report

The purpose of this Preliminary Utility Services Infrastructure report is to provide an overview of:

1. the availability, capacity and location of utility services infrastructure that will support the proposed development; and
2. Protection and relocation strategies for infrastructure assets belonging to each of the utility stakeholders.

2. Utility Services Infrastructure

A ‘Before You Dig Australia’ (BYDA) enquiry, previously known as ‘Dial Before You Dig’, was sought on (28/08/2024) with the relevant information being collated into this report.

The available utility information indicates the existing utilities of the following services serving or traversing the development:

- **Electricity Supply – Ausgrid**
 - Existing HV and LV services
- **Communication Services**
 - Telstra, Optus, TPG, NBN, Fibre, Ucomm, AARNet, Nextgen, Vocus, Verizon
- **Water Services – Sydney Water**
 - Sewer
 - Potable Water
 - Stormwater and On-Site Detention
- **Gas Supply – Jemena**
 - Natural gas supply---

2.1 Electricity Supply

The existing building is currently supplied from the existing Substation **S.7252** Denison Spring No.2 of **3 x 1500kVA** providing the two supplies LVF No.1 and No.2 . The HV infrastructure is located along Denison Road as shown in the DBYD information below.

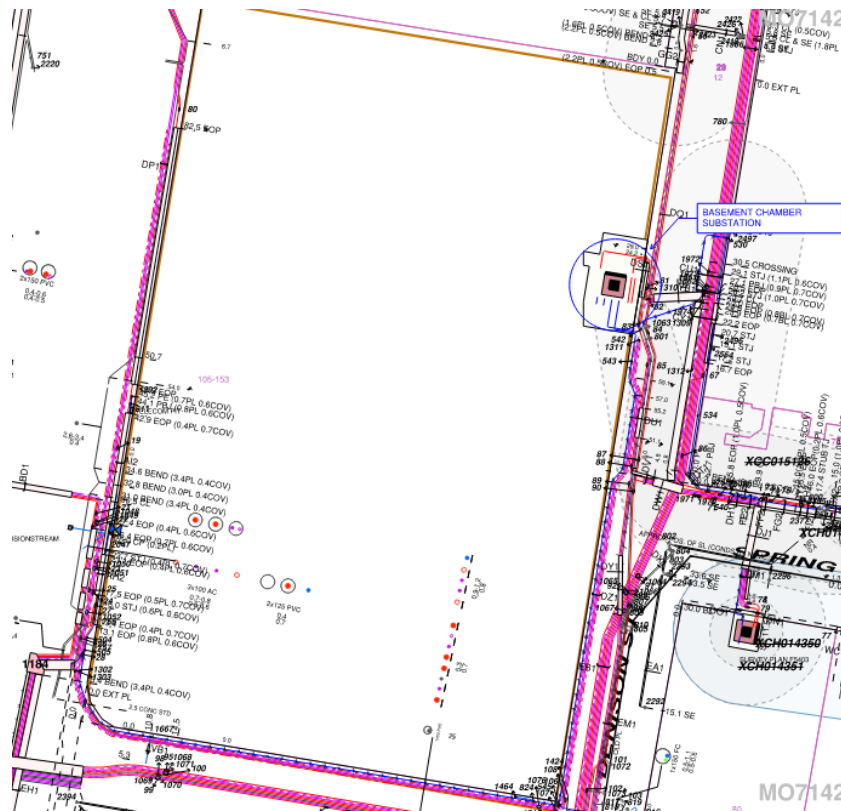


Figure 2: Existing Ausgrid substations and HV cables

2.1.1 Site New Maximum Demand

The following sections outline the maximum demand calculations and assumptions. It should be noted that for further accuracy it is recommended that the final design assessment will be complete a revised maximum demand calculation using connected equipment loads to AS3000 rather than VA/m² calculations. This will be completed once the next stage of design has been completed and will provide greater accuracy than the initial VA/m² calculations.

The maximum demand calculation was carried out using the following allowances:

- 1) Education Office NLA: 85VA/m² including diversity with 40VA/m² mech allowance
- 2) Retail NLA: 600 VA/m² including diversity with 100VA/m² mech allowance
- 3) Lifts: An allowance of 500 kVA for Lifts with diversity applied as per AS3000.
- 4) BOH Lighting & Power: 15VA/m²

Based on the above a maximum demand calculation was carried out based on the updated area schedules resulting of an electrical power load associated with connected equipment such as motors, lighting and small power of diversified **4,098kVA** equivalent to current load of **5903A** meeting the current rating of the existing substation.

2.1.2 Proposed electrical supply

To facilitate the anticipated **4.1MVA** a new installation of 3 x 1500kVA transformers, arranged within one dedicated (01) chamber substation, 1 off **3x1500kVA/ 5903A** to Ausgrid standards and based on the existing rating of **S7252** is proposed within the site boundary.

It is noted that the existing substation does not serve any other developments and therefore can be decommissioned, if required, without impacting other sites. The development will include the provision of a new supply from the local zone Substation

To determine the impact of HV supplies a detailed assessment and application to Ausgrid HV Planning Section will be required at the next detailed design stage.

2.2 Communications

2.2.1 Existing Services

The following communications services networks exist within or in proximity of the boundary of the development base on our interpretation of the BYDA information. The utility communications cabling is generally installed in underground conduits on street verges with regular access points through manholes or pits.

Services identified include:

- Telstra
- Optus
- NBN
- TPG
- Vocus
- Uecomm
- Verizon
- AARNet
- Nextgen

Further discussions are required with the service providers to confirm existing arrangements, noting these works can be undertaken at the next design stage.

The following sections provide details for existing services for each noted service provider.

Telstra Services

Services Present – Telstra services are present on both Miller Street and Mount Street running adjacent to the development. The services on both Miller and Mount Street do not appear to cross their respective footpaths in front of the building.

Connections to the site – There does not appear to be any Telstra services entering the site.

Other Notes –

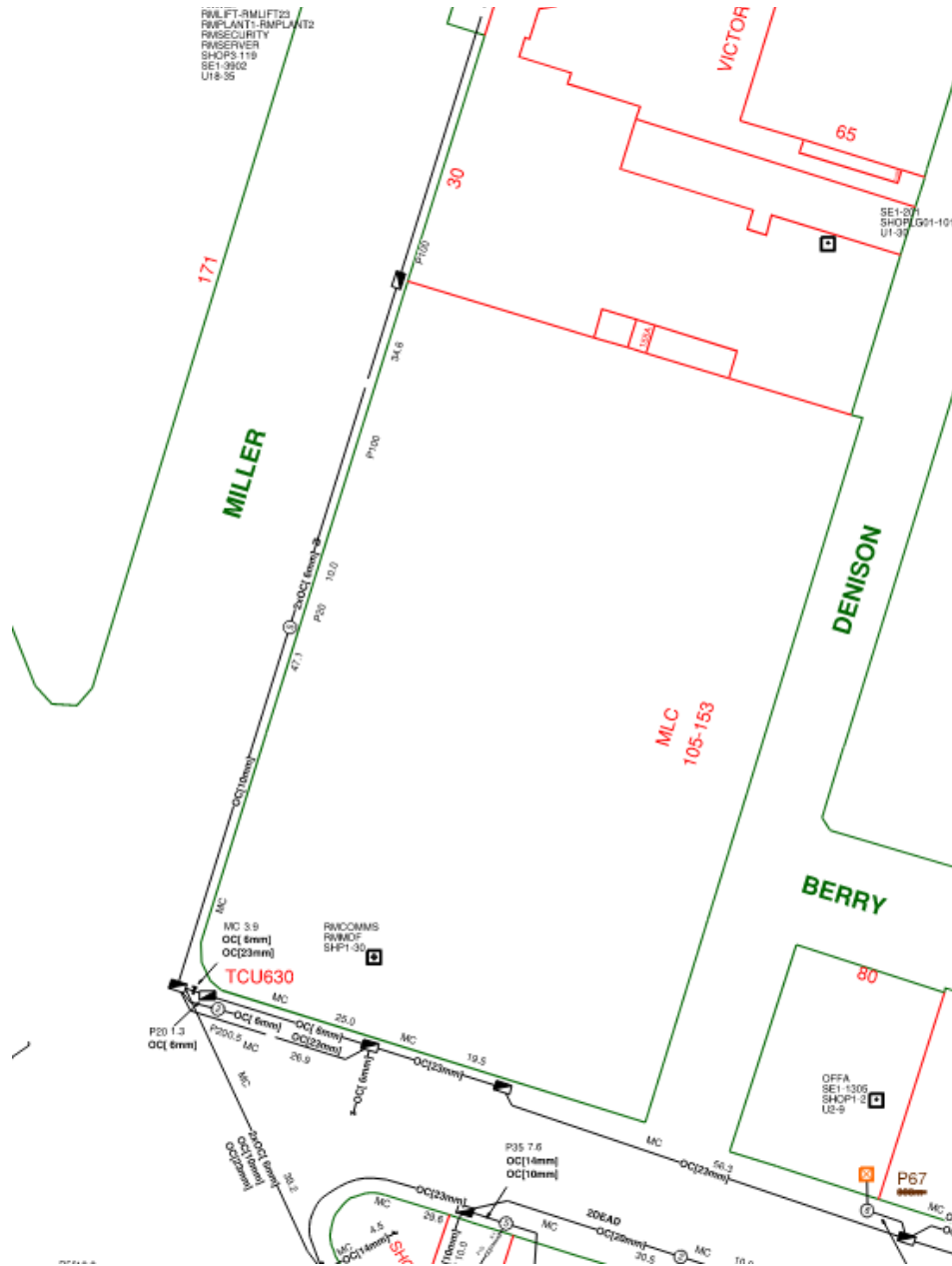


Figure 3: Telstra existing Communication Services adjacent to the site

Optus Services

Services Present – Optus services are present on Miller Street, Mount Street and Denison Street, which run adjacent to the development.

Connections to the site – A connection appears to be provided to the site on Mount Street.

Other Notes –

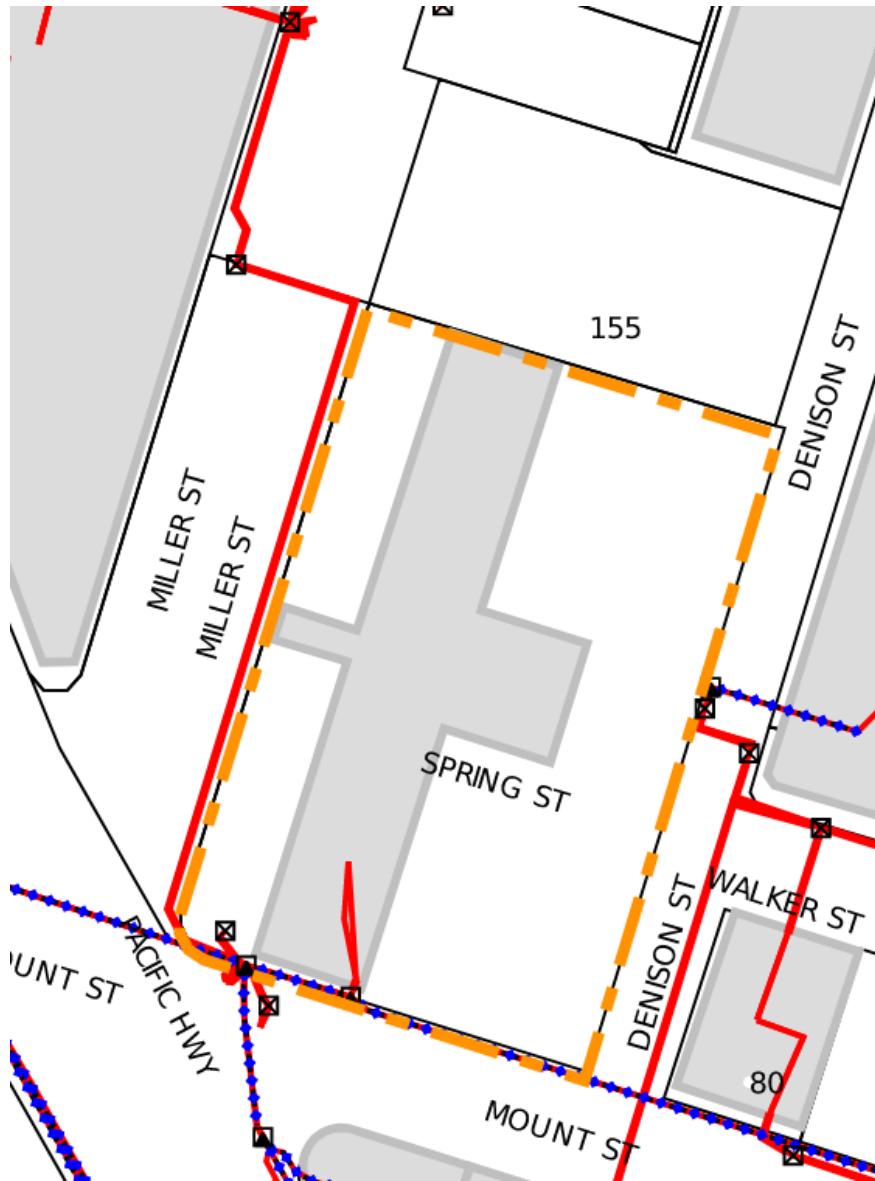


Figure 4: Optus existing Communications Services adjacent to the site

NBN Services

Services Present – NBN services are currently within the area. The services run adjacent to the site on both Miller Street and Mount Street.

Connections to the site – There is currently one (1) NBN connection provided to the site from the Miller Street side only. This connection enters from the south side of the development.

Other Notes –

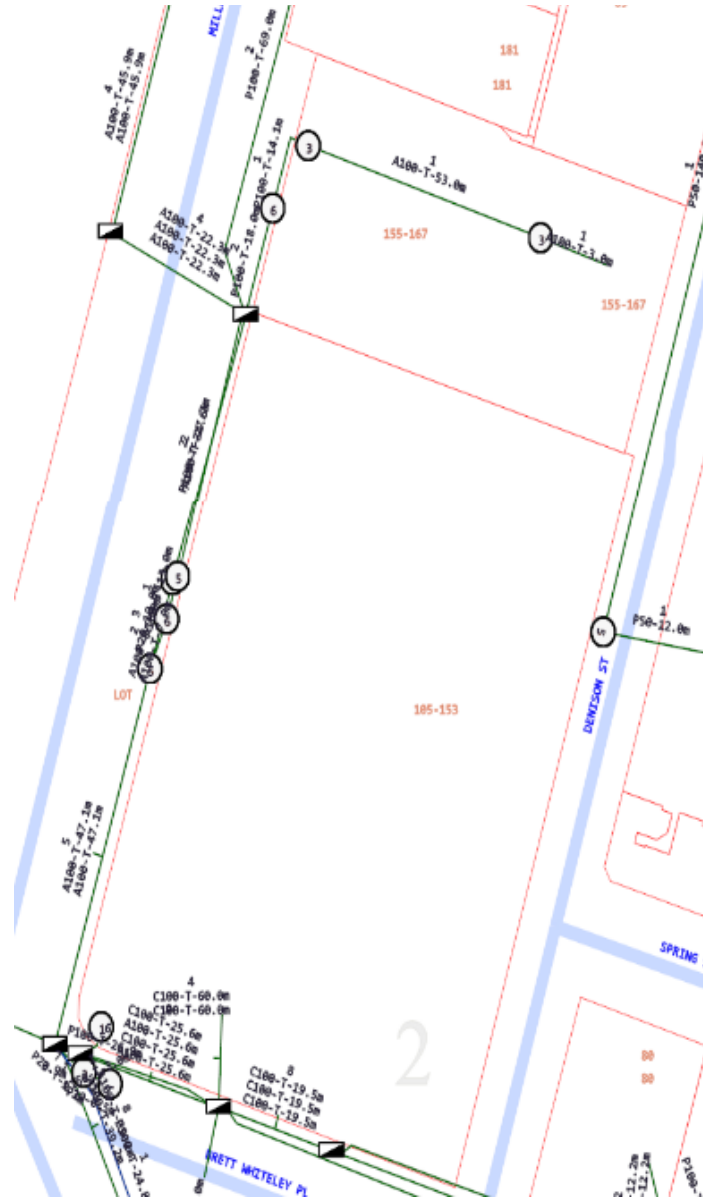


Figure 5: NBN existing Communications Services adjacent to the site

TPG Services

Services Present – TPG have AAPT/PowerTel Ducts, DDA Ducts and PIPE Networks within the area, with these being located on Miller Street and Mount Street.

Connections to the site – There is presently a single PIPE Networks connection to from Mount Street entering the South East corner of the site. There is also a DDA Duct which goes through the site from Miller Street to Mount Street.

Other Notes –

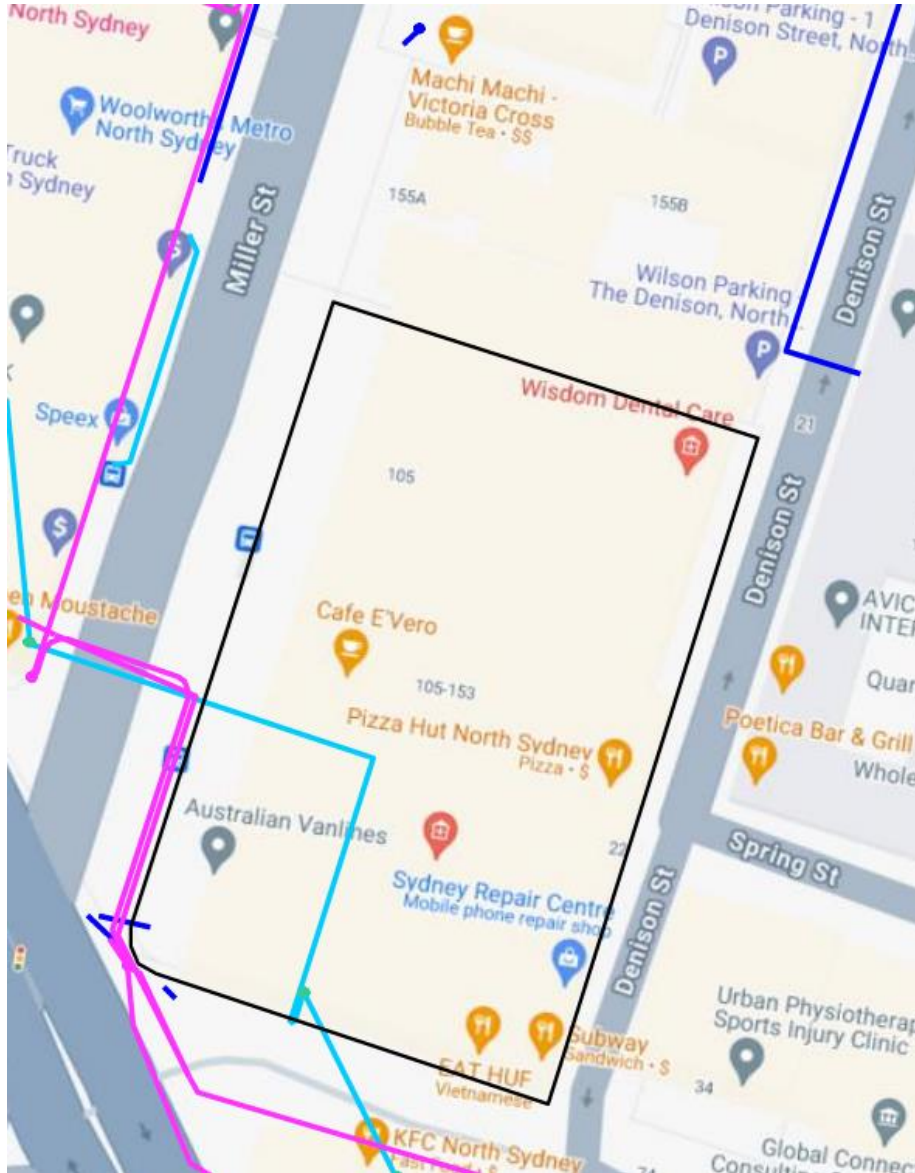


Figure 6: TPG existing Communications Services adjacent to the site

Vocus Services

Services Present – Vocus services do not directly pass the site base on the Vocus plans, however there are services on Mount Street adjacent to the site.

Connections to the site – There does not appear to be any Vocus services to the site.

Other Notes –

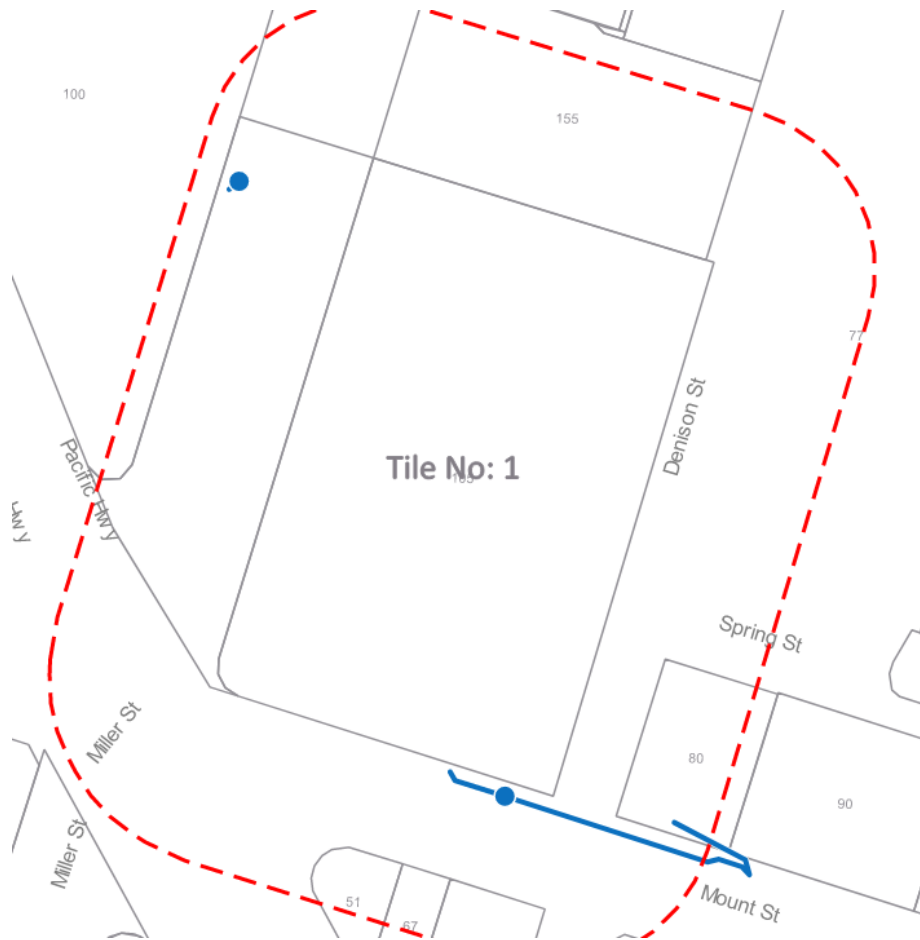


Figure 7: Vocus existing Communications Services adjacent to the site

Uecomm Services

Services Present – Uecomm services currently pass the site from Miller Street to Mount Street. The Uecomm services are located within the Optus pit and conduit network.

Connections to the site – There does not appear to be any Uecomm services to the site.

Other Notes –

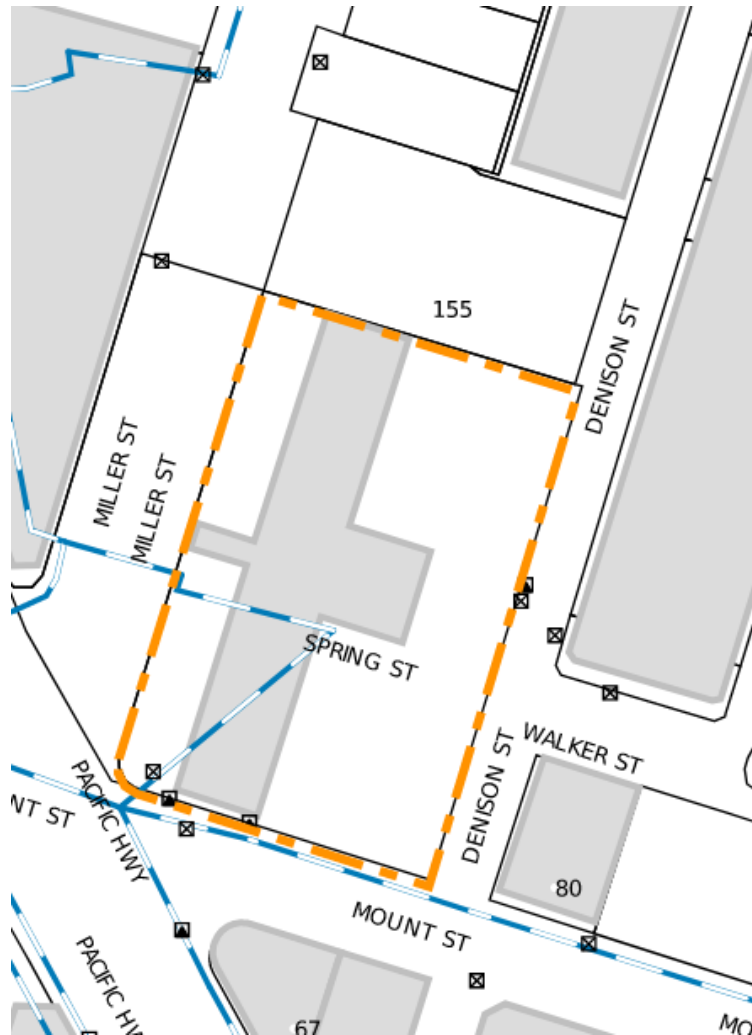


Figure 8: Uecomm existing Communications Services adjacent to the site

Verizon Network

Services Present – Verizon services currently run near the site on the Pacific Highway.

Connection to the site – There does not appear to be any Verizon services to the site.

Other Notes –

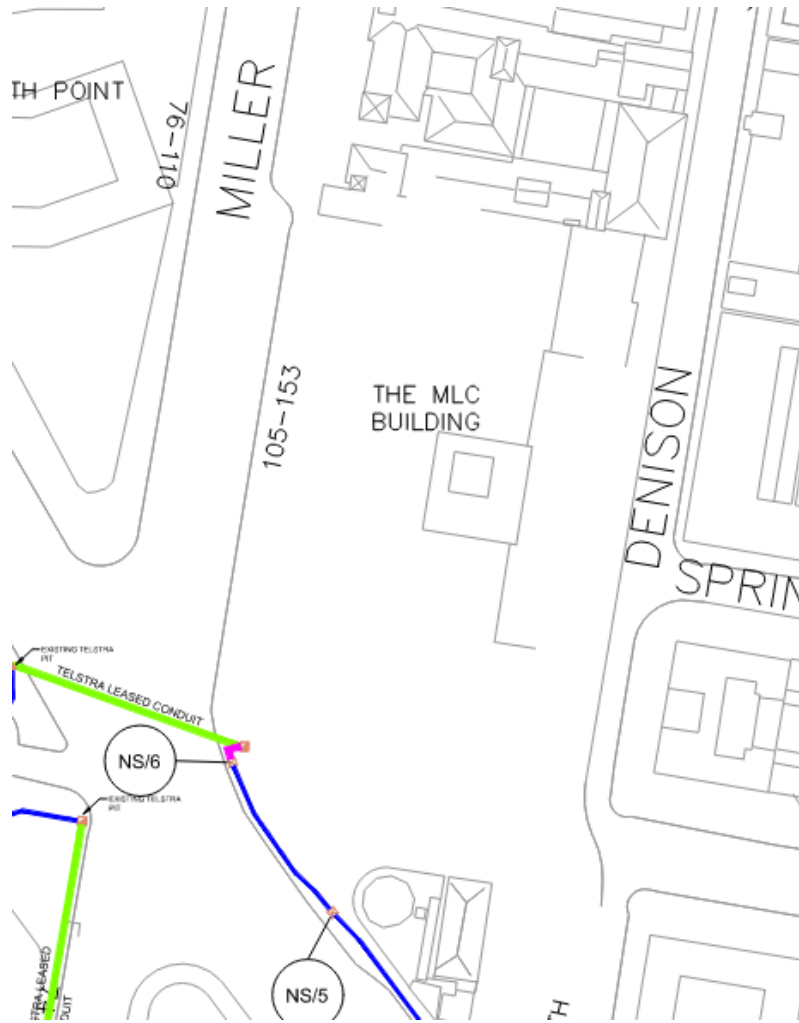


Figure 9: Verizon Communications Services adjacent to the site

AARNet Services

Services Present - None

Connections to the site – There are presently no AARNet connections provided to the site.

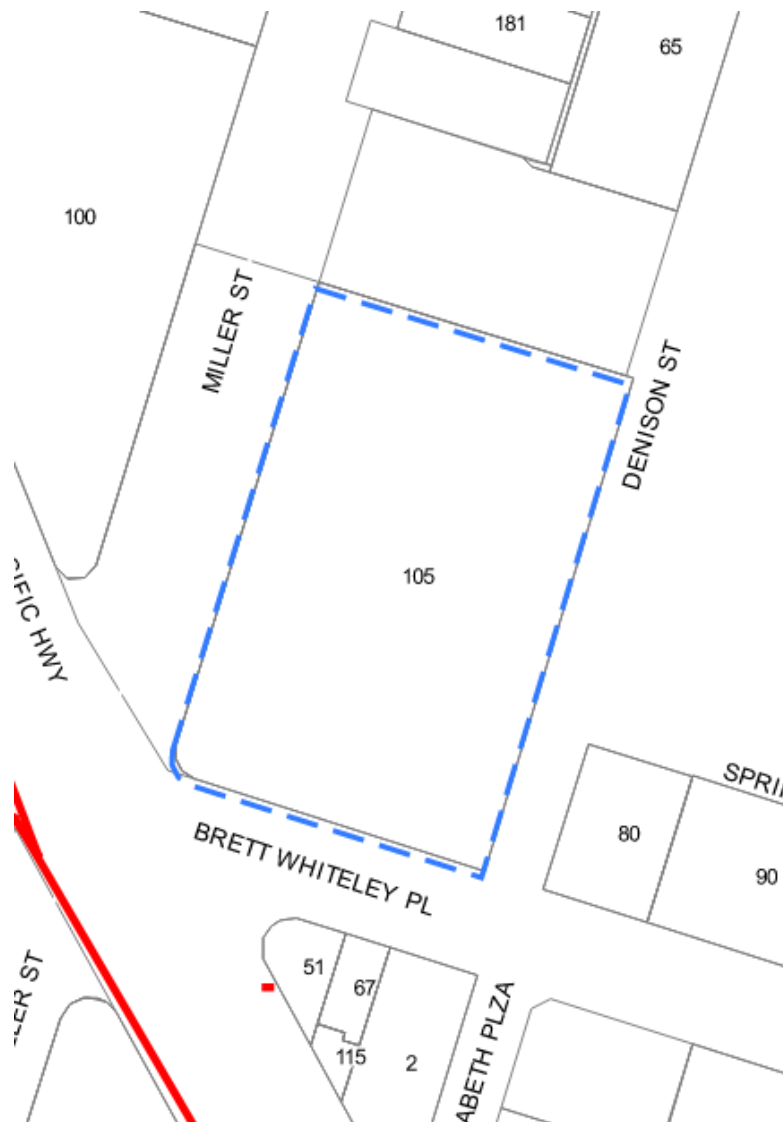


Figure 10: AARNet Communications Services adjacent to the site

Nextgen Services

Services Present – None

Connections to site – There does not appear to be any Nextgen services to the site.

Other Note –

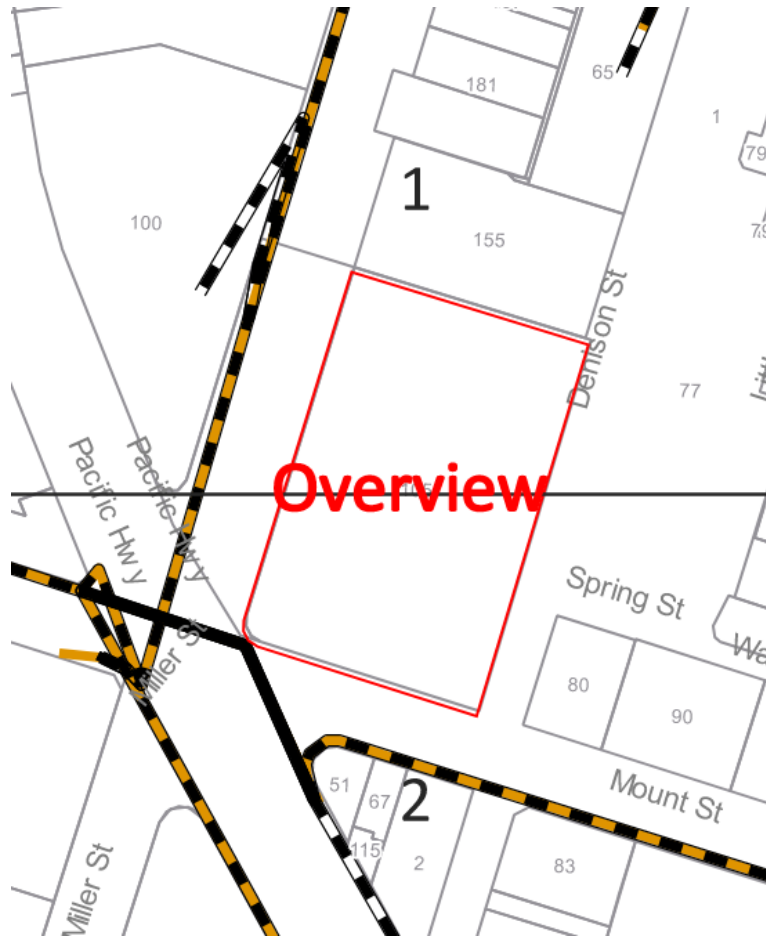


Figure 11: Nextgen Communications Services adjacent to the site

2.2.2 Required Alterations

Depending on the proposed tenant communications services requirements, augmentation of the pit and duct systems may be required to facilitate a connection to the development.

The proposed development will require lead in cable routes for multiple service providers. As part of the design process, the existing lead-in provisions will require further investigation to understand entry points and extent of conduits provided.

To align with requirements of a modern building, the following services provisions are recommended:

- NBN –
- Minimum allowance for four (4) future providers

2.3 Water and Sewer Services

2.3.1 Existing Services

The following section identifies the existing water and sewer utilities surrounding the building and the current connections into the building which are owned by Sydney Water. This is also reflected in *Figure 12: Water and Sewer Utilities*.

Cold Water

The existing water utilities which are available to the development for cold water services are described as follows:

- Miller Street: 150 CICL water main.
- Denison Street: 100 CICL and 200 DICL water main
- Mount Street: 150 CICL water main.

The existing building's domestic cold-water system is currently served by a dual water connection with one 100mm connection from the 150 CICL Miller Street main and another 100mm connection from the 150 CICL Mount Street main.

Fire Water

The existing water utilities which are available to the development for fire water services are the same as those for the cold-water services.

It is currently understood from existing drawings and documentation, there is no dedicated fire sprinkler connection for the building's existing fire sprinkler system. As such, the only existing fire services connection is the 150mm connection into the 150 CICL Miller Street main which currently supplies the existing building's fire hydrant system.

Sewer Drainage

The existing sewer utilities which are available to the development for sewer drainage services are described as follows:

- Miller Street: 225 SGW sewer main.
- Denison Street: 225 SGW sewer main.
- Mount Street: 225 SGW sewer main.

The existing building's sewer system is currently served by the 225 SGW from Miller Street. This includes both gravity and pump sewer applications within the building.

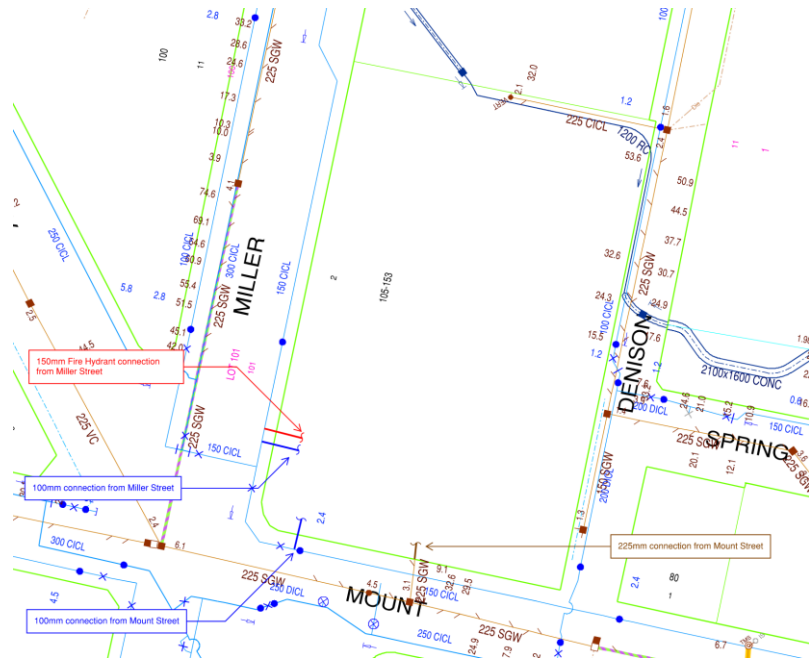


Figure 12: Water and Sewer Utilities

2.3.2 Proposed Alterations

The following section describes the expected alterations (if any) for the new development relating to the water and sewer services.

Cold Water

At present, with the proposed information for the new design, we anticipate a new cold water demand above the current existing cold water demand [Refer to Appendix A1]. Although the new cold water demand is greater, it is not expected to exceed the capabilities of the existing utilities and connections. As such the following option has been considered:

Option – Upgrade existing connections from Miller and Mount Street

- The existing connections from Miller and Mount Street are demolished and replaced in place with new cold water pipework and infrastructure. This upgrade of the connection pipework is to ensure any damage or degradation to the existing pipework is not an issue. During the next design stages, if the existing pipework is determined to be in good condition, an upgrade of the existing connections may not be required.

The supply requirements and connection point location(s) for both options will need to be confirmed with Sydney Water as part of a future formal Section 73 application by a Water Services Coordinator (WSC).

The need for amplification of the city water network is considered highly unlikely and will need to be confirmed with Sydney Water as part of a future formal Section 73 application by a Water Services Coordinator.

Fire Water

At present, with the proposed information on the new design, we anticipate an increase in water demand for the new fire services. Although the fire water demand is greater, it is not expected to exceed the capabilities of the existing utilities. As such the following option has been considered:

Option – Upgrade existing connection from Miller Street.

- The existing fire services connection from Miller Street is to be demolished and replaced in place with a new dedicated fire services pipework. The upgrade of the connection pipework is to ensure any damage or degradation to the existing pipework is not an issue. During the next design stages, if the existing pipework is determined to be in good condition, an upgrade of the existing connections may not be required.

The supply requirements and connection point location(s) for both options will need to be confirmed with Sydney Water as part of a future formal Section 73 application by a Water Services Coordinator (WSC).

The need for amplification of the city water network is considered highly unlikely and will need to be confirmed with Sydney Water as part of a future formal Section 73 application by a Water Services Coordinator.

Sewer Drainage

At present, with the proposed information on the new design, we anticipate an increase in the sewer demand above the current existing sewer demand [Refer to Appendix A1]. Although the new sewer demand is greater, it is not expected to exceed the capabilities of the existing utilities and connections. Any change may require additional measures. As such the following option has been considered:

Option – Upgrade existing sewer connection from Mount Street

- The existing sewer connection, connecting to the sewer infrastructure on Mount Street, is to be demolished and replaced in place with a new pipework. The upgrade of the connection pipework is to ensure any damage or degrade to the existing pipework is not an issue. During the next design stages, if the existing pipework is determined to be in good condition, an upgrade of the existing connections may not be required.

The drained discharged requirements and connection point location(s) will need to be confirmed with Sydney Water as part of a future formal Section 73 application by a Water Services Coordinated (WSC)

The need for amplification of the wastewater network is considered highly unlikely based on the preliminary review and will be subject to the Sydney Water review and approval.

2.4 Stormwater Drainage

2.4.1 Existing Services

All of the existing services available for stormwater are described as follows:

- Miller Street: 375mm
- Denison Street: 600 x 1200 and 300mm
- Mount Street: 525mm

Note: It is understood as part of the Victoria Cross Metro Station development, existing Sydney Water culverts which were partially within 105 Miller Street were diverted to now be fully contained within the new Metro Development. Refer to the Civil Engineering Report by enstruct for further and other details relating to the stormwater system.



Figure 13: Existing North Sydney Council Stormwater Services

2.4.2 Proposed Alterations

At this stage it is envisaged that rainwater from the project will look to be capture and reused within the building. Any overflow will look to be discharged into a new OSD tank for the development which would then discharge the water into the stormwater infrastructure surrounding the site.

Information regarding the project's stormwater design will be contained within the Stormwater Management Plan as part of the future detailed development application (DA).

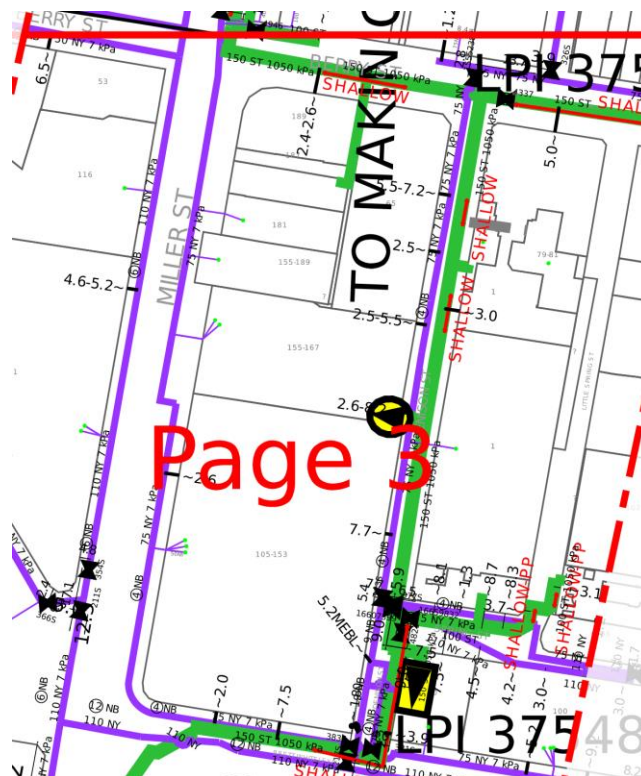
2.5 Gas Supply

2.5.1 Existing Service

The following section identifies the existing gas services surrounding the building and the current connections into the building which are owned by Jemena.

- Miller Street – Distribution low pressure main 110mm NY @ 7kPa
- Miller Street – Distribution low pressure main 75mm NY @ 7kPa
- Denison Street – Distribution low pressure main 75mm NY @ 7kPa
- Denison Street – Secondary high pressure main 150mm ST @ 1050kPa

From the BYDA information from Jemena, it is indicated the 75mm main from Miller Street is currently supplying the building with its gas requirements.



2.5.2 Required alterations

The proposed new development is to be fully electrified with no gas requirements. As such the existing gas connections into the development will be removed. No further alterations will be required.

3. Protection and relocation strategies for infrastructure assets

A 'Before You Dig Australia' (BYDA) enquiry was sought and the information collated for proposing preliminary plan of protection and relocation strategies to allow for minimal impact and appropriate protection of infrastructure assets. The following lists strategies:

- Being aware of affected utility stakeholders, including: Ausgrid, North Sydney Council, Jemena, Optus, Roads and Maritime Services, Sydney Water, and Telstra.
- Locating assets: Assets' and permanent survey mark's exact location and assistance will be required from each utility stakeholders at a reasonable time before works begins. A thorough site examination will be conducted for visible structures through field survey including the use of appropriate qualified personnel and equipment
- Acquiring approvals: Relevant approvals will be obtained prior to commencement of works on or near infrastructure assets of various utility stakeholders. And all works are undertaken in accordance with the requirements of any approval.
- Reporting damage: Damage of assets will be reported immediately to utility stakeholders any time, any day.

A.1 Appendix

From using the Sydney Water Guide, the BCA Guidelines and the existing and new NLAs the following flows are assumed to be for the existing and new building.

Existing Building

Item	Flows
Cold Water (Average)	0.82L/s
Cold Water (Peak)	2.46L/s
Retail	1.5L/s
Mechanical System	2.5L/s
Irrigation	1.0L/s
Total Cold Water (Peak)	7.46L/s
Sewer (65% of Peak Water Demand)	4.85L/s

New Building

Item	Flows
Cold Water (Average)	1.31L/s
Cold Water (Peak)	3.92 L/s
Retail	1.5L/s
Mechanical System	3.8L/s
Irrigation	1.0L/s
Total Cold Water (Peak)	10.22L/s
Sewer (65% of Peak Water Demand)	6.65L/s

As the building is increasing in size it is expected the total water and sewer demand to increase as shown by the tables above.

Although the existing flows have increased in size, the existing utilities serving the site are of an appropriate size to accommodate both the water and sewer demand.

This is a provisional review only, and a WSC should be looked to be engaged as part of the next phase.