

Wynyard Sovereign Properties
1 Carrington Street
Utilities Services Report

REP/229159

Issue 4 | 25 March 2014

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 229159

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1 Introduction

This report has been prepared to detail the existing Utilities (electrical, communications, water, sewer, stormwater and gas) infrastructure within the vicinity of the proposed One Carrington Street project. The report provides an overview of the following key issues with respect to each service:

- Existing conditions
- Design status and process for approval going forward
- Status in terms of authority engagement

This report should not be relied upon as providing detailed services information for construction purposes. This report has been produced based on the following available information:

- Supply Authority response to the “Dial Before You Dig” request
- Supply Authority response to informal enquiries
- Electrical Site Survey Report for the Sovereign Wynyard Centre prepared by Star Electrical dated 05/12/2013
- Site survey ‘Axis Plumbing Stage 2 Hydraulic Investigation Sovereign Wynyard Centre Pty Ltd, completed December 2013’
- Boundary services survey by Brookfield Multiplex Constructions
- Wynyard Station Upgrade plans issued by Transport for NSW
- CBD Rail Capacity Upgrade Program Wynyard Station Upgrade – Scoping Design Report WVT-R-GN-005, Rev R-1, dated 09/03/2012

It is likely that some services remain undocumented and this report should not be used as a guarantee of all in-ground services in the vicinity.

1.1 Site Description

The One Carrington Street development is located around and above Wynyard Station. Key elements of this development include:

- Demolition of the Menzies Hotel building on Carrington Street
- Demolition of the 301 George Street building on George Street
- Construction of a new Premium grade commercial tower (approximately 64,417m² GFA 27-storey commercial and 6,813m² retail GFA)
- Refurbishment of the adjacent Shell House heritage building (approximately 8,015m² GFA 13-storey commercial and 2,596m² retail GFA)
- Refurbishment of the existing 285 George Street building (approximately 1,428 m² GFA 7-storey commercial and 1,352m² retail GFA)
- Reconfiguration and refurbishment of the Wynyard Station unpaid concourse areas including the basement Hunter connection

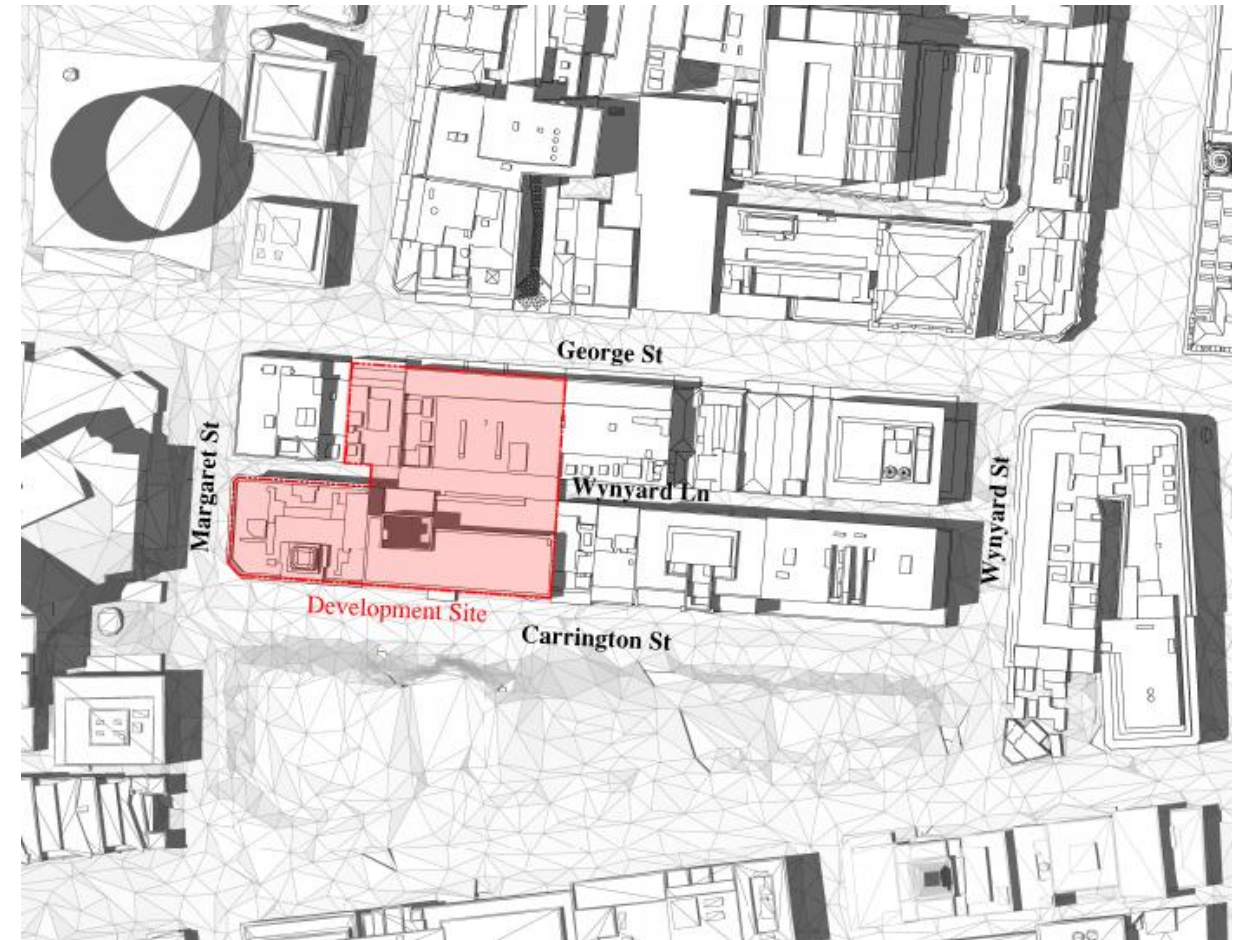


Figure 1 One Carrington Street Development Site Map

2 Utilities Services

The following provides an outline of the existing services available to the site and identifies any required alterations to serve the proposed development.

The available information and initial discussions with the Supply Authorities indicate the existence of the following services serving or traversing the site:

Electricity Supply – Ausgrid:

- Substation 420 in the basement of Shell House
- Substation 1771 and 1772 in the basement of the Menzies Hotel

Communications Services – Optus, AAPT / Powertel, Pipe Networks and Verizon Business:

- Fibre, broadband services
- Mobile services

Water Services – Sydney Water

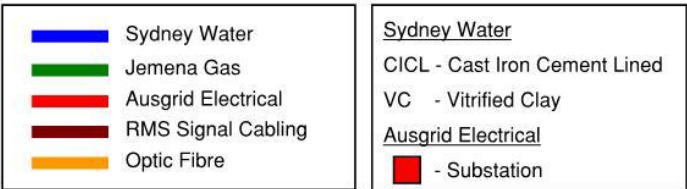
- Sewer
- Potable Water supply
- Stormwater

Gas Supply – Jemena

- Natural gas supply

A summary of the utility services in the vicinity of the site are illustrated in the following figure.

One Carrington Street - Site Survey



ARUP	Job No	229159
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Job Title	One Carrington St	
Dwg Title	Site Survey	

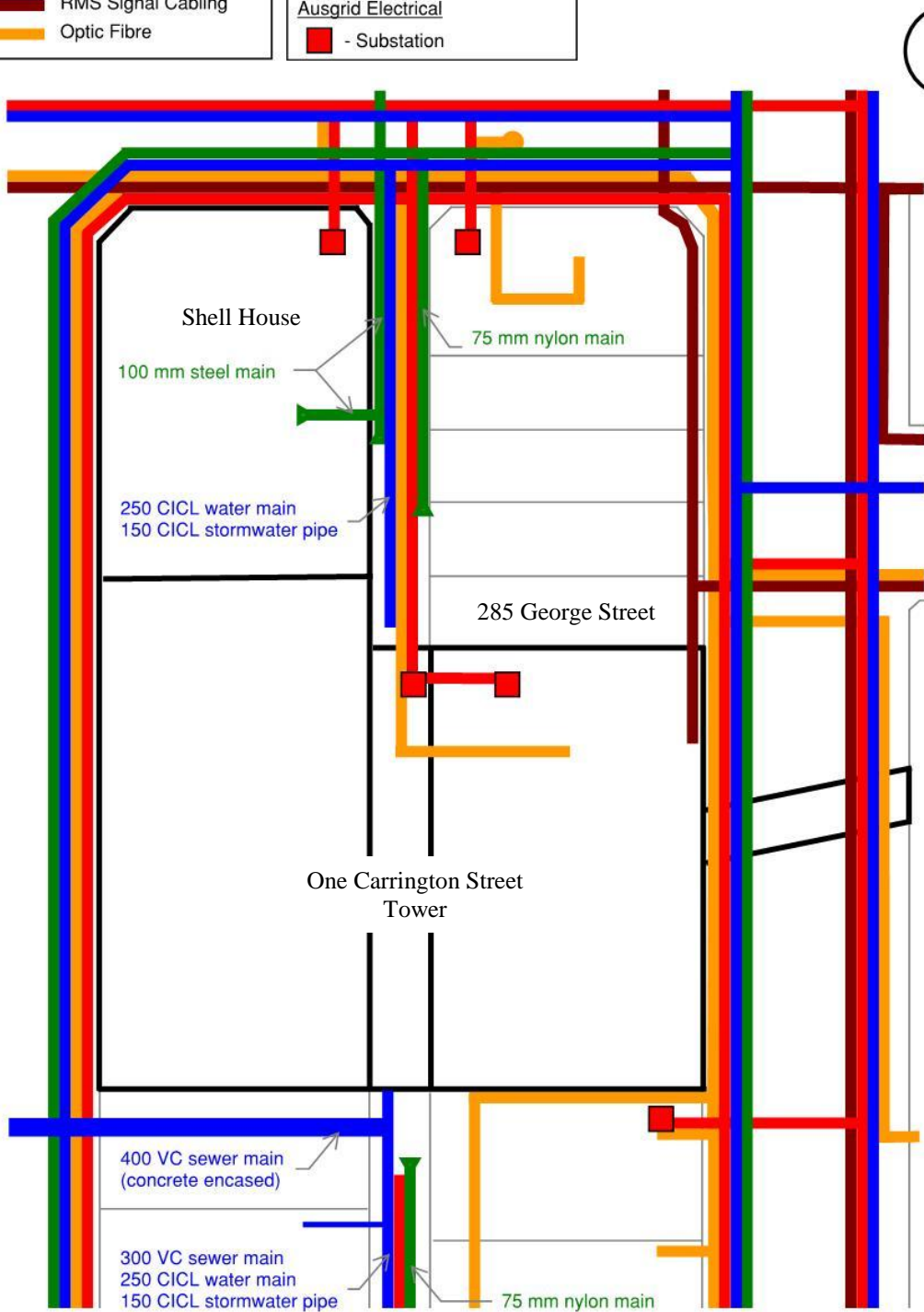


Figure 2 Site Utility Infrastructure

2.1 Electricity Supply

2.1.1 Existing Services

Ausgrid

Ausgrid services cables are present throughout the proposed development site.

Two existing substations (#1771 and #1772) are located in the basement level of the Menzies Hotel. One existing substation (#420) is located in the basement level of Shell House.

Ausgrid has advised that Substations 1771 and 1772 currently supply power to the Menzies South building, 301 George Street, Wynyard Concourse, Menzies Arcade, Hunter Arcade and the Wynyard Lane car park. These substations are fed by high voltage (HV) cables from Margaret St, running along Wynyard Lane.

Ausgrid has advised that Substation 420 currently supplies power to Shell House as well as loads external to the development site. This substation is fed by HV cables from Margaret St.

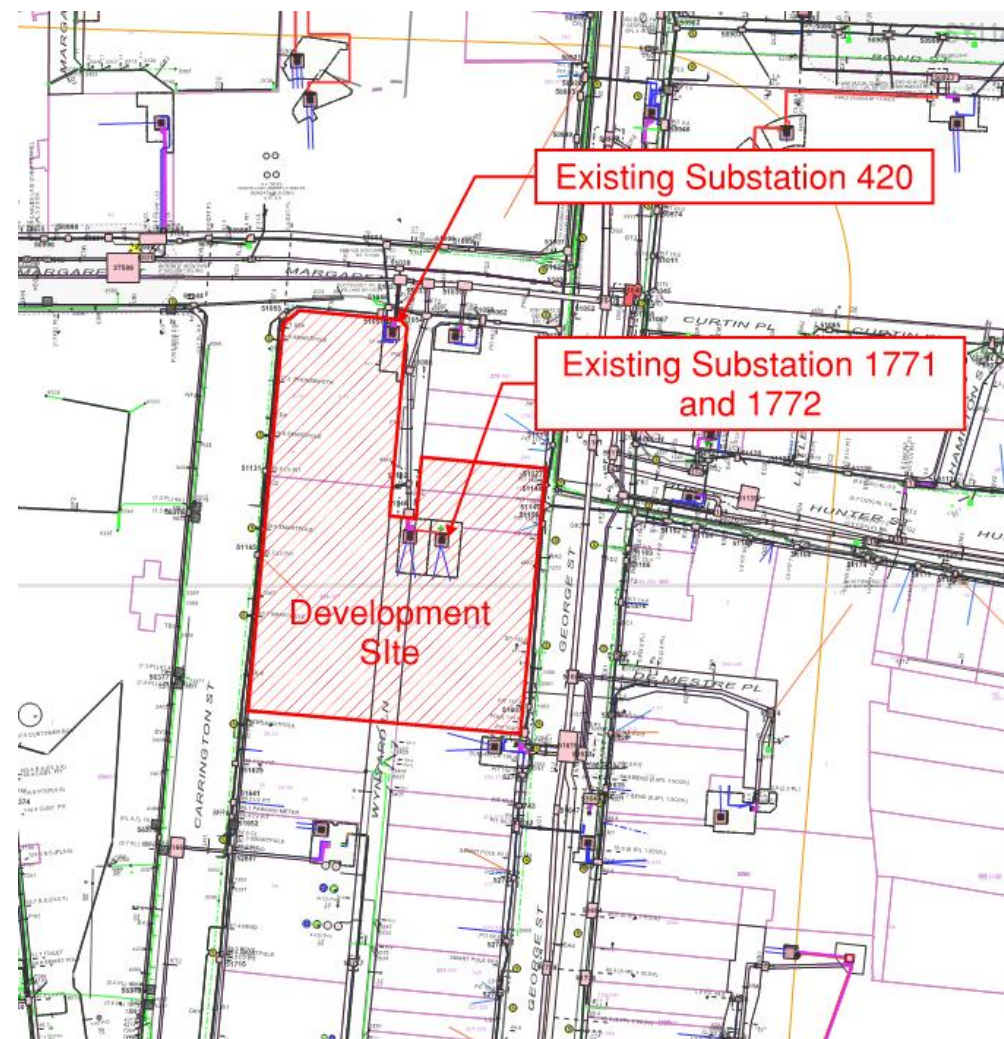


Figure 3 Existing Ausgrid Electrical Services

Railcorp / Transport for NSW

Two existing substations are located beneath Wynyard Park (on Upper concourse Level 2). HV cables to the substations are believed to enter from the corner of Margaret and York Street, and through the manhole at Wynyard Park.

These substations are believed to supply Wynyard Station as well as 50% of lighting in Hunter Arcade. In addition, Railcorp LV cables for signage and timetable display terminals reticulate through the Wynyard concourse and may be present within the eastern unpaid concourse of our development.

Figure 4 illustrates the locations of existing substations (indicative only and only known infrastructure has been shown).



Figure 4 Existing Railcorp/Transport for NSW Substations

2.1.2 Required Alterations

Ausgrid

It is proposed that the three existing substations on site are demolished. To supply this new development, two new 3x1500 kVA substations will be required. It is nominated that these substations are located in Shell House. These new substations will then supply all buildings within the development site.

Substation 1772 currently supplies power to one location outside the development boundary (Wynyard Lane car park). This supply is proposed to be temporarily diverted to the existing Shell House Substation 420 during construction works.

Substation 420 also supplies customers external to the development boundary (exact locations are to be confirmed with Ausgrid). It is nominated that these supplies are diverted, and we are currently in discussion with Ausgrid for this to be arranged.

We propose Substation 420 to remain in operation during initial construction works. Supply from Substation 1772 to Wynyard Lane car park will be diverted before demolition of Substations 1771 and 1772. Supply to Shell House from Substation 420 will be disconnected, while maintaining supply to the external customers and provide supply to construction works to the development including the new substations. This strategy will be further developed with Ausgrid, and is pending confirmation of load requirements and available capacity.

Railcorp / Transport for NSW

All works within the Wynyard eastern unpaid concourse will be coordinated with existing Railcorp LV services in the area, including supply to Hunter Arcade lighting and all miscellaneous items (vending machines, signage, indicator screens, etc.). This will be in consultation with Railcorp. We propose that the supply to the Hunter Arcade lighting is diverted from Railcorp distribution boards to this development.

Existing HV feeder cables are present in the Wynyard Station northern back-of-house area; however from current available site information we understand they do not reticulate within our development in the eastern concourse. This is to be confirmed by Transport for NSW and any HV services will be relocated as necessary.

2.2 Communications

2.2.1 Existing Services

The following communications services networks exist within or in proximity of the boundary of the development site based on our interpretation of the 'Dial Before You Dig' (DBYD) information. Further discussions are required with the service providers to confirm existing arrangements. The utility communications cabling is generally installed in underground conduits on street verges with regular access points through manholes or pits.

Telstra

In-ground and aerial Telstra services are present on site and run along York St and Carrington St. Incoming cabling enters off Carrington St, through the Wynyard Lane car park ramp into the Menzies basement.

Optus

Fibre optic runs are located along Carrington St and Wynyard Lane. Based on the survey reports, the existing lines along Wynyard Lane appear to only serve a building within our development and thus would be redundant. Further discussions with Optus to confirm prior to decommissioning.

AAPT/Powertel

Fibre optic networks run along George St adjacent to development site.

Pipe Networks

A pipe networks duct is located adjacent on George St, adjacent to the 285 George St building.

Verizon Business

Verizon fibre optic ducts are present along George St.

Roads and Maritime Services (RMS)

RMS pits and conduits are present along George St and the George and Hunter St intersection, adjacent to the site.

2.2.2 Required Alterations

Communications services to areas external to the development boundary will not be affected. Required alterations to suit the new development such as the quantity of incoming services and location of new infrastructure including pits and manholes will be agreed through design development. This will be in consultation with Telstra and all relevant service providers.

2.3 Water, Sewer and Stormwater Services

2.3.1 Existing service

The existing services are described as follows and are owned by Sydney Water. Refer to the following figure below for details.

Potable water supplies

All of the existing services available are described as follows:

George Street(east) – 250CICL water main

George Street(west) - 300CICL water main

Carrington Street – 250CICL water main

Wynyard Lane – 150CICL water main (dead end main)

Margaret Street (North) – 250CICL water main

Margaret Street (south) – 300CICL water main

Sewer Service

All of the existing services available are described as follows:

George Street – 660x990 Concrete sewer main (225VC side line to site)

Margaret Street (south) – 660x990 Concrete sewer main

Wynyard Lane – 400 VC

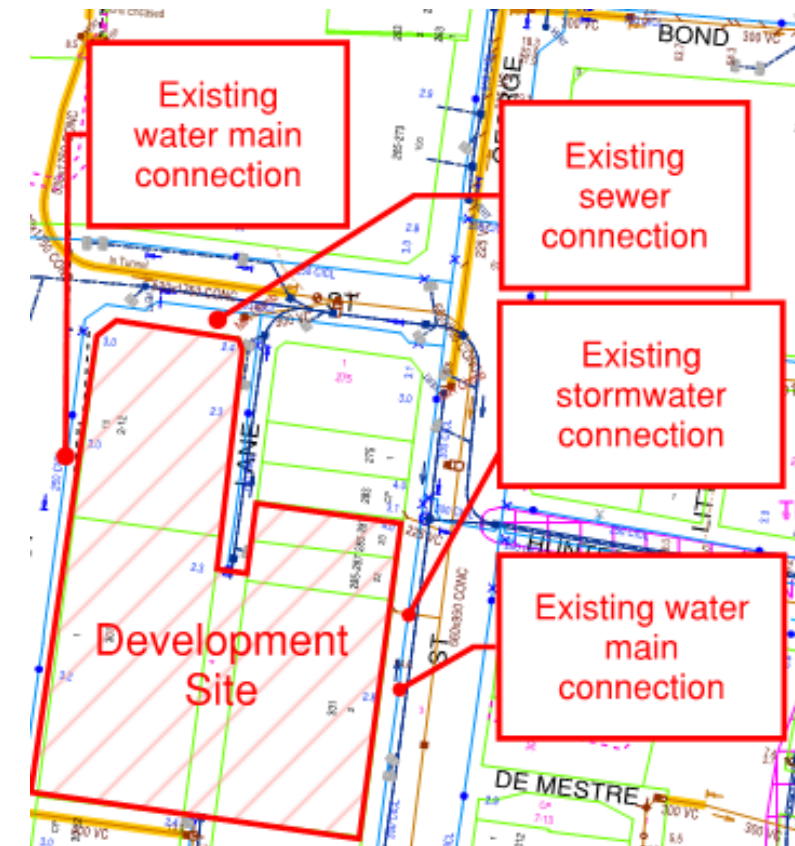


Figure 5 Existing water, sewer and stormwater service

Stormwater Drainage

All of the existing services available are described as follows:

George Street – Existing Stormwater (size not available on dial before you dig)

Wynyard Lane – Existing Stormwater (size not available on dial before you dig)

Margaret Street – Existing Stormwater (size not available on dial before you dig)

Refer to Stormwater Management Plan for details.

2.3.2 Required Alterations

Potable water supplies

At present, we anticipate a minor increase in water demand over and above the existing site supplies. Two options are being developed with the preferred strategy to be taken forward for formal application at a later stage.

Option1:

Apart from the existing water main connection, a new town main connection/meter from Carrington street could be established.

Option 2:

Only one town water main connection would be from the existing water main along George Street.

285 George Street Building potable water will be supplied from George Street.

Consideration has also been given to serving the 285 George Street Building from the tower.

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

The need for amplification of the city water network is considered highly unlikely.

Sewer Service

At present, we anticipate minor increases in waste water demand over and above the existing site capacity. The supply requirements and connection point

location(s) will need to be confirmed with Sydney Water as part of a future formal Section 73 application.

At this stage it is envisaged that sewerage from the tower will discharge to the George Street Sewer main and sewerage from shell house will discharge to the Margaret Street Sewer main.

285 George Street Building sewer will discharge to George Street.

Consideration has also been given to serving the 285 George Street Building from the tower.

The need for amplification of the city waste water network is considered highly unlikely.

Stormwater Drainage

At this stage it is envisaged that rainwater from the project will discharge to the surrounding infrastructure. Information regarding the project's stormwater design is contained within the Stormwater Management Plan for details.

Sydney Water Stormwater division has informally advised that OSD will not be required for the precinct. The need for amplification of the council network is considered highly unlikely.

2.4 Gas supply

2.4.1 Existing service

All of the existing services available are described as follows. Refer to the Figure below for details.

Wynyard lane – 100mm Secondary main 1050kpa

Wynyard lane – 75mm low pressure main <7kpa

Carrington Street – 75mm low pressure main <7kpa

George Street – Secondary main 1050kpa

George Street – 110mm low pressure main <7kpa

Margaret Street – 100mm Secondary main 1050kpa

Margaret Street – 75mm low pressure main <7kpa

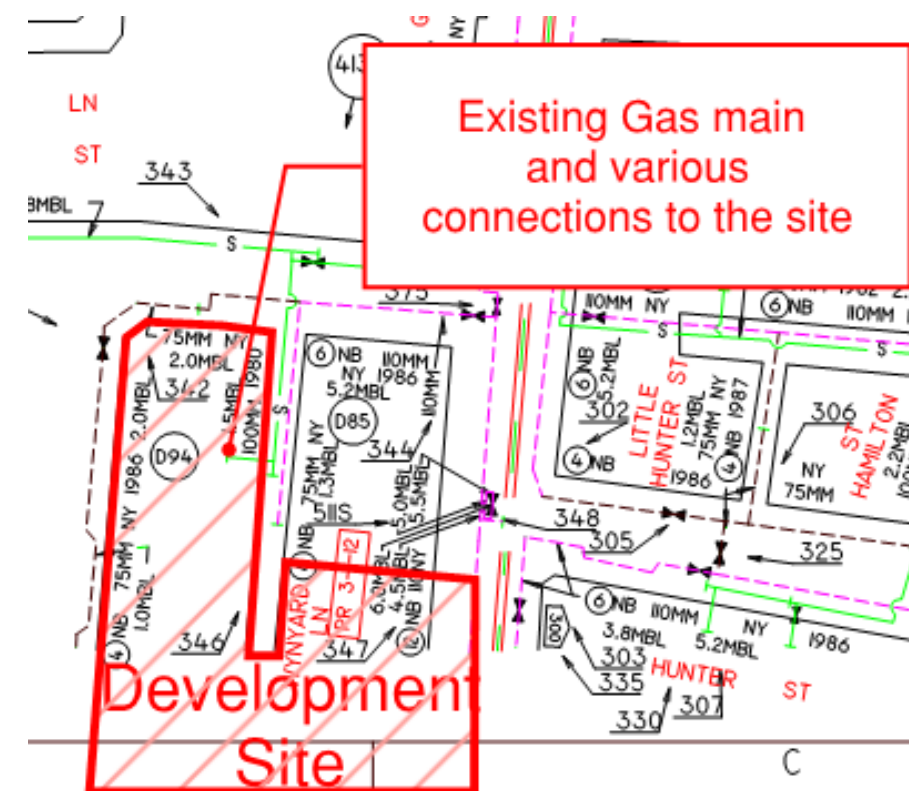


Figure 6 Existing Gas Service

2.4.2 Required Alterations

While we anticipate a minor increase in gas requirements to the site, based on our initial review the site appears to be provided with adequate natural gas infrastructure. To determine any required alterations, demand, metering and pressures will need to be confirmed with Jemena via formal application at a later stage.

It is anticipated that shell house and tower will be required to establish one common connection with on regulator room from the existing Jemena high pressure main in Wynyard lane.

285 George Street Building's gas supply is expected to remain as existing.

Consideration has also been given to serving the 285 George Street Building from the tower.

The need for amplification of the city network is considered highly unlikely.

3

Concept Plan Future Environmental Assessment Requirements and Commitments

The Concept Approval included a number of future environmental assessment requirements and commitments. The utility services future environmental assessment requirements and commitments have been extracted and are addressed as follows:

Consent Condition	Project Response
Schedule 3 6(a) – Any future application for works east of Carrington Street shall identify in detail the organisation of utility services in the area surrounding the station interface point between the Proponent and RailCorp controlled land to ensure that the operational integrity of these systems will not be affected as a result of the proposal.	Electrical Existing Railcorp services and required alterations are described in Sections 2.1.1 and 2.1.2. During the design development stage, detailed site surveys will be undertaken as required to ensure that any existing HV and LV services are maintained (such as signage and indicator screens). Communications N/A Water Sewer and Stormwater Existing Sydney Water services and required alterations are described in Sections 2.3.1 and 2.3.2 During the design development stage, detailed site surveys will be undertaken as required to ensure that any existing water services are maintained. Gas N/A
Schedule 4 8(a) – The future Project Application(s) will include a detailed assessment of any potential impacts to RailCorp infrastructure and mitigation and management measures, including relocation of infrastructure and services (if required). As part of the preparation of the detailed assessment and mitigation and management measures, Thakral will consult with RailCorp.	Electrical Existing Railcorp services and required alterations are generally described in Sections 2.1.1and 2.1.2. During the design development stage, further site surveys will be undertaken to provide a detailed assessment. Communications N/A Water Sewer and Stormwater N/A Gas N/A

Consent Condition	Project Response
Schedule 4 10(a) – A detailed survey of existing utility services impacting on the site is to be undertake. The survey is to identify the type, extent and location of existing utility services including power, gas, water, sewer, stormwater and communications	Electrical Detailed ‘Dial Before You Dig’ drawings have been received, identifying the existing electrical services in and adjacent to the development site. An Electrical Site Survey Report has been completed by Star Electrical, identifying the high and low voltage services within the development (301 George Street, Shell House, Menzies Hotel and the adjoining Wynyard Station, Hunter Arcade and Margaret Arcade). Communications Detailed ‘Dial Before You Dig’ drawings and the Boundary Services Survey have been reviewed, identifying the existing communications services in and adjacent to the development site. Water Sewer and Stormwater Detailed ‘Dial Before You Dig’ drawings have been received, identifying the existing water services in and adjacent to the development site. A Hydraulic Investigation Report has been completed by Axis Plumbing, identifying the cold water, hot water, sewage and stormwater services within the development (301 George Street, Shell House, Menzies Hotel and the adjoining Wynyard Station, Hunter Arcade and Margaret Arcade). Gas Detailed ‘Dial Before You Dig’ drawings have been received, identifying the existing gas services in and adjacent to the development site. A Hydraulic Investigation Report has been completed by Axis Plumbing, identifying gas within the development (301 George Street, Shell House, Menzies Hotel and the adjoining Wynyard Station, Hunter Arcade and Margaret Arcade).
Schedule 4 10(b) – The detailed design of the proposed development is to identify the required capacity and intended location of new infrastructure services required by the development. Identification of site utility services requirements is to occur in consultation with all relevant authorities, including but not limited to Energy Australia, RailCorp and Telstra.	Electrical Preliminary maximum demand calculations have been completed. Section 0 details the expected electrical capacity required for the development and the intended location of new substations. Electrical loads external to the development site which are currently supplied from the existing site substations (Wynyard car park from

Consent Condition	Project Response
	<p>Substation 1772 and other external loads from Substation 420) will be investigated and confirmed in consultation with Ausgrid. Calculations will be further developed during design development.</p> <p>Communications</p> <p>An Application for Reticulation has been submitted to Telstra. The quantity of incoming services and location of new infrastructure such as pits and manholes will be agreed through design development in consultation with Telstra.</p> <p>Water Sewer and Stormwater</p> <p>The need for amplification of the city network including domestic cold water, sewage and stormwater is considered highly unlikely.</p> <p>Calculations will be further developed during design development. This is inline with Sydney water’s section 73 application procedures.</p> <p>Gas</p> <p>The need for amplification of the city network including domestic cold water, sewage and stormwater is considered highly unlikely.</p> <p>Calculations will be further developed during design development. This in inline with Jemena’s gas connection application procedures.</p>
<p>Director General's Environmental Assessment Requirements – 11 Utilities</p> <p>In consultation with relevant agencies, the existing capacity and any augmentation requirements of the development for the provision of utilities including staging of infrastructure shall be addressed;</p>	<p>Electrical</p> <p>Existing capacities, required alterations and infrastructure staging are described in Sections 2.1.1 and 2.1.2.</p> <p>Communications</p> <p>Existing capacities and required alterations are described in Sections 2.2.1 and 2.2.2.</p> <p>Water</p> <p>Existing capacities and required alterations are described in Sections 2.3.1 and 2.3.2.</p> <p>Gas</p> <p>Existing capacities and required alterations are described in Sections 2.4.1 and 2.4.2</p>

4 Supply Authority Engagement

Relevant authorities have been notified as the development of this project is progressed. The status for each authority is summarised as follows:

- Ausgrid – A formal Connection Application has been submitted to Ausgrid. Ausgrid will now process the application and assign the development a project officer. The project officer will issue a schedule of fees that will need to be paid for the Design Information Package to enable the Level 3 ASP substation design. The intended servicing strategy described above is subject to further development with Ausgrid.
- Telstra – An Application for Reticulation has been submitted to Telstra. It is expected that Telstra will now process the application and be in contact to learn more about the development. The quantity/type of incoming services, location of pits etc will be agreed through design development in consultation with Telstra.
- Sydney water– An applications for a Section 73 Certificate will be made through a licensed Water Servicing Coordinator (WSC). WSC will return Sydney Water's response to identifying the requirements for servicing this proposal.
- Jemena– Contact has been made with Jemena, however no response has been forthcoming. Jemena's formal procedures require an application for connection to be submitted, before conditions are provided. This application will need to be submitted in the next stage of design.