



1-3 Reid Street & 2-4 Woodside Avenue, Lindfield Building Services Report

Prepared for CPDM

Revision History

REVISION	DATE	BY	CHECKED	COMMENTS
A	27/02/2025	NL/TB	CL	Preliminary Issue
B	30/03/2025	NL/TB	CL	Preliminary Issue - Revised
C	14/04/2025	NL/TB	CL	Final Issue

The recipient of the latest issue as noted above will be responsible for superseding/destroying all previous documents.

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1. Overview of Project

This Building Services Infrastructure Report is prepared on behalf of CPDM to understand the existing Electrical and Hydraulic infrastructure and proposed Electrical and Hydraulic Services for 2-4 Woodside Avenue and 1-3 Reid Street, Lindfield NSW 2070.

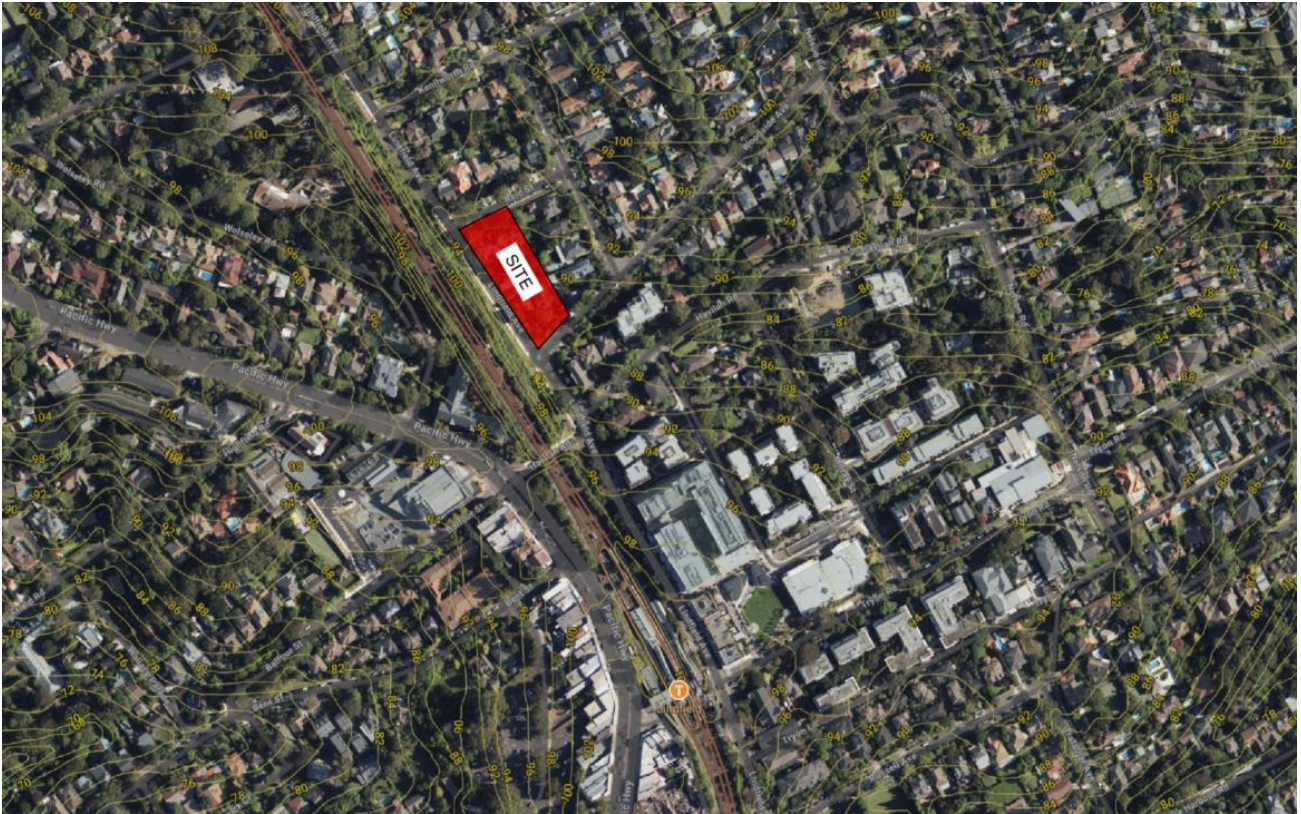


Figure 1. Site Location

Source: Architectural Concept prepared by PBD Architects

The proposed development involves the demolition of existing building, subdivision, site preparation works, and the construction of a residential development consisting of nine floors of apartment units (Ground Floor to Level 8) and two levels of basement car parks).

2. Electrical Services

The following sections provide an overview of the existing electrical services infrastructure identified from a desktop study.

2.1. Power Supply

2.1.1. Existing and anticipated supply requirements

Currently the site is composed of four residential houses. The power is served aurally from two different street power poles which connect each residential house.



Figure 2. Existing houses



Figure 3. Existing power poles

2.1.2. Proposed Services

The site will require a significant high voltage connection to reticulate to a substation for the development connection.

There are two different alternatives to the proposed power service based on the below requirements:

A: All infrastructure such as kitchen equipment and hot water system are electric. An AS3000 Maximum Demand Calculation has been put together, reaching 992A three phase for this development.

B: All infrastructure such as kitchen equipment and hot water system are gas. An AS3000 Maximum Demand Calculation has been filled, reaching 718A three phase for the development.

Option 1, if the site is fitted with electrical equipment, a dedicated 1000kVA (1400 Amps) substation to the front boundary on Woodside Avenue is necessary.

Option 2, as the developer owns the adjacent lots which will also require a substation, the proposal is to share a 1000kVA substation with this partner project as long as the below is met.

Both sites are fitted with gas equipment for the kitchen and hot water infrastructure, having a **combined** maximum demand of less than 1400A.

The current electrical infrastructure to the site does not have the capacity to support the new buildings and new high voltage cabling and infrastructure is required to be installed to the site together with a substation.

An Ausgrid power application needs to be lodged, in order to get a connection offer for the site. If a shared substation is opted for, further liaising with the power authority to approve a connection to the second site is required. A Level 3 ASP engineer will then need to be engaged.

The applicant will continue to liaise with Ausgrid to progress the high voltage reticulation and electrical supply to the site. This will then proceed into the level 3 design for the agreed design package.

2.2. Telecommunications

2.2.1. Existing and anticipated supply requirements

The various houses at High Gate Road are supplied with telecommunications supplies from the various Telstra pits and manholes along Reid Street and Woodside Avenue. The existing connections will need to be demolished.



Figure 4. Existing manhole (left) and pit (right)

We have confirmed that nbn services are currently available to each of the residencies, feeding from the Telstra pits acting as the incoming nbn fibre. There are no known issues associated with the development of the site and the telecommunications network.

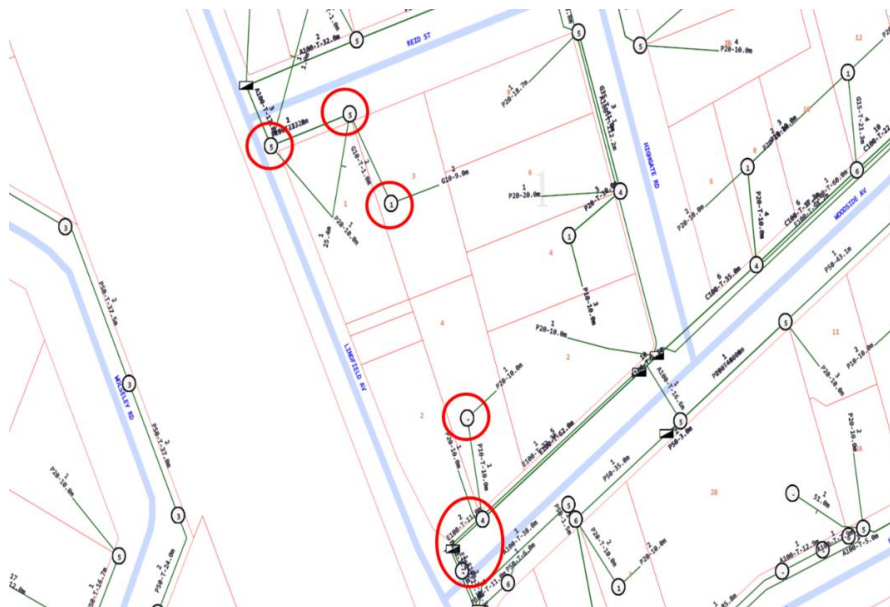


Figure 5. NBN Network Map as per Dial Before You Dig (BYDA)

2.2.2. Proposed Services

There is suitable nbn infrastructure adjacent to and around the site. nbn is currently available from the corners of Lindfield Avenue with the crossing streets. The lead in conduit should preferably be installed on Woodside Avenue boundary, acting as the front access.

New nbn conduit pathway infrastructure will need to be installed to enable nbn cabling to be installed to each unit and it's respective house services such as Fire Indicator Panel, Security and Lift. For the above works, an nbn application will need to be lodged, then a pathway design will need to be lodged to nbn for approval, as they require to see the infrastructure which will reticulate the communications equipment.

3. Hydraulic and Wet Fire Protection Services

The following sections provide an overview of the existing hydraulic and fire protection services infrastructure identified on a desktop study of proposed development area.

3.1. Drainage Services / Sewer System

3.1.1. Existing and anticipated supply requirements

Information obtained on the Sydney Water Map from the Dial Before You Dig (DBYD) enquiry indicates that existing lots 1, 2, 3 and 4, 4A and 4X sanitary drainages are currently connecting to the exiting Ø225mm SGW authority gravity sewer services reticulating within the proposed development area and Ø225mm VC authority gravity sewer services reticulating along Woodside Road.

These services can be utilized to accommodate the sanitary drainage connections for the proposed development.



Figure 6. Sydney Water existing sewer infrastructure layout for the site as per Dial Before You Dig (BYDA)

3.1.2. Proposed Services

The existing sanitary drainage connections from Lots 1, 2, 3 and 4, 4A and 4X to the existing Sydney Water authority sewer mains should be decommissioned and capped off. A new connection point will need to be determined during the detailed design stage, in accordance with Sydney Water requirements.

Additionally, a Section 73 Certificate from Sydney Water will be required for the project, as the new development's building structure is likely to interfere with the existing authority sewer lines running through the lots. Sydney Water will issue a Notice of Requirements (NOR), outlining the conditions for building over or near existing authority assets.

To facilitate this process, the client will need to engage an accredited Water Services Coordinator (WSC) to assist with the Section 73 Certificate application and ensure compliance with Sydney Water's regulations.

The below calculation outlines the estimated average water demand per day for the new proposed building, based on the Preliminary Architectural Drawings from PBD Architects (Revision P1 - 21/02/2025).

Development Type	Development Sub-Type (Sydney Water)	Total Floor Area (GFA) - m ²	Dwelling / Bed / Student	Sydney Water Value	Average Water Demand L/Metric Unit/Per Day	Average Sewer Discharge L/Metric Unit/Per Day
Residential	High Rise Units	14,700.00	-	3.34	49,098.00	39,278.40
TOTAL		14,700.00			49,098.00	39,278.40

3.2. Water Services

3.2.1. Existing and anticipated supply requirements

The information obtained on the Sydney Water Map from the Dial Before You Dig (DBYD) enquiry indicates that authority water mains are available along Woodside Avenue (Ø100mm C1CL), and Reid Street (Ø100mm C1CL).

These services can be utilized to accommodate new potable cold-water connections for the proposed development, and potentially be used as one water supply for wet fire services.



Figure 7. Sydney Water existing watermain infrastructure layout for the site as per Dial Before You Dig (BYDA)

3.2.2. Proposed Services

The existing cold-water connections from Lots 1, 2, 3 and 4 to the Ø100 CICL Sydney Water authority watermains on Woodside Street and Reid Street will need to be decommissioned and capped off.

It is estimated that a new Ø65mm cold water supply and a Ø50mm authority water meter will be required to serve the new development. Services and new connection point to be determined during the detailed design stage, in accordance with Sydney Water requirements.

3.3. Natural Gas

3.3.1. Existing and anticipated supply requirements

The information obtained on Jemena Map from the Dial Before You Dig (DBYD) enquiry indicates that authority natural gas mains are available along Woodside Ave (Ø75mm NY 210 kPa) where lots 2 and 4 currently connected, and Reid Street (Ø32mm NY 210 kPa) where lot 1 and 3 is currently connected.

It is estimated that a new gas connection will be required to accommodate the requirements for the proposed development.



Figure 8. Jemena existing natural gas infrastructure layout for the site as per Dial Before You Dig (BYDA)

3.3.2. Proposed Services

The use of gas appliances is subject to client preferences and the Building Sustainability Index (BASIX) requirements, which are part of the State Significant Development Application (DA) process in NSW. BASIX establishes water, energy efficiency, and thermal comfort performance standards for new residential buildings.

It is assumed that gas consumption will not be proposed for the new development, as councils are actively promoting energy-efficient practices and encouraging the transition to more sustainable alternatives to reduce greenhouse gas emissions in new buildings.

If natural gas services are not required for the project, the existing gas connections shall be removed from the site as part of the works.

3.4. Wet Fire Protection Services

3.4.1. Existing and anticipated supply requirements

The information obtained on the Sydney Water Map from the Dial Before You Dig (DBYD) enquiry indicates that authority water mains are available along Woodside Avenue (Ø100mm CICL), and Reid Street (Ø100mm CICL).

Recent the pressure and flow statement received from Sydney Water undertaken on the available on the Ø100 water main located on Highgate Road indicates a very low value, making the watermain not suitable to be used as a water supply for the project fire services.

It is assumed that the existing watermains along Woodside Avenue (Ø100mm CICL), and Reid Street (Ø100mm CICL), will have similar results from Sydney Water, as they are part of the same interconnected network.

Therefore, A Water Services Coordinator (WSC) shall be engaged for the project to investigate authority infrastructure upgrades and water connection options. Otherwise, full size water storage tanks will be necessary to be installed to serve the development wet fire protection system.

3.4.2. Proposed Services

It is assumed that the new development is to be provided with wet fire protection services listed below:

- **Hydrant system** in accordance with the requirements of **BCA clause E1.D2** and **AS 2419.1 – 2021**.
- **Automatic Fire Sprinkler system** in accordance with the requirements of **BCA clause E1.D4**, and **AS 2118.1 – 2017 Amdt 2 2020** or **AS 2118.6 – 2012**
- **Fire Hose Reel system** in accordance with the requirements of **BCA clause E1.D3** and **AS 2441 – 2005**, excluding coverage for Class 2 residential areas.
- **Portable Fire Extinguishers system** in accordance with the requirements **BCA clause E1D14**, **AS2444:2001**

Given the proposed building height (over 25m) and the low pressure and flow results received from Sydney Water for the Ø100mm water main on Highgate Road, it is assumed that fire pumps shall be required for the development. As a result, a fire pump room with direct street access shall be provided.

Additionally, a fire brigade booster assembly is required to serve both the hydrant and sprinkler systems. This assembly shall be positioned near the principal pedestrian entrance of the development to comply with regulatory requirements.

Based on a preliminary assessment of the Preliminary Architectural Drawings from PBD Architects (Revision P1 - 21/02/2025), the estimated water demand for the wet fire system is 27 L/s.

For a building exceeding 25m in effective height, a dual water supply is required for the combined fire hydrant and sprinkler system. Therefore, a fire water storage tank shall be installed.

JN has submitted a Pressure and Flow Enquiry to Sydney Water to assess the capacity of the Ø100mm CICL and Ø300mm CICL authority water mains on Woodside Avenue.

Once response from Sydney Water is received, JN will assess whether a full-size or reduced-size fire water storage tank will be required for the project. The estimated capacity for a full-size tank is 360,000L.

A Water Services Coordinator (WSC) shall be engaged for the project to investigate authority infrastructure upgrades and water connection options.

4. Conclusion

JN confirm that the site can be appropriately serviced for the proposed development, subject to the completion of relevant authority applications, adherence to required processes, and any necessary infrastructure upgrades. Further consultation with relevant agencies and service providers will be conducted during the detailed design phase. The infrastructure report will be updated upon completion of the infrastructure design / services connections.

