

Warren Smith & Partners Pty Ltd

Nepean Integrated Mental Health Unit Hydraulic Services Utilities Report Rev B

Client
Sydney West Area Health Authority

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1. Introduction

This report briefly outlines the Existing Hydraulic Services Utilities Infrastructure to service the Proposed Mental Health Unit at Nepean Hospital Campus.

2. Potable Cold Water Supply

Enquiries lodged to Sydney Water have determined:-

The Nepean Hospital Campus is currently serviced by Sydney Water watermain network located as follows (refer to attached Sydney Water diagram):-

- 225mm diameter Sydney Water watermain located in Barber Avenue;
- 150mm diameter Sydney Water watermain located in Parker Street;
- 150mm diameter Sydney Water watermain located in Somerset Street;
- 100mm diameter Sydney Water watermain located in Derby Street.

These (4) four local watermain interconnect, providing a reliable authority ring main system surrounding the site.

The proposed site which adjoins Derby Street could be supplied as follows:-

- New connection to 100mm diameter Sydney Water watermain in Derby Street and;
- New upgraded connection to 150mm diameter Sydney Water watermain in Somerset Street and extension to site.

Statutory required Fire Services would also be supplied from these authority watermain. Any shortage in fire flow provisions could be made up by the installation of storage tanks to meet BCA requirements.

Proposal to Reduce the Development's Potable Cold Water Demand

The incorporation of on-site potable cold water storage tanks will greatly reduce peak demand supply directly off the Authorities watermain. The water tanks located at roof plantroom will be approximately 10,000 Litres in storage capacity and provide a minimum three (3) hours storage, so as to provide a continuous supply of potable cold water to the Hospital during Sydney Water maintenance procedures or watermain failure.

On-site Rainwater Harvesting will also assist in reducing potable cold water demand. Rainwater from all new major roof areas will gravitate and connect to a 50m³ recycling/non potable water storage tank. The non potable water will be used for irrigation purposes and sanitary flushing throughout the new Mental Health Building.

The following water saving conservation devices with high WELS star rating will be incorporated within the development:-

- ❑ 3/4.5 Litre WC cisterns
- ❑ 0.8 L/sec automatic urinal flushing
- ❑ Low flow tapware and appliances

The potable and non potable cold water service will be designed and constructed in accordance with AS 3500.1, National Plumbing and Drainage Part 1: Water Supply, New South Wales Code of Practice and Sydney Water requirements.

NOTE: A formal Section 73 Application to Sydney Water will be submitted to confirm the adequacy of the Sydney Water mains.

3. Sewer and Trade Waste Discharge

Enquiries lodged to Sydney Water have determined:-

The Nepean Hospital Campus is currently serviced by three (3) Sydney Water sewer main connections located as follows (refer to attached Sydney Water diagram):-

- 300mm diameter Sydney Water sewer main located adjacent Parker Street;
- 100mm diameter Sydney Water sewer main located cnr of Parker and Derby Street; and
- 225mm diameter Sydney Water sewer main located in Somerset Street.

The proposed site which adjoins Derby Street and would discharge to the 300mm diameter Sydney Water sewer main located in Parker Street.

The sewer drainage systems will be designed and constructed in accordance with AS 3500.2, National Plumbing and Drainage Part 2: Sanitary Plumbing and Sanitary Drainage, New South Wales Code of Practice and Sydney Water requirements.

All Trade Waste Drainage Systems will be designed and constructed in accordance with AS 3500.2, National Plumbing and Drainage Code Part 2: Sanitary Plumbing and Sanitary Drainage, New South Wales Code of Practice, Sydney Water and EPA requirements.

NOTE: A formal Section 73 Application to Sydney Water will be submitted to confirm the adequacy of the Sydney Water mains.

4. Natural Gas Supply

Enquiries lodged to Jemena have determined:-

The Nepean Hospital Campus is currently serviced by Jemena natural gas secondary mains (1,050 kPa) located in Derby and Parker Streets respectively. A 100mm diameter main is located on the west side of Derby Street and a 200mm diameter main is located on the north side of Derby Street. (Refer natural gas mains diagram)

A 100 diameter 1050 kPa high pressure gas service currently supplies the Hospital via a connection from Parker Street. The proposed site, which adjoins Derby Street, would be supplied from this incoming service or be provided with it's own incoming supply and meter from Derby Street.

Mechanical heating boilers and potable hot water heaters will be supplied with natural gas. The high pressure gas supply from the Jemena mains would be adequate to service the Project's requirements.



