

164-170 Croatia Avenue

Infrastructure Services Report

Hydraulic & Electrical Services

Prepared for: Super Star Holding Group Pty Ltd

Attention: Terry Lu

Date: 11 June 2021

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Ref: 47429

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Revision

Revision	Date	Comment	Prepared By	Approved By
001	11.06.21	Infrastructure Services Report	KJ & MM	RT

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1. Introduction

Project Name: 164 - 170 Croatia Avenue, Edmondson Park

Site Address: 164 - 170 Croatia Avenue, Edmondson Park

Client: Super Star Holding Group Pty Ltd

This infrastructure services report has been prepared to inform the available authority assets around 164 - 170 Croatia Avenue, Edmondson Park (the site) and the likely authority requirements to support the new development. The report has been prepared on behalf of Super Star Holding Group Pty Ltd (the Applicant).

The proposed development comprises 8 buildings between 6 and 8 storeys for a total of 700 units, 24 retail spaces and a childcare along with new local roads.

2. Foreword

This report is based on the following sources of information:

- Dial Before You Dig information;
- Publicly available information;
- Existing Sewer plans and long sections obtained from Sydney Water
- Information obtained from Endeavour Energy

Limitations of this report are as follows:

- No taking or testing of material samples was carried out.
- All information provided by others; particularly verbal information has been taken at face value.
- No testing for or advice is provided with respect to asbestos, microbiological or other contaminants.
- Not potholing for existing inground services has been undertaken.



3. Power

3.1 Existing Infrastructure

The site is in Endeavour Energy's area. Information regarding the existing Endeavour Energy infrastructure proximate to the site has been sourced from Dial Before You Dig and Endeavour Energy Arcgis.

There are existing overhead high voltage cables along Croatia Ave and underground high voltage cables along Soldiers Parade and unnamed local road as shown below. There is an existing pole mounted substation on Croatia Avenue, however based on the development size it is expected that Endeavour Energy will require the development to install dedicated substations.

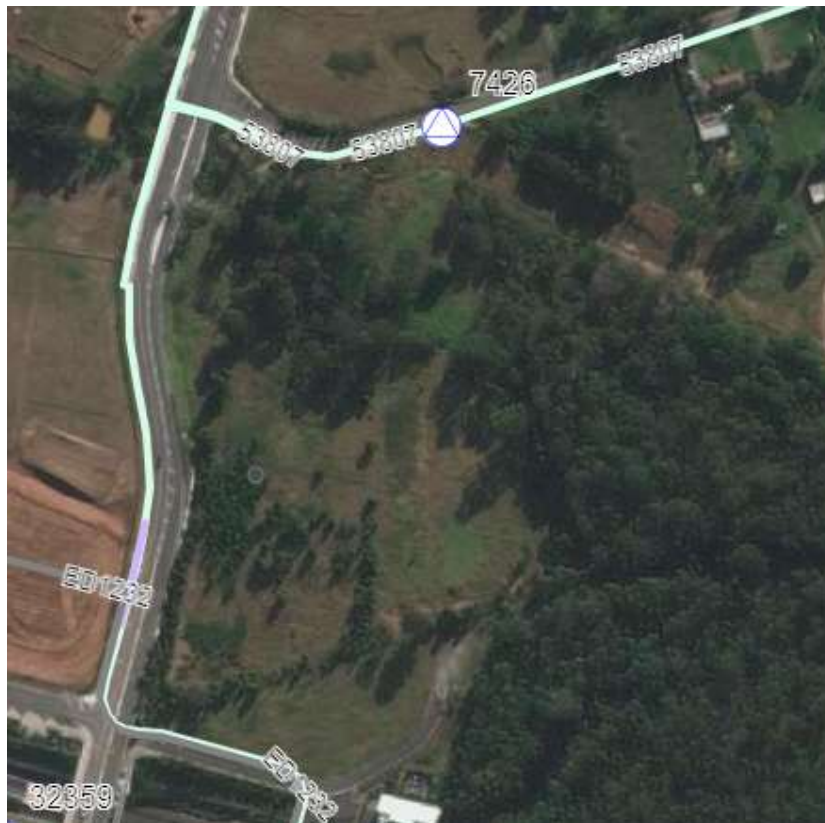


Image 3.1 – Endeavour Energy infrastructure cabling proximate to the site

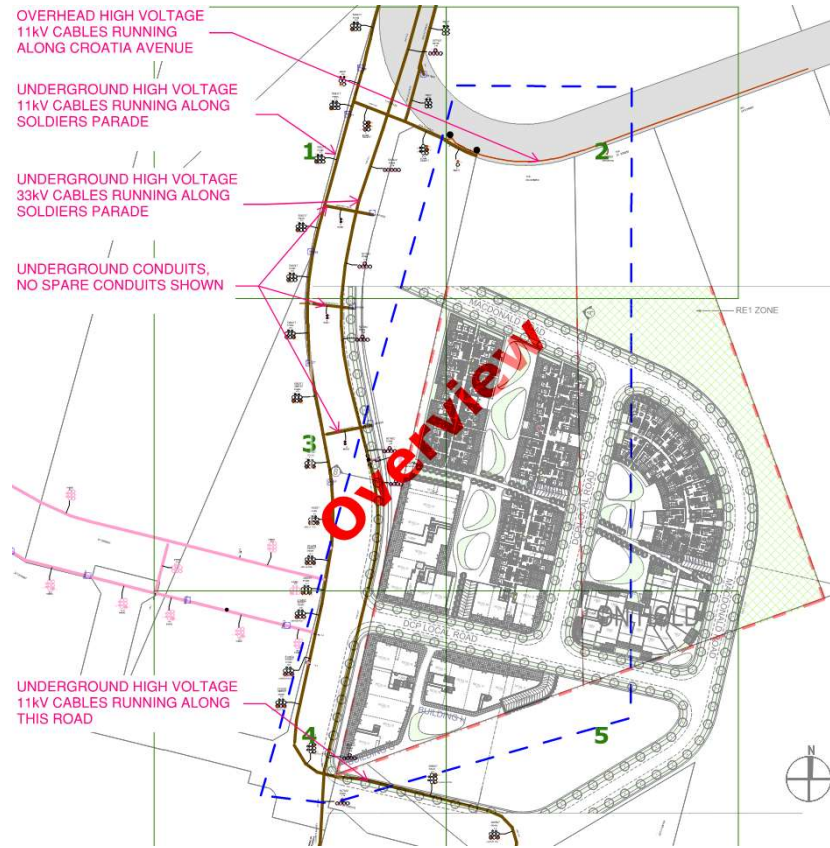


Image 3.2 – Endeavour Energy infrastructure proximate to the site

3.2 Demand

Based on the advised areas, the power demand has been estimated based on AS3000-2018 and Stantec's experience with similar sites. Estimated maximum power demands per phase are shown in the below Table.

Table 3.1 - Estimated Power Demand for the Site

Type of occupancy	VA/m ²	Estimated Square meters	kVA
Basement Carpark	15	40,500	608
EV Charging in Basement Carpark	20	40,500	810
Retail Shop	140	3,340	468
Childcare	55	110	6
Units			819
Total kVA			2711
Spare kVA			410
			3121
Amps			4520

Note that an allowance has been made for EV charging

Note that it has been assumed gas hot water will be used instead of electric hot water units

3.3 Proposed Works

Based on the estimated power demand and the limitation that Endeavour Energy allows for a maximum of 1,500kVA substations Stantec recommends that an allowance for 4 x 1000kVA substation be made to suit the load split and location of the loads.

It will need to be confirmed with Endeavour Energy as to where a new high voltage 11kV connection is to be taken from but at present the closest connection is the unnamed local road and Soldiers Parade, and it is most likely that this is where power would be supplied from.

Council in their DA may require the undergrounding of the overhead power cabling along the site side of Croatia Avenue.

The incoming high voltage cabling to the substation and the outgoing supply from the substation needs to be installed along the new DCP local roads to allow for maintenance as required by Endeavour Energy.

Any new council roads or increase in traffic on existing council will require an ASP level 3 lighting design.



4. Telecommunications

4.1 Existing Infrastructure

The Site is not in NBN Co's supply area.

NBN Co's online services map indicates that communications services are available to the site, as shown in the image below. Surrounding addresses have Fibre to the Node, therefore it is expected the site will also have Fibre to the Node

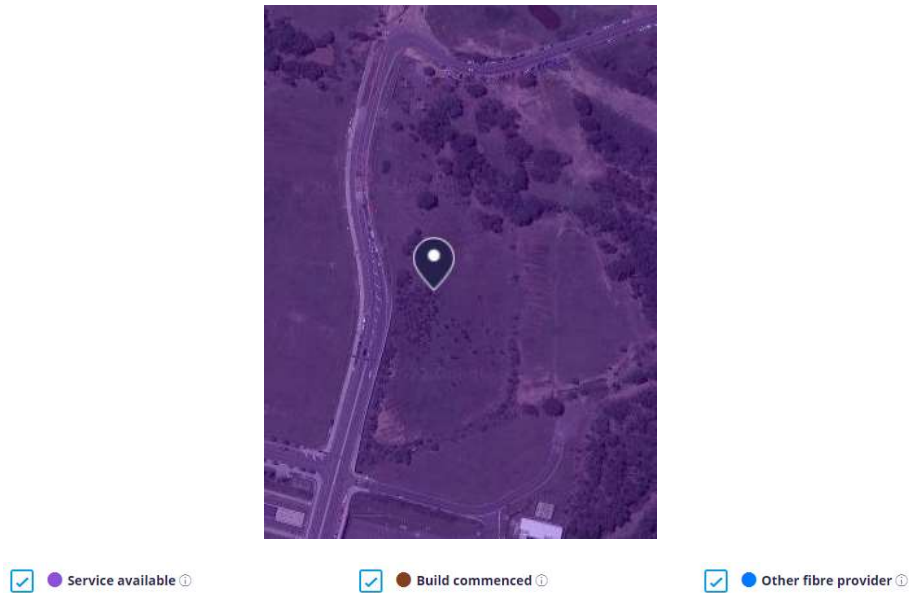


Image 4.1 - NBN service map



Image 4.2 - NBN service map



There is existing Telstra cabling along Soldiers Parade which is being utilised by NBN. It is expected that a connection will be allowed into the cabling along Soldiers Parade.

An application to NBN will be required for the new connection and infrastructure extension.

The incoming NBN cabling to the buildings needs to be installed along the new DCP local roads to allow for maintenance as required by NBN.



Telstra has existing services as shown below

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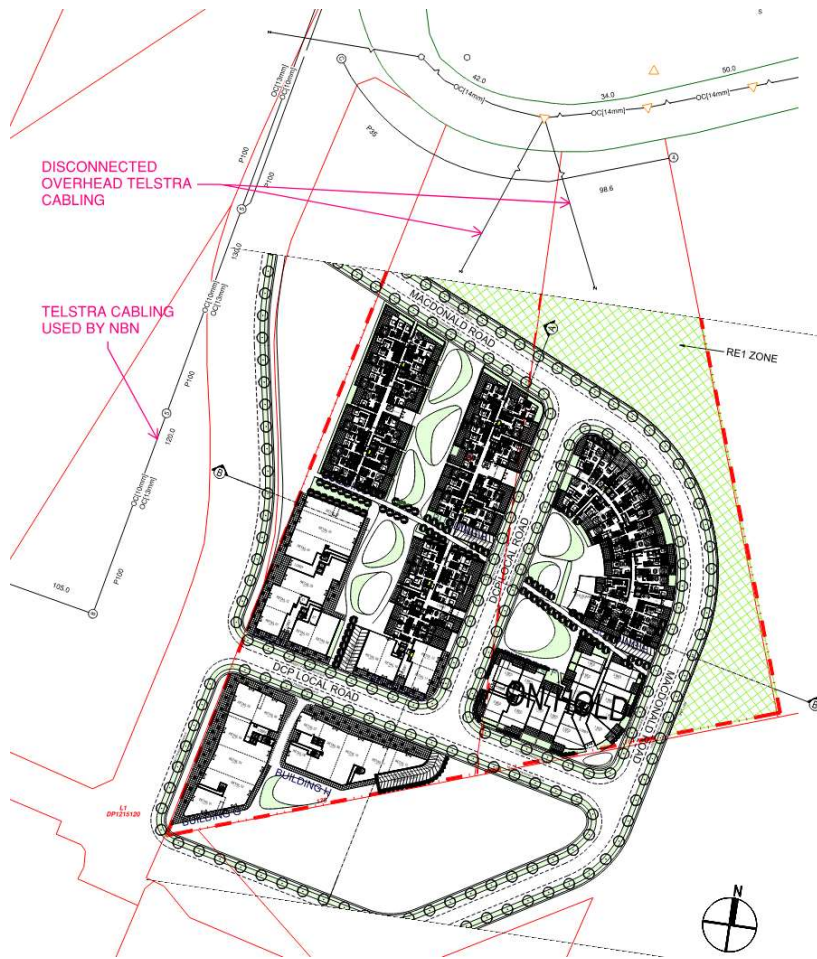


Image 5.3 - Telstra service map

As shown above there was an overhead connection to the site which is now disconnected. It is expected that this has been abandoned and if an application to remove the service is submitted it is anticipated the removal will be approved.

4.1.1 Carrier Mobile Base Stations

There are no recorded carrier base stations within the site.

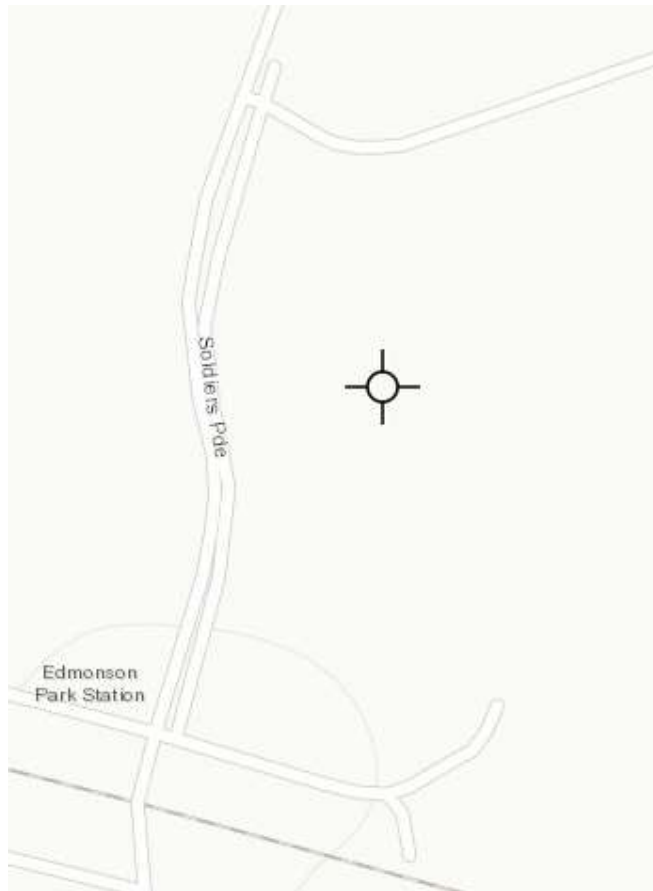


Image 5.4 – Location of carrier mobile base stations near the site.

5. Hydraulic Services

5.1 Authority Services

5.1.1 Water Supply

The local water authority for this site is Sydney Water. The Sydney Water Dial Before You Dig (DBYD) plans have indicated the proposed development has water assets within proximity to the subject site.

The DBYD information indicates the site currently has two water connections to serve the site:

- A Ø375 DICL potable authority water main in Soldiers Parade.
- A Ø600 DICL recycled water main in Soldiers Parade. As this is considered a trunk main, approval from Sydney Water will be required to connect to this asset.

Sydney Water pressure and flow data indicates the Ø375 main will provide 40l/s at 40m/h. These results will be adequate to supply the domestic requirements although it is likely that fire water storage will be required to serve the fire protection requirements for each building. These pressure and flow results were sourced in 2019 and may have changed since. Another enquiry should be lodged with Sydney Water during schematic design to reconfirm the performance of the available water main.

POTABLE WATER CAPACITY

To inform the future Section 73 application, the average daily expected use for each building in the development is 7kL a day. This may vary depending on the final development product and system selections (e.g. apartment mix, mechanical, retail demand).

It is anticipated that an authority potable water ring main will be reticulated through the proposed DCP local roads with dependent branches provided to serve each individual development. This requirement will be determined and facilitated by an accredited WSC.

Pressure boosting pumps will be required for each building to provide adequate pressure at the most disadvantaged outlets.

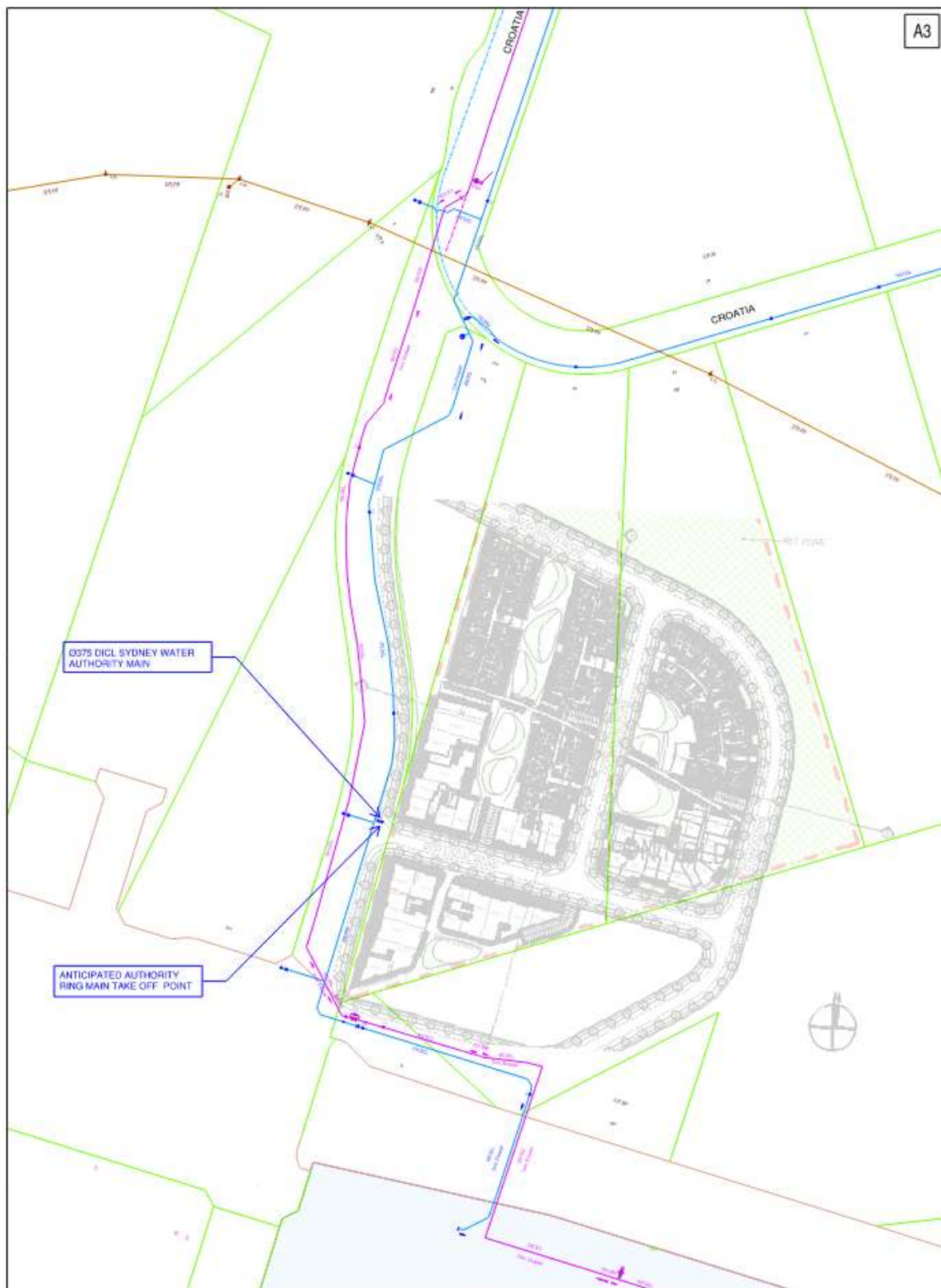
FIRE WATER SUPPLY

The proposed development will require fire services and systems to provide coverage to buildings within the site. From the proposed site infrastructure, buildings shall be provided fire water supply for connection to provide their required performance criteria.

A preliminary calculation suggests that the fire water requirement would be 40L/s for combined fire sprinkler and 2 simultaneous hydrants in operation. This will be right on the limit that is available with in the main (data from 2019) and would require on site testing to confirm actual rewater main performance.

Fire pressure boosting pumps will be required to pressure the fire water supply to meet compliance with the brigade and the relevant standards.





Sydney Water Dial Before You Dig Plan – Water Services



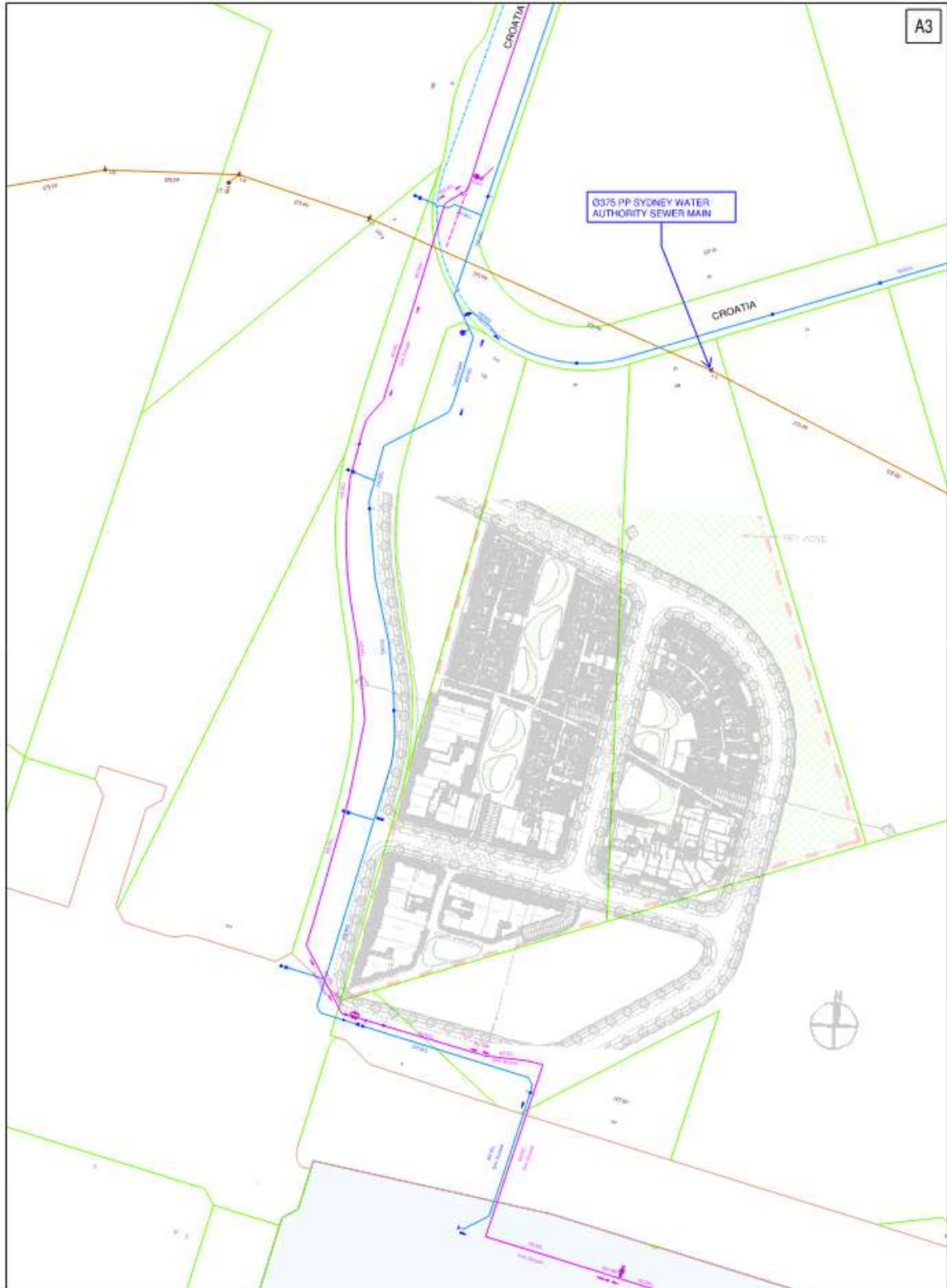
5.1.2 Sewer Services

The proposed development site is provided with a singular sewer service pit located at the north east corner of 164 Croatia Avenue. The pit is connected to a Ø375 PP authority main with a depth of 5.15m to invert level. The sewer is located approximately 125m from the nearest property connection. A sewer design by a water servicing coordinator will confirm the adequacy of this service.

SEWER CAPACITY

Each building within the development will discharge an average of 5.8kL/day of wastewater from the site. This is based on an estimated population and type of use criteria.





Sydney Water Dial Before You Dig Plan – Sewer Services

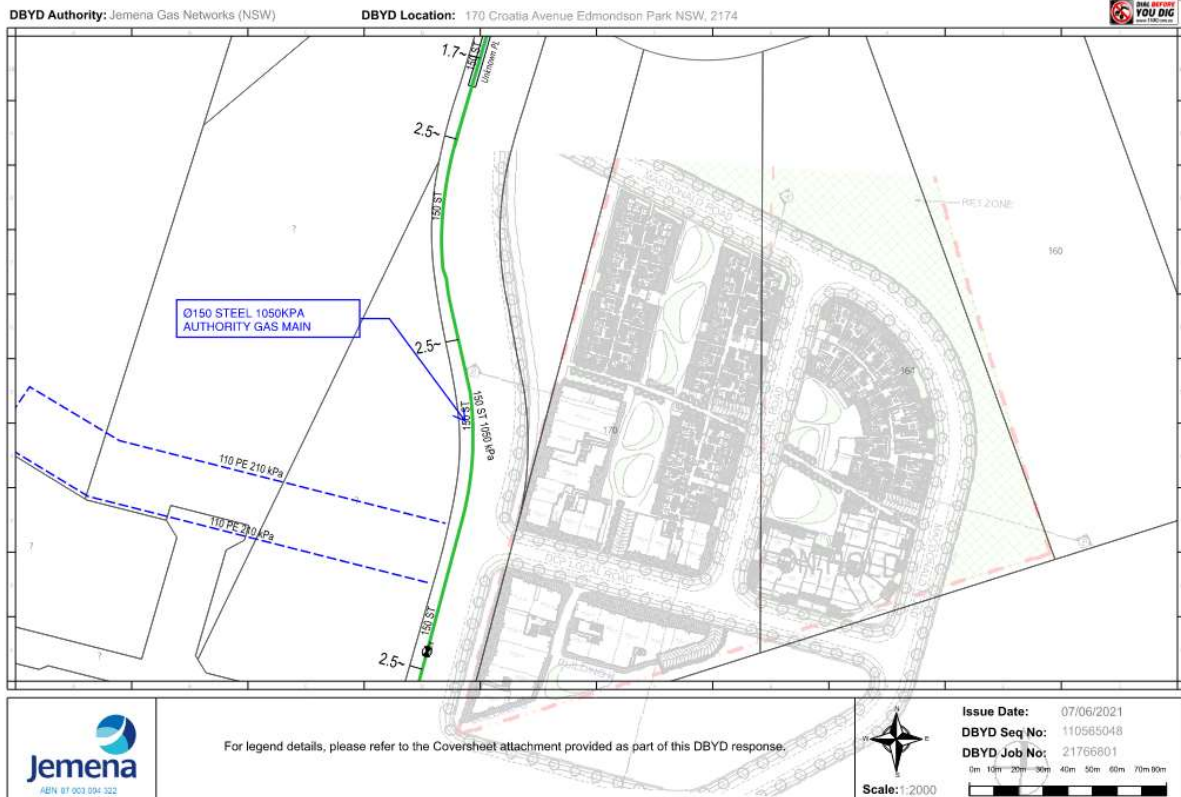


5.1.3 Gas Services

Jemena owns and operates the natural gas reticulation network surrounding the site. The site is located in an area with a 1050 kPa distribution gas network reticulating within Soldiers Parade.

This gas authority main is considered high pressure and will carry adequate gas to supply the proposed development.

Coordination and consultation with Jemena will be required to design a gas reticulation main within the proposed DCP roads.



WARNING: This is a representation of Jemena Gas Networks underground assets only and may not indicate all assets in the area. It must not be used for the purpose of exact asset location in order to undertake any type of excavation. This plan is diagrammatic only, and distances scaled from this plan may not be accurate. Please read all conditions and information on the attached information sheet. This extract is subject to those conditions. The information contained on this plan is only valid for 28 days from the date of issue.

Jemena Dial Before You Dig Plan – Gas Services



Design with
community in mind

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