



Infrastructure Assessment Report

William Clarke College – Concept Masterplan and Stage 1 Works

State Significant Application (SSD – 35715221)

10 Morris Grove, Kellyville

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0.0 INTRODUCTION

HDR have been appointed by William Clarke College (WCC) to undertake the Infrastructure Assessment Report for the proposed concept masterplan and stage 1 works at 10 Morris Grove, Kellyville NSW 2155.

This Infrastructure Assessment Report serves to support the State Significant Development Application (SSDA) relating to the proposed development. It outlines the incoming services required, with respect to capacity, availability, and connections to facilitate the development.

The proposed campus development works by William Clarke College include:

- Construction of a new four (4) level building.
- Amendments to internal access pathways, landscaping, and all incoming services to the site.
- Extension of existing pit and pipe system to facilitate incoming communication services pathway via diverse underground route.
- Connection into existing portable water supply from Sydney Water for hydraulic and wet fire services
- Connection into existing recycled water supply from Sydney Water for green star design
- Connection into existing sewerage system currently traversing through the site.
- Modifications of the site stormwater drainage network to direct stormwater runoff to existing water quality devices and on-site detention tanks.

1.0 EXECUTIVE SUMMARY

This Infrastructure Assessment Report has been prepared by HDR on behalf William Clarke College.

William Clarke College is an independent Anglican school in Sydney's Northwest, located at 10 Morris Grove, Kellyville. The site is irregular in shape and is located on both the eastern and western sides of Morris Grove. The site has frontage to Green Rd, Wrights Rd, and Cormack Circuit.

The William Clarke College campus has a total area of 96,360m² (9.636ha) within a residential suburb. The campus has grown over time which is evident in the range of buildings across the site. The campus consists of the Primary School, Secondary School, Specialist, and Shared Facilities.

William Clarke College engaged PMDL Architecture & Design in association with other specialist consultants, to carry out a concept masterplan study and subsequently to develop designs for stage 1 of the masterplan.

The principal masterplan elements are:

1. Stage 1 – The Bryson Building, Primary carpark upgrade, and waste compound.
2. Performing Arts Centre, to be connected to the College's existing Drama and Music facilities.
3. Sports Extension to the school's sporting facilities to enhance their PDHPE offering.
4. The reconfiguration of the existing carpark on Morris Grove.
5. New shed adjacent to the Branwhite Centre for STEAM.

These are in no particular order beyond Stage 1, and some may be undertaken under a range of planning approvals pathways.

The subject site is located within the Kellyville Hills Shire Area. The proposal seeks to operate 12 hours per day, seven (7) days per week.

The particulars of this proposal are summarised below:

- Design and construct a new four storey building.
- Infrastructure comprising civil works and utilities servicing.

2.0 SITE DESCRIPTION

In 2005 the College Council made the strategic decision to embrace a broader philosophy of education. In 2007 the College introduced a Junior School (Kindergarten to Year 4), Middle School (Years 5-8) and Senior School (Years 9-12). In 2015 the College commenced a Preparatory School to allow families in the local community to have a Preparatory experience at the College the year before kindergarten. More than a decade on and the College is now a well-established and thriving P-12 school. The decision to introduce a Middle School that at the time served to connect the existing 'secondary' years and new 'primary' years achieved its purpose. As such, from 2018 the College will be structured P-6 (Primary) and 7-12 (Secondary), with the core aim of increasing the focus on teaching and learning outcomes and improving efficiencies. The College has 1907 onsite students and 200 highly professional staff.

The proposed site is located on this college on Lots 132-150 (DP 1169003), commonly known as 10 Morris Grove, Kellyville. It has a total area of approximately 96,360 m² (9.636ha) with access achieved via the Wrights Road.

The site is situated approximately 34 km northwest of the Sydney CBD and 13.4 km northeast of Parramatta. It is within proximity to transport infrastructure routes (predominantly the bus network), as well as sharing direct links with the wider regional road network, including Green Road, President Road, Wrights Road. Nearest motorway to this site is M2.

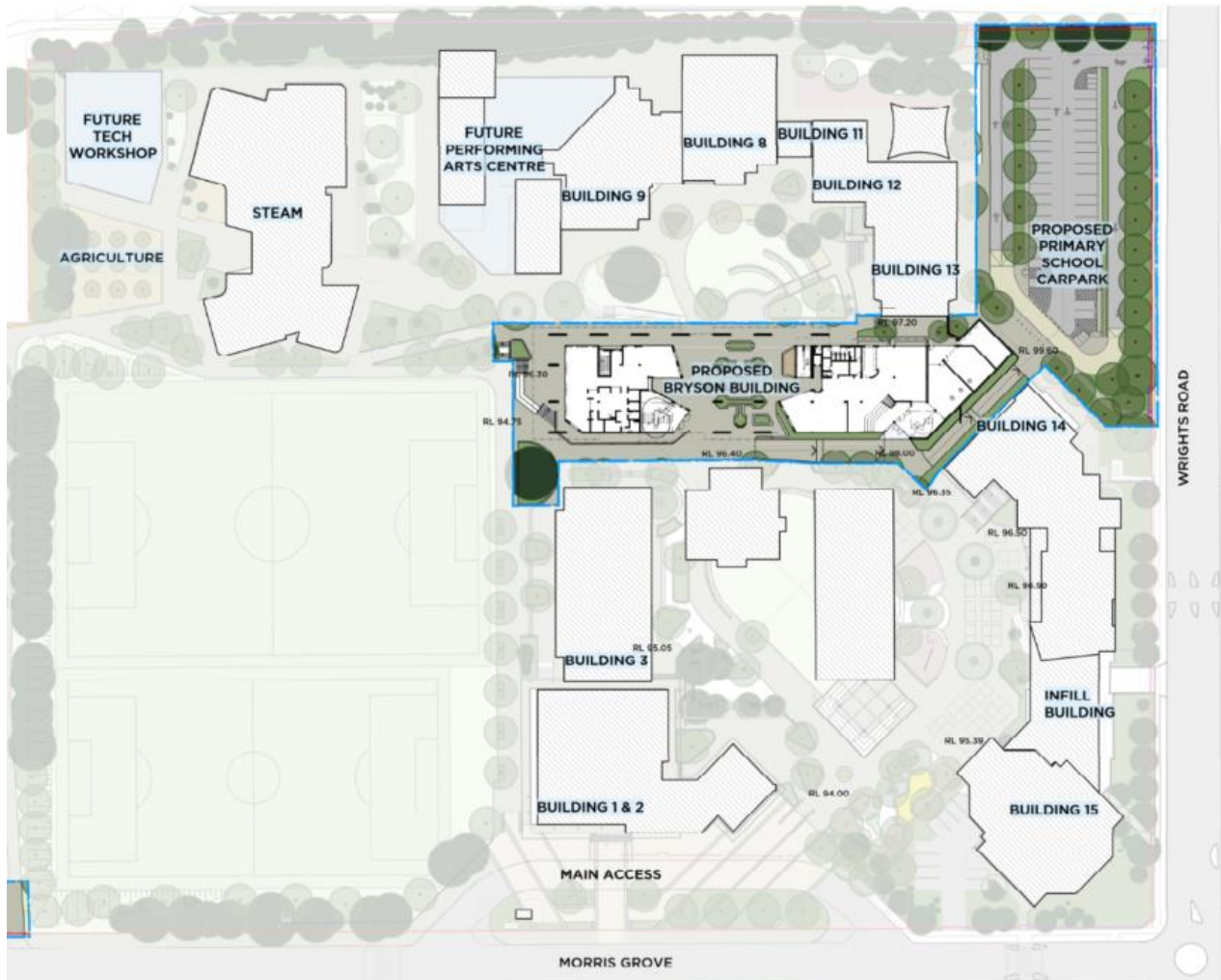
These road networks provide enhanced connectivity to the subject site and wider locality. Additionally, the site is located within proximity to active transport links, such as bicycle routes, providing an additional mode of accessible transport available to the subject site.



The Proposed site in 10 Morris Grove Kellyville. (Source: Google Map)

2.1 SITE LOCATION

The concept masterplan of William Clarke College shows the location of proposed site on 10 Morris Grove, Kellyville, Lot 132-150, DP 1169003.



The Proposed site in William Clarke College Concept masterplan

3.0 INCOMING SERVICES

The incoming services outlined within this report include:

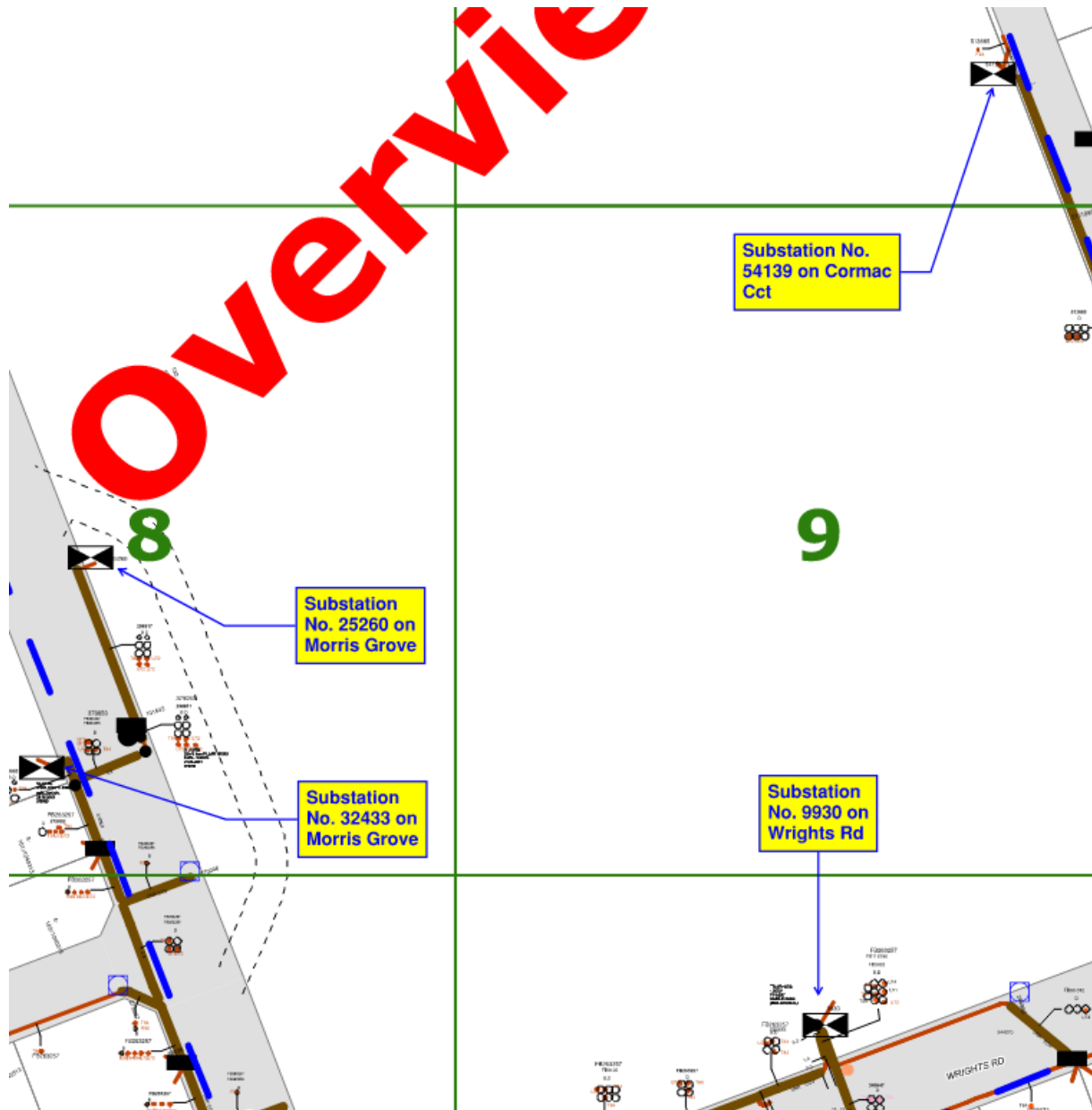
- Electricity
- Communication Services
- Gas
- Potable Water
- Sewerage

3.1 Electricity

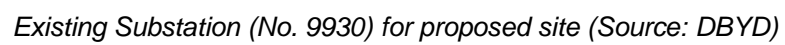
The existing site is served by Endeavour (Integral) Energy network using existing substation No 9930 located on Wrights Road. The main switchboard is located within the existing Main Switch Room in Building 14 (6).

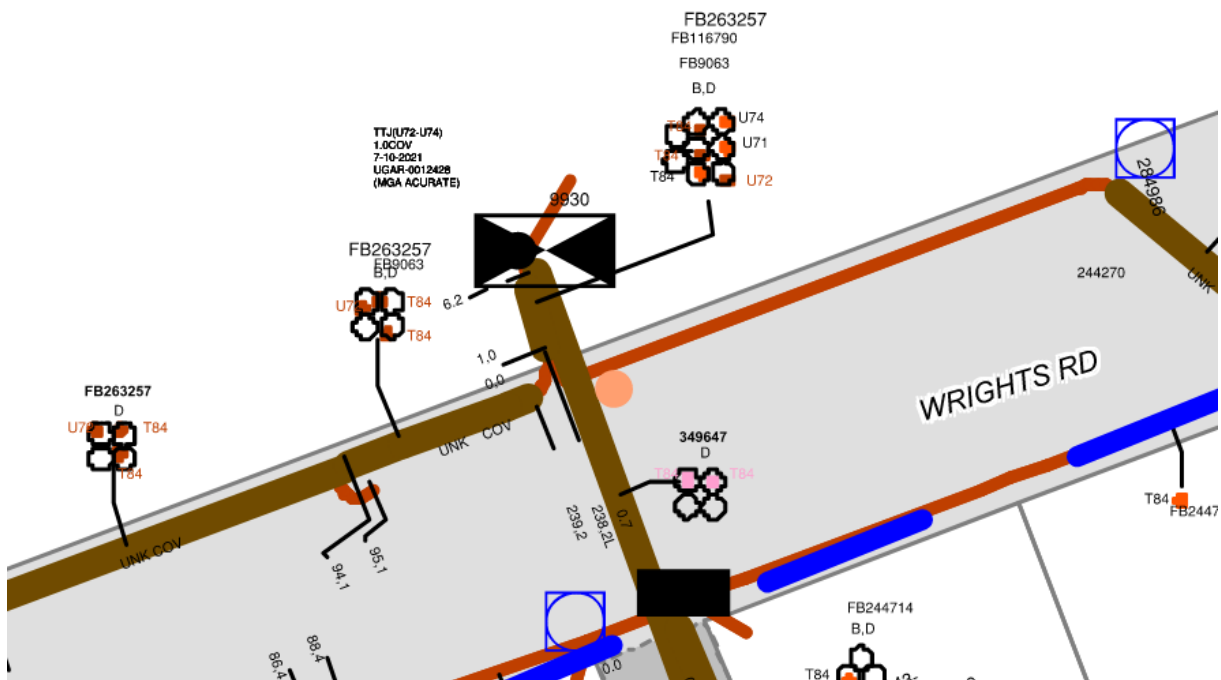
There are three further substations on-site – substation No. 54139 located on Cormac Circuit serving the Branwhite Centre, substation No. 25260 located on Morris Grove and substation No. 32433 located on Morris Grove serving the Sports Complex.

The existing substations serving the site are suitably sized to cater for the existing and proposed buildings on site.



ENDEAVOUR ENERGY Assets around 10 Morris Grove, Kellyville (Source: DBYD)





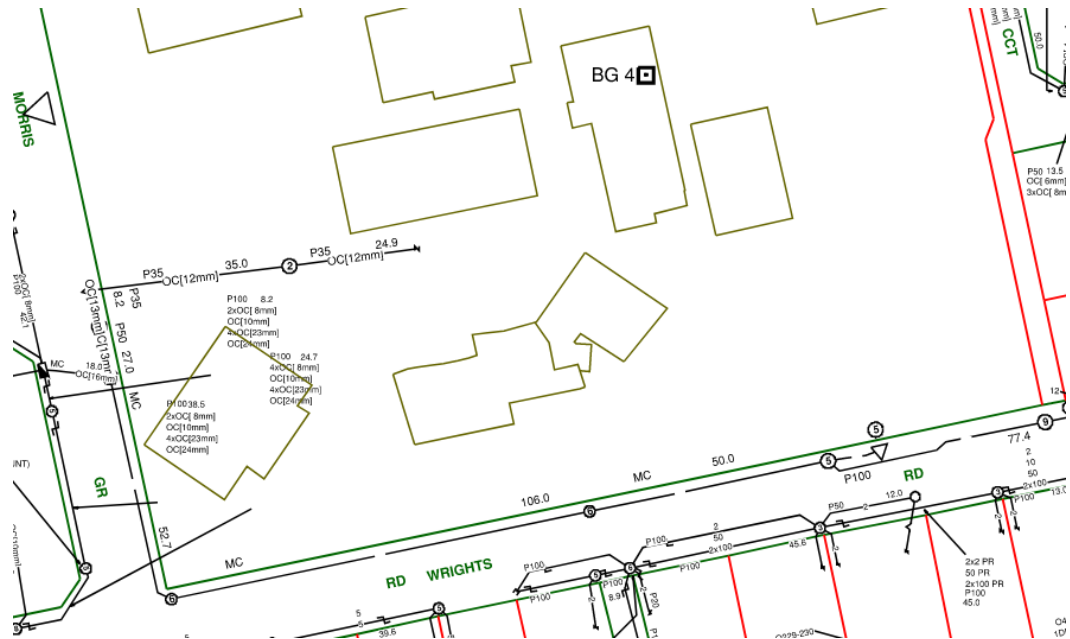
Existing Substation (No. 9930) for proposed site (Source: DBYD)

3.2 Communication Services

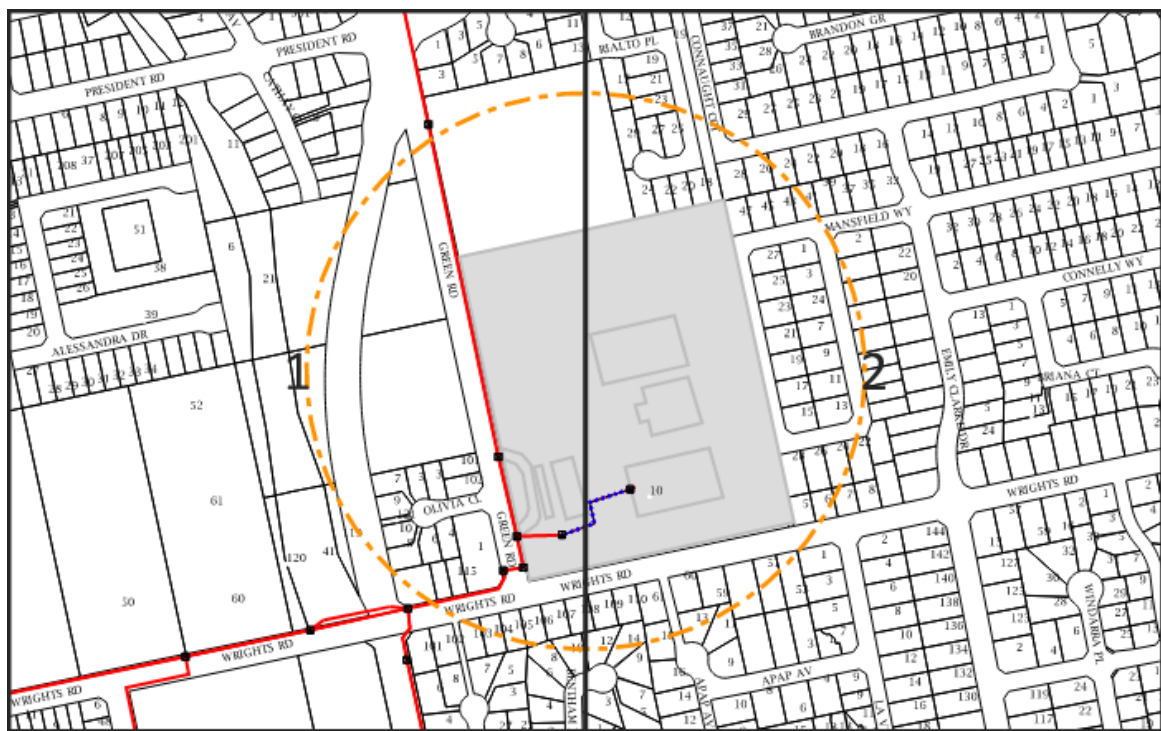
The site currently has underground pathways for telecommunications cabling from street pits in Morris Grove and the Wrights Road. The external and internal pit and pipe system will be extended to serve the Campus Heart Building site.

The existing telecommunication services will be extended to the proposed building site from the existing server rooms. Multimode fibre cable will be provided to the proposed building site from the server room in Building 1 (relocated from Building 4) and from Building 14 (6) server room.

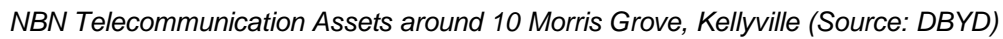
Dial Before You Dig (DYBD) plans indicate that there are multiple telecommunication services providers in the vicinities of the site, refer to images below for details.



TELSTRA Telecommunication Assets around 10 Morris Grove, Kellyville (Source: DBYD)



OPTUS Telecommunication Assets around 10 Morris Grove, Kellyville (Source: DBYD)

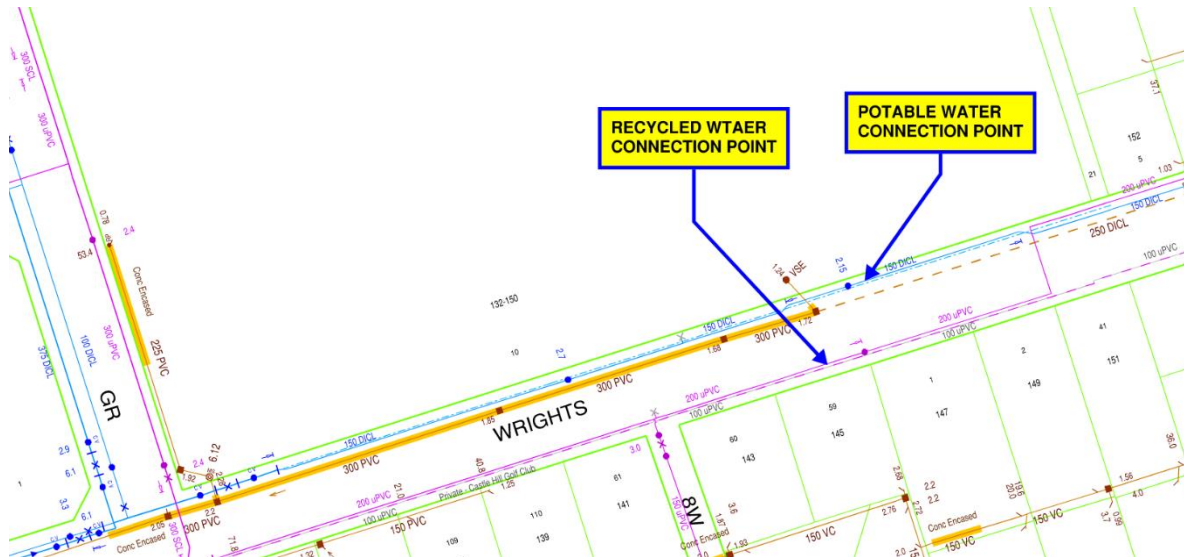


JEMENA has 75mm Nylon pipe with 210kPa pressure available on Wrights Road which is suitable to serve the proposed site (Campus Heart Building). The existing infrastructure surrounding the site are suitably sized to cater for the existing and proposed buildings on site.



3.4 Potable And Recycled Water

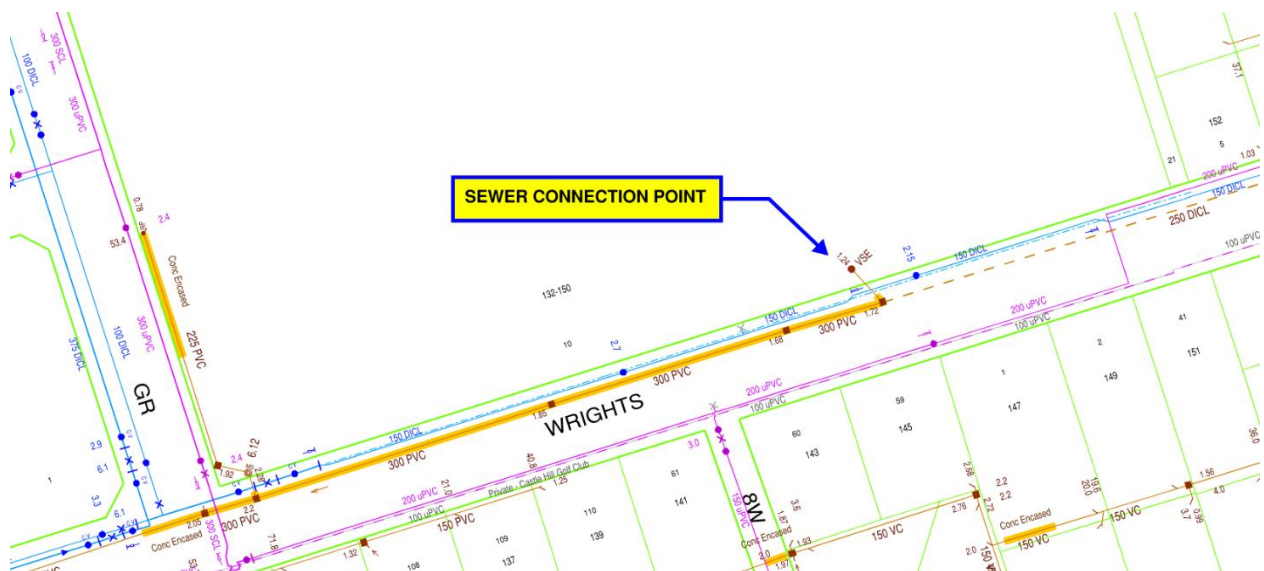
This site is serviced via an existing 150mm DICL existing Sydney Water cold water main on the Wrights Road, and 300mm PVC Recycled water main on Morris Grove. The existing infrastructure surrounding the site are suitably sized to cater for the existing and proposed buildings on site.



Sydney Water Potable and Recycled Water Plan (Source: DBYD)

3.5 Sewerage

This site is serviced via an existing 300mm PVC Sydney Water Sewer on the Wrights Road, and this line is suitable to serve the Campus Heart Building. The existing infrastructure surrounding the site are suitably sized to cater for the existing and proposed buildings on site.



Sydney Water Sewer Plan (Source: DBYD)

APPENDIX A PRESSURE AND FLOW STATEMENT



Statement of Available Pressure and Flow

Date: 03/03/2022

Pressure & Flow Application Number: 1358832
Your Pressure Inquiry Dated: 2022-02-28
Property Address: 152 Wrights Road, Kellyville 2155

The expected maximum and minimum pressures available in the water main given below relate to modelled existing demand conditions, either with or without extra flows for emergency fire fighting, and are not to be construed as availability for normal domestic supply for any proposed development.

ASSUMED CONNECTION DETAILS

Street Name: Wrights Road	Side of Street: North
Distance & Direction from Nearest Cross Street	40 metres West from La Vista Grove
Approximate Ground Level (AHD):	97 metres
Nominal Size of Water Main (DN):	200 mm - Recycled

EXPECTED WATER MAIN PRESSURES AT CONNECTION POINT

Normal Supply Conditions	
Maximum Pressure	33 metre head
Minimum Pressure	29 metre head

WITH PROPERTY FIRE PREVENTION SYSTEM DEMANDS	Flow l/s	Pressure head m
Fire Hose Reel Installations (Two hose reels simultaneously)	0.66	29
Fire Hydrant / Sprinkler Installations (Pressure expected to be maintained for 95% of the time)	10	30
	15	29
	20	29
	25	29
	30	28
	40	27
	50	26
Fire Installations based on peak demand (Pressure expected to be maintained with flows combined with peak demand in the water main)	60	25
	10	29
	15	29
	20	28
	25	28
	30	27
	40	26
Maximum Permissible Flow	50	25
	60	23
	118	9

(Please refer to reverse side for Notes)

For any further inquiries regarding this application please email :

swtapin@sydneywater.com.au

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