

EMERGENCY

DUE DILIGENCE REPORT

RURAL AMBULANCE INFRASTRUCTURE RECONFIGURATION PROGRAM STAGE 2 (RAIR 2)

FAIRY MEADOW NSW

ELECTRICAL & HYDRAULIC SERVICES

This report is prepared for the nominated recipient only and relates to the specific scope of work and agreement between JHA and the client (the recipient). It is not to be used or relied upon by any third party for any purpose.

DOCUMENT CONTROL SHEET

Project Number	210067
Project Name	Rural Ambulance Infrastructure Reconfiguration Program #2 (RAIR 2) – Fairy Meadow NSW
Description	Electrical and Hydraulic Services Due Diligence Report
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Revision History

Issued To	Revision and Date							
Howard Morris – Mace Group	REV	01	02					
	DATE	12.10.21	01.07.22					
	REV							
	DATE							
	REV							
	DATE							

CONTENTS

1 INTRODUCTION4

1.1 GENERAL4

1.2 SITE LOCATION.....4

1.3 UTILITIES SERVICES REVIEW / ANALYSIS4

2 ELECTRICAL SERVICES5

2.1 ELECTRICAL POWER SERVICES5

2.2 TELECOMMUNICATIONS SERVICES.....6

3 HYDRAULICS SERVICES8

3.1 EXISTING INFRASTRUCTURE8

3.2 PROPOSED INFRASTRUCTURE9

4 CONCLUSION.....10

4.1 ELECTRICAL SERVICES.....10

4.2 HYDRAULICS SERVICES.....10

1 INTRODUCTION

1.1 GENERAL

The following report has been prepared exclusively for NSW Health Infrastructure in response to proposed development at Innovation Way, Fairy Meadow, NSW 2519, within the University of Wollongong (UoW) campus..

The development would predominantly consist of ambulance plant areas and supporting facilities.

JHA Consulting Engineers has been engaged for the purpose of providing electrical and hydraulic professional consulting building services report related to the Rural Ambulance Infrastructure Reconfiguration Program’s #2 (RAIR 2) ‘s operation at Innovation Way, Fairy Meadow, NSW 2519.

The following report has been prepared exclusively for NSW Health Infrastructure in response to a proposed development at Innovation Way, Fairy Meadow, NSW 2519.

The report is based on desktop review of the existing services only. Whilst the report seeks to determine services installed on site and their conditions, no testing of elements or engineering systems has been carried out for the preparation of this report.

1.2 SITE LOCATION

The proposed site is located within the UoW campus on Innovation Way, as shown in Figure 1; it is close to Memorial Drive and Princes Highway, located on the east side of the town, and a short drive to the Wollongong Hospital.

The station will be located within a new subdivision of the existing University Lot. The test fit for the ambulance station has been proposed within the existing Lot 1 in DP 1172135 by NSW Health Infrastructure.

Approximate outlines of the new lot is shown in Figure 2.

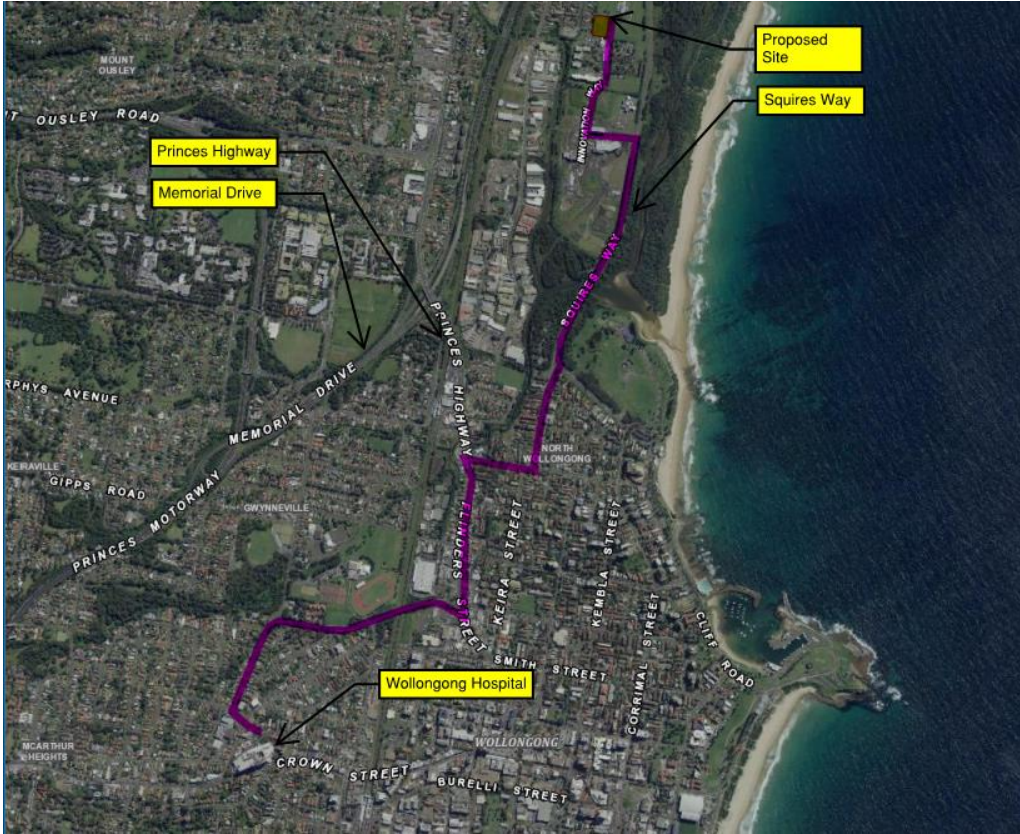


Figure 1 – Overview – Satellite Image



Figure 2 – Station Footprint

Note: Approximate area of the proposed site is located within the translucent polygon.

1.3 UTILITIES SERVICES REVIEW / ANALYSIS

A utilities review has been carried out in consultation with the relevant local authorities to identify the existing utilities at the proposed site.

Dial before you dig (DBYD) requests were submitted on the 13th March 2022 to investigate the presence of existing utilities such as electrical, natural gas, water, sewer and telecommunications.

The following utilities with interests/assets in the vicinity of the site were notified in this process:

Seq. No.	Authority Name	Phone	Status
209102793	AARNet Pty Ltd Nsw	1300 275 662	NOTIFIED
209102796	Endeavour Energy	(02) 9853 4161	NOTIFIED
209102792	Jemena Gas South	1300 880 906	NOTIFIED
209102789	NBN Co NswAct	1800 687 626	NOTIFIED
209102791	Optus and or Uecomm Nsw	1800 505 777	NOTIFIED
209102794	Sydney Water	13 20 92	NOTIFIED
209102790	Telstra NSW Central	1800 653 935	NOTIFIED
209102795	Transport for NSW	(02) 8837 0285	NOTIFIED

Table 1 – Dial Before You Dig utilities notification status.

The utility review process of the DBYD information revealed that currently no major underground electrical assets exist on site that requires relocation or re-diversion. Endeavour GIS information, detailed the presence of a 100kVA Pole-mount transformer serving the adjacent UoW building on Innovation Way, which could be used as a connection point.

Formal application for connection to Endeavour Energy is to be lodged upon receipt of NMI (National Meter Identification) number from the NSW Ambulance nominated energy retailer.

Information on the size and location of the authority sewer and water main were obtained through DBYD plans which indicates authority assets are not impacted by the newly proposed building and lot boundaries.

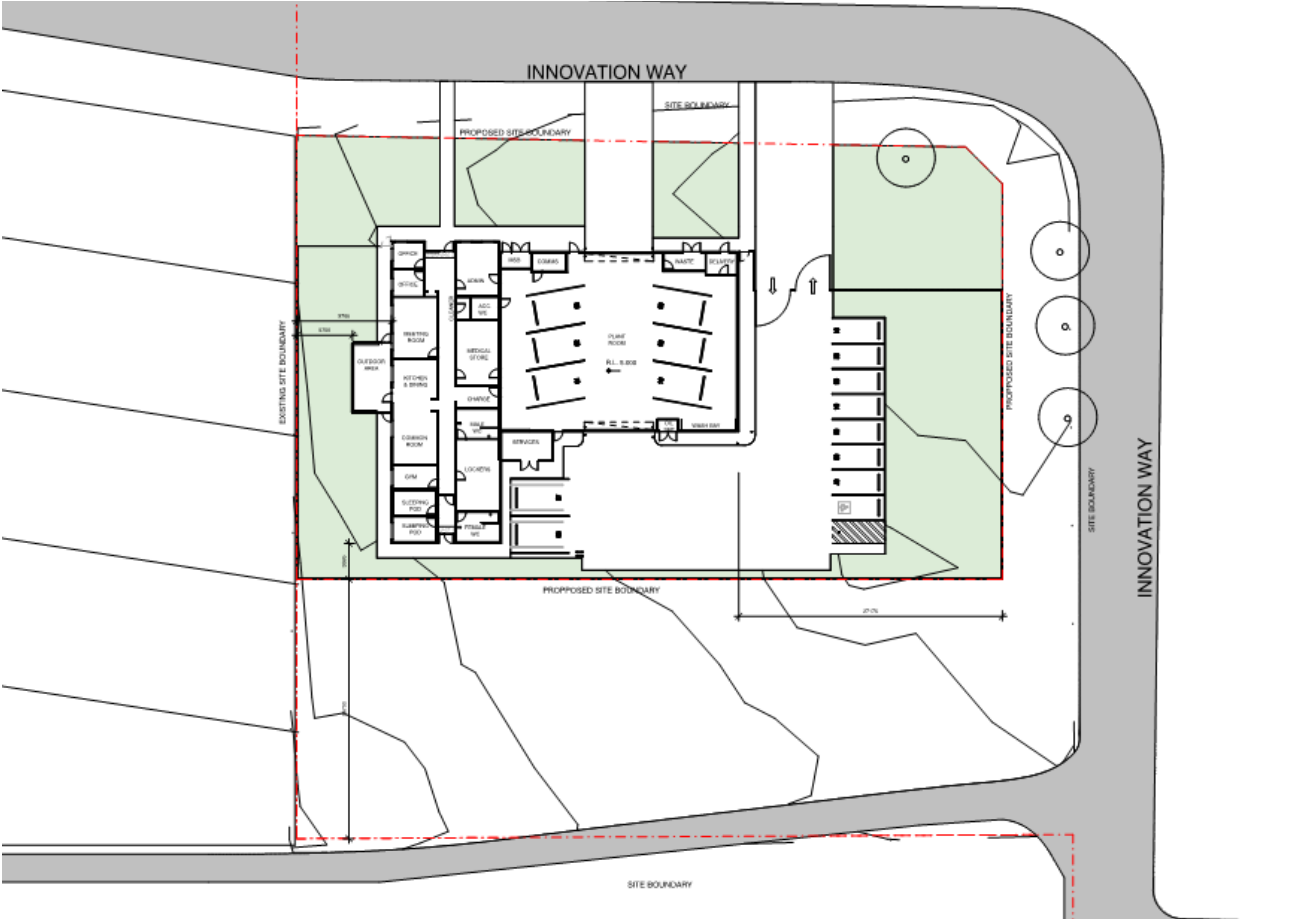


Figure 3 – Fairy Meadow Test Fit Drawing

2 ELECTRICAL SERVICES

2.1 ELECTRICAL POWER SERVICES

2.1.1 EXISTING SERVICES

Currently, there is an existing illuminated private footpath traversing the site from north-west to south-east owned by UoW. According to the survey information provided by the project manager, there are existing light poles serving this footpath with its associated in-ground conduits. This service would need to be capped-off on the north-west corner of the site, and the light poles returned to UoW.

Assessment of Endeavour Energy GIS revealed assets with High Voltage (LV) power lines reticulated alongside Innovation Way at the northern boundary of the site and terminated in a 100kVA Pole-mounted substation serving the adjacent Innovation Centre Building.

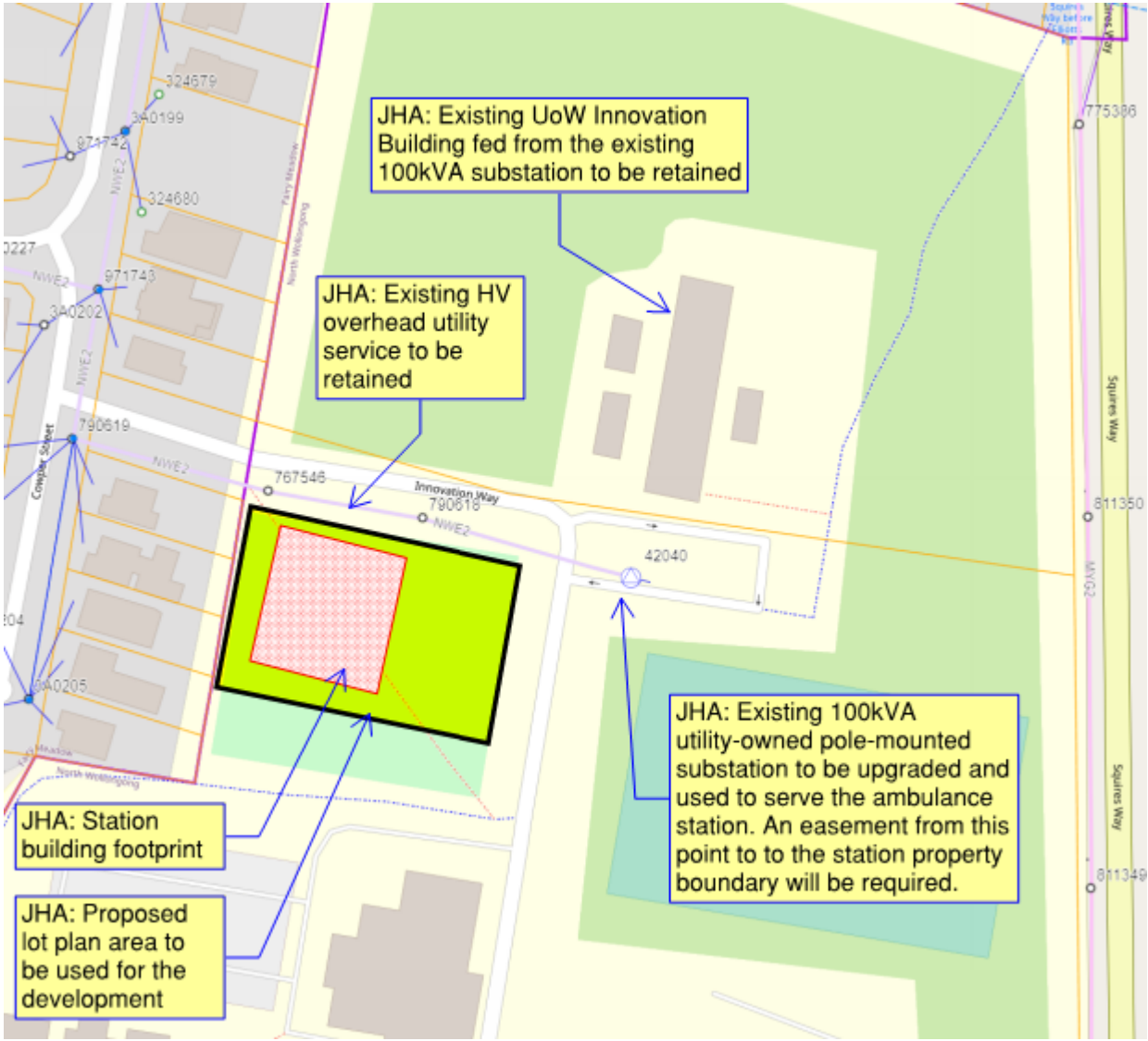


Figure E1 – Endeavour Energy GIS information including the footprint of the station

An application for connection is to be submitted to Endeavour Energy upon receipt of NMI number from the Client nominated retailer. Final solution for method of supply of the Lot will be determined by the authority and subject to utility provider's terms and conditions.

It is anticipated that supply to the Ambulance site will require the upgrade of the existing pole-mounted substation # 42040 adjacent to the existing Innovation Centre building to be able to cater the loads for the new station. A new Under-Ground to Over-Head

(UGOH) service will be installed from this pole as a connection point. From this point, the consumer mains will be reticulated via underground conduits to the MSB. Refer to Figure D & E for details.

It is envisaged that an easement would be required on UoW land between the pole-mounted substation to the station site boundary.

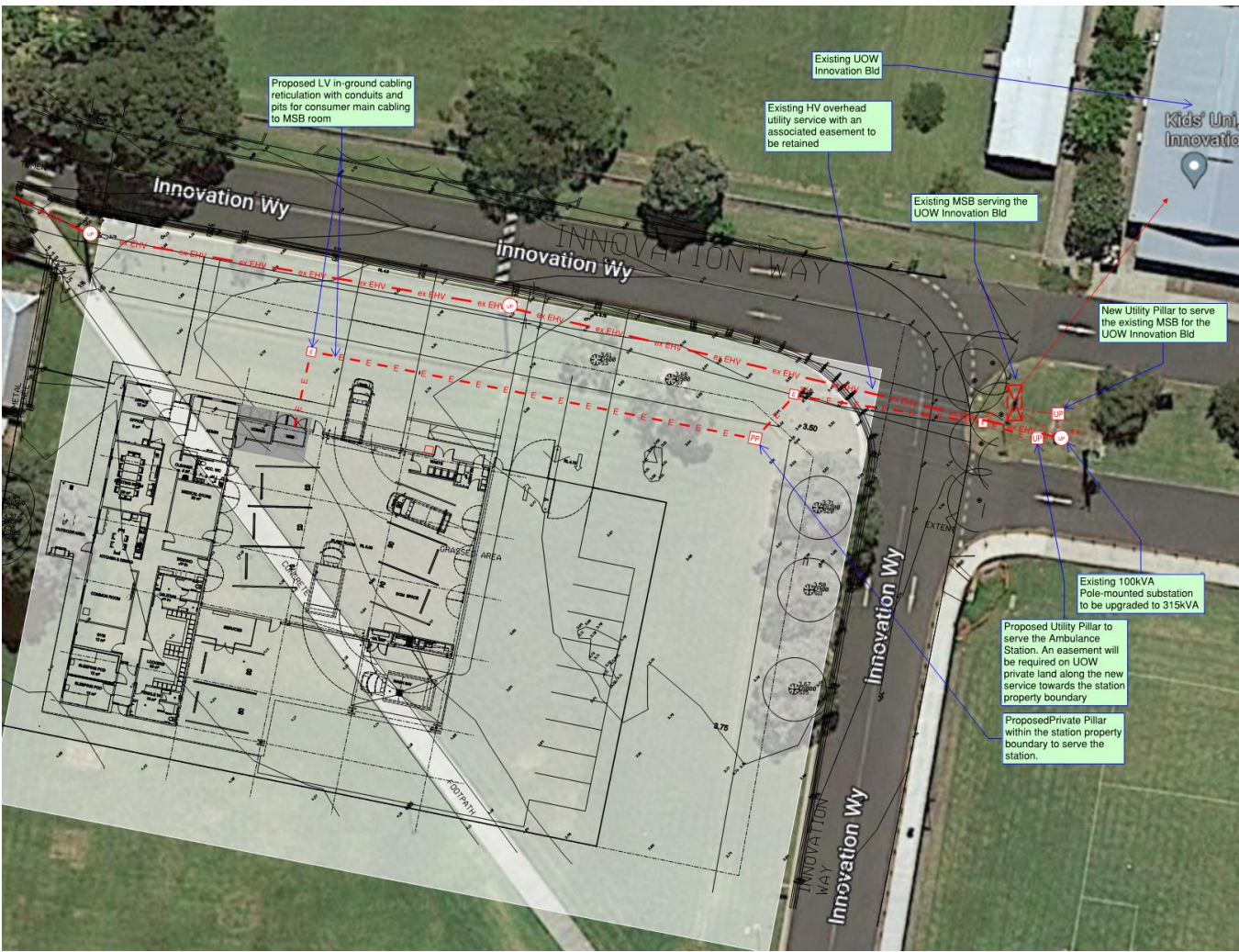


Figure E2 – Existing & proposed power Utility overhead infrastructure

2.1.2 EXISTING MAXIMUM DEMAND

Preliminary Maximum Demand calculations are based on the RAIR Fairy Meadow Test Fit shown in Figure 3. Based on this layout, approximately **140 Amps 3-phase** power supply connection is anticipated to provide power to the site. This would be further detailed once more detailed Architectural layouts become available.

That being said, it is envisaged that a ASP Level 3 designer would need to be engaged for the documentation of any potential modifications to the Endeavour Energy network due to the estimated maximum demand is to be above 63Amps 3-phase.

2.2 TELECOMMUNICATIONS SERVICES

2.2.1 EXISTING SERVICES

Currently there are no existing telecommunications services within the proposed site boundary. Therefore no services will need to be decommissioned and/or diverted.

DBYD request revealed NBN & Telstra network infrastructure along the northern side of Innovation Way (Figure E3) via underground conduits and pits, which was confirmed with the survey provided by the Project Manager. It is envisage to extend the NBN service from the existing pit opposite to the site to the frontage of the property boundary via new in-ground pits and conduits (by NBN). This new NBN pit will be used as a connection point to serve the site. This strategy is subject to utility provider terms and conditions.

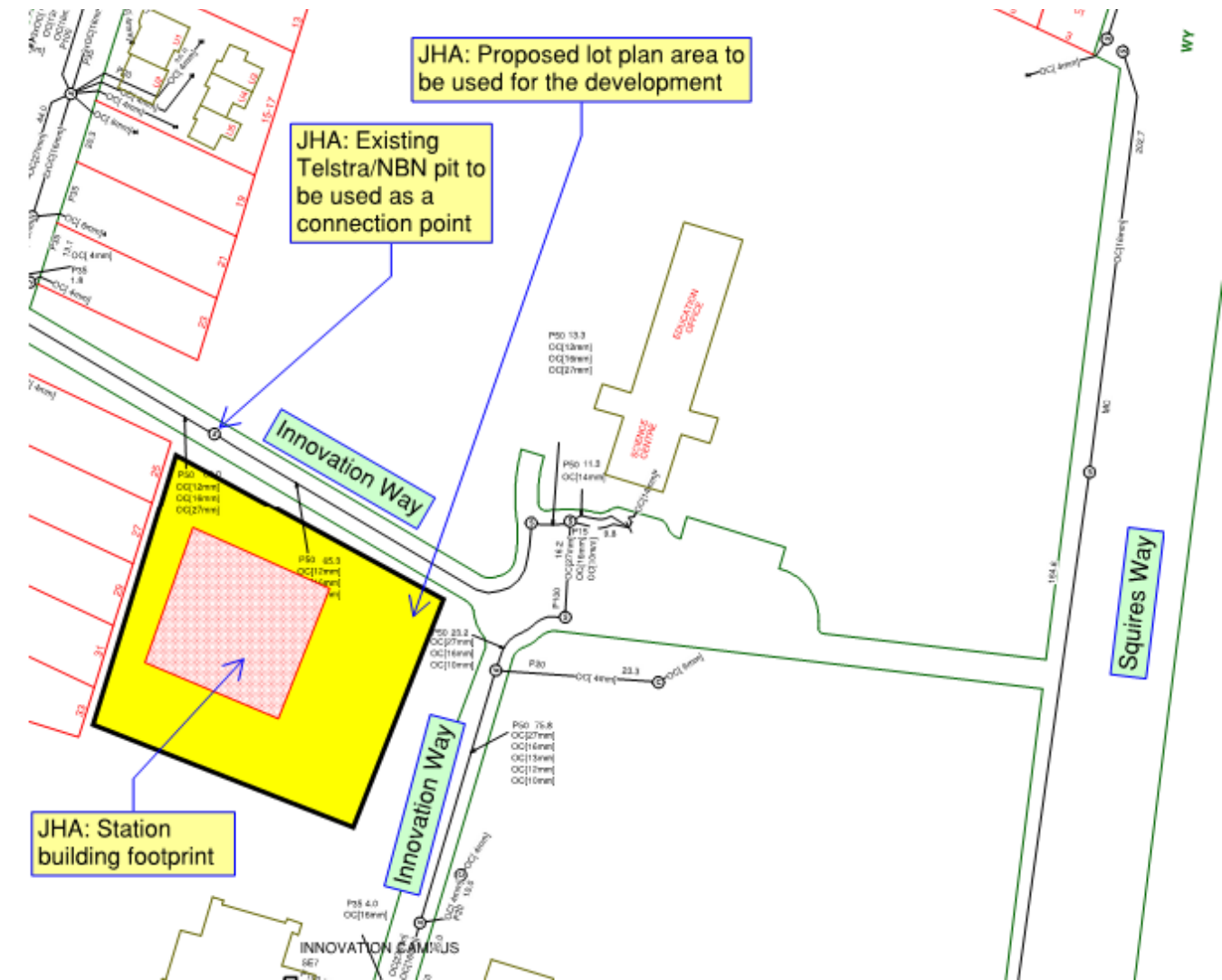


Figure E3: DBYD Telstra information including the footprint of the station

The Figure E4 below shows the proposed Communications connection point on Innovation Way and NBN/Telstra lead-in pathway to the comms room within the station.

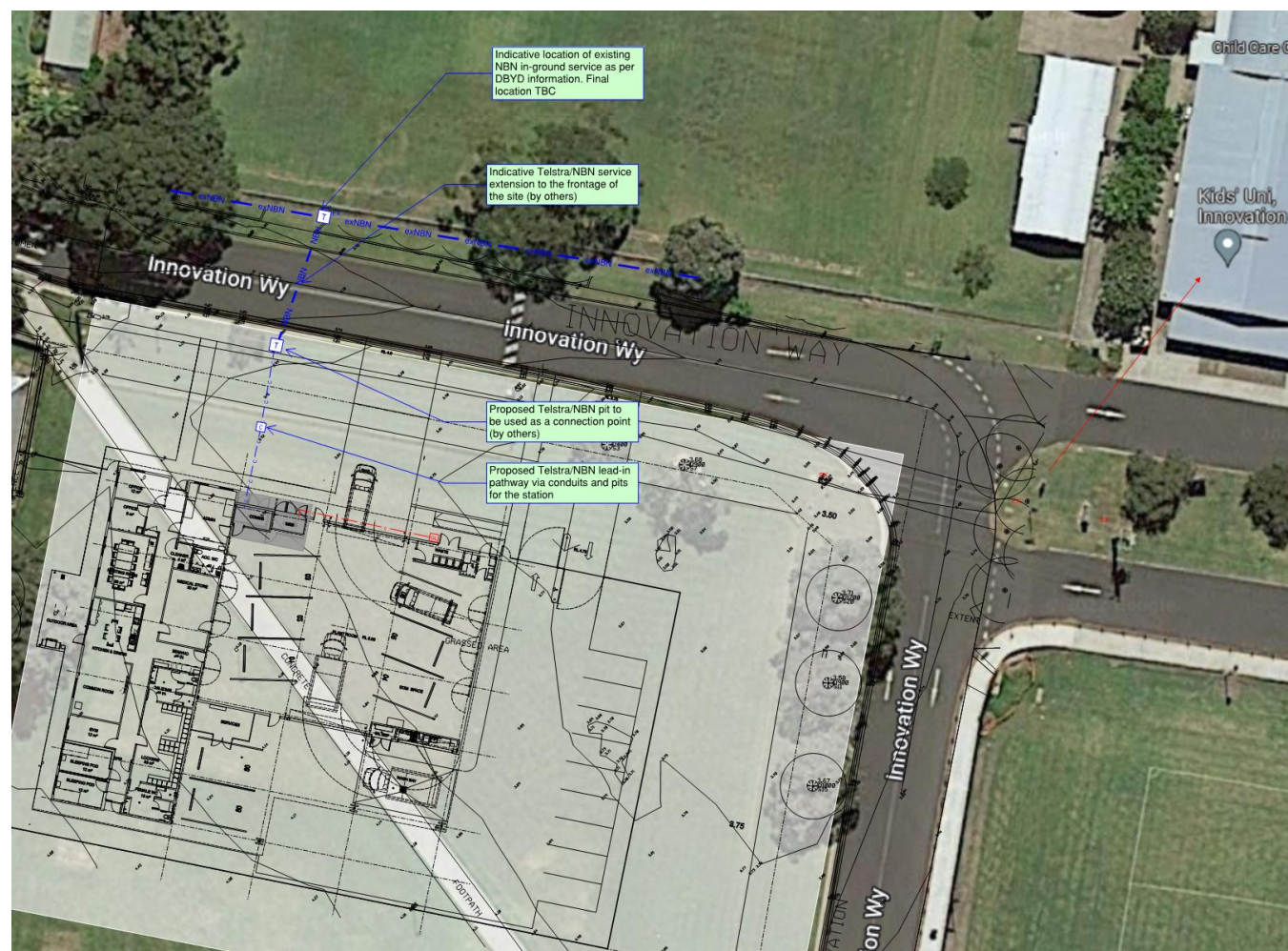


Figure E4: Proposed Communications Connection Point for the station

3 HYDRAULICS SERVICES

3.1 EXISTING INFRASTRUCTURE

3.1.1 POTABLE COLD WATER

The 100mm DICL authority potable water main has been identified to be traversing down on the Cowper Street and currently serves various properties. (Refer to Figure H1)

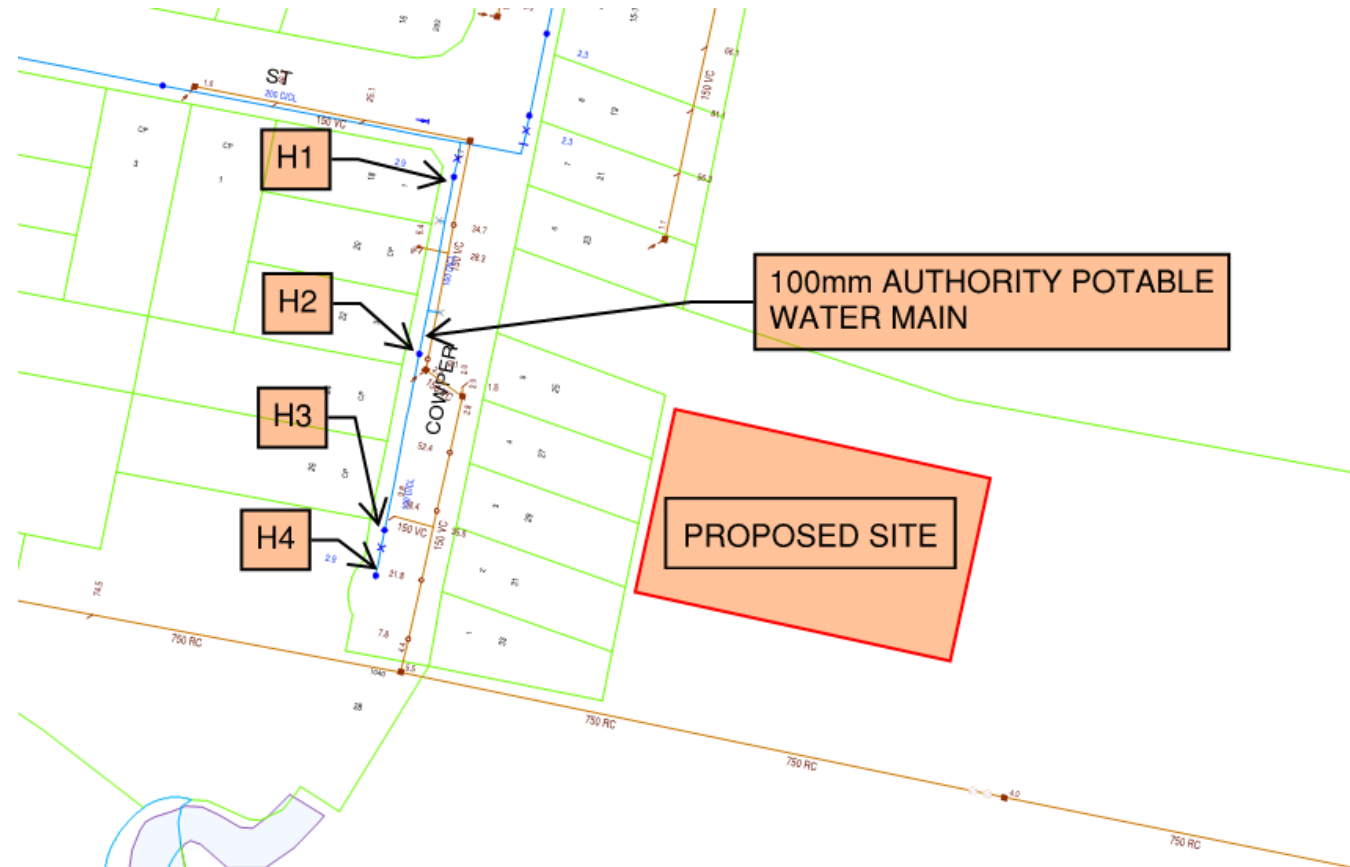


Figure H1 – Authority Water main location

3.1.2 SEWER DRAINAGE SERVICES

The proposed site has two authority sewer main S1 and S2 as indicated in Figure H2:

- S1: 750mm authority sewer main located to the South of the proposed site serving a series of residential lots.
- S2: 150mm authority sewer main located on Cowper Street to the west of the proposed site.

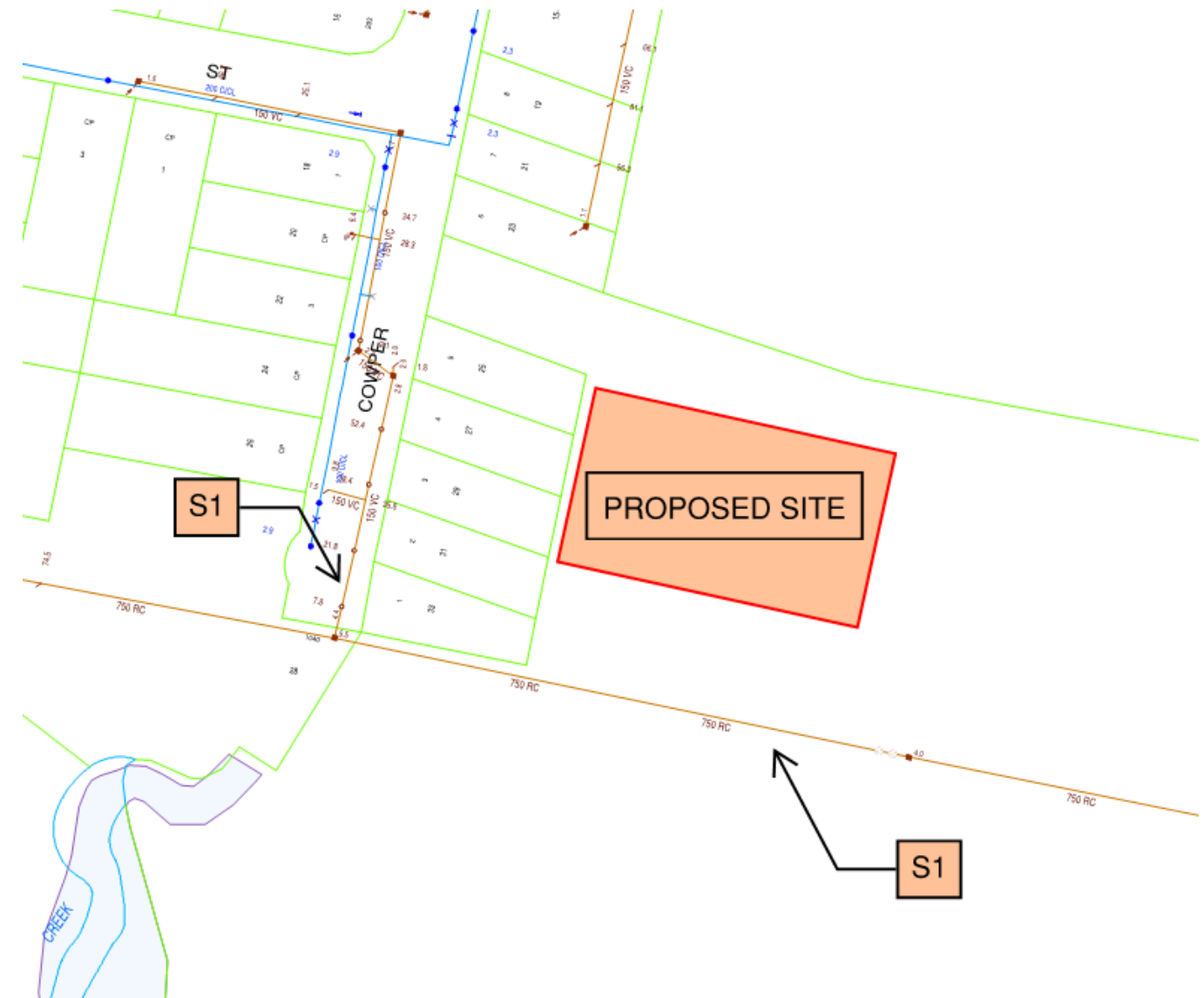


Figure H2 – Authority Sewer main location

3.1.3 FIRE HYDRANT SERVICE

There are four street hydrants surrounding the property on Cowper Street as indicated in Figure 1.

3.1.4 NATURAL GAS SERVICE

There is a 210kPa Jemena Natural Gas main identified on Cowper Street. Gas is not anticipated to be used in the development.

3.2 PROPOSED INFRASTRUCTURE

3.2.1 POTABLE COLD WATER SERVICE

As the proposed ambulance station site has only one water main surrounded as described in section 3.1.1, it is envisaged that a new 100mm authority water extension is required from the 100mm authority water main on Cowper Street to the new ambulance lot. 100mm connection with a 40mm water meter and backflow prevention device in an assembly in accordance with local council requirements will be required to service the proposed development.

The pressure and flow statement for the 100mm authority water main on Cowper Street, which has been proposed to connect to is sufficient to provide 20L/s. Therefore, pressure boosting pumps is not required.

It is noted there is an existing private water main for the university traversing through the proposed boundary site on the west side of the building. As indicated in H3 below. The existing water piping within the ambulance lot is to be covered by easement in favour of the university lot and no building works within the easement.

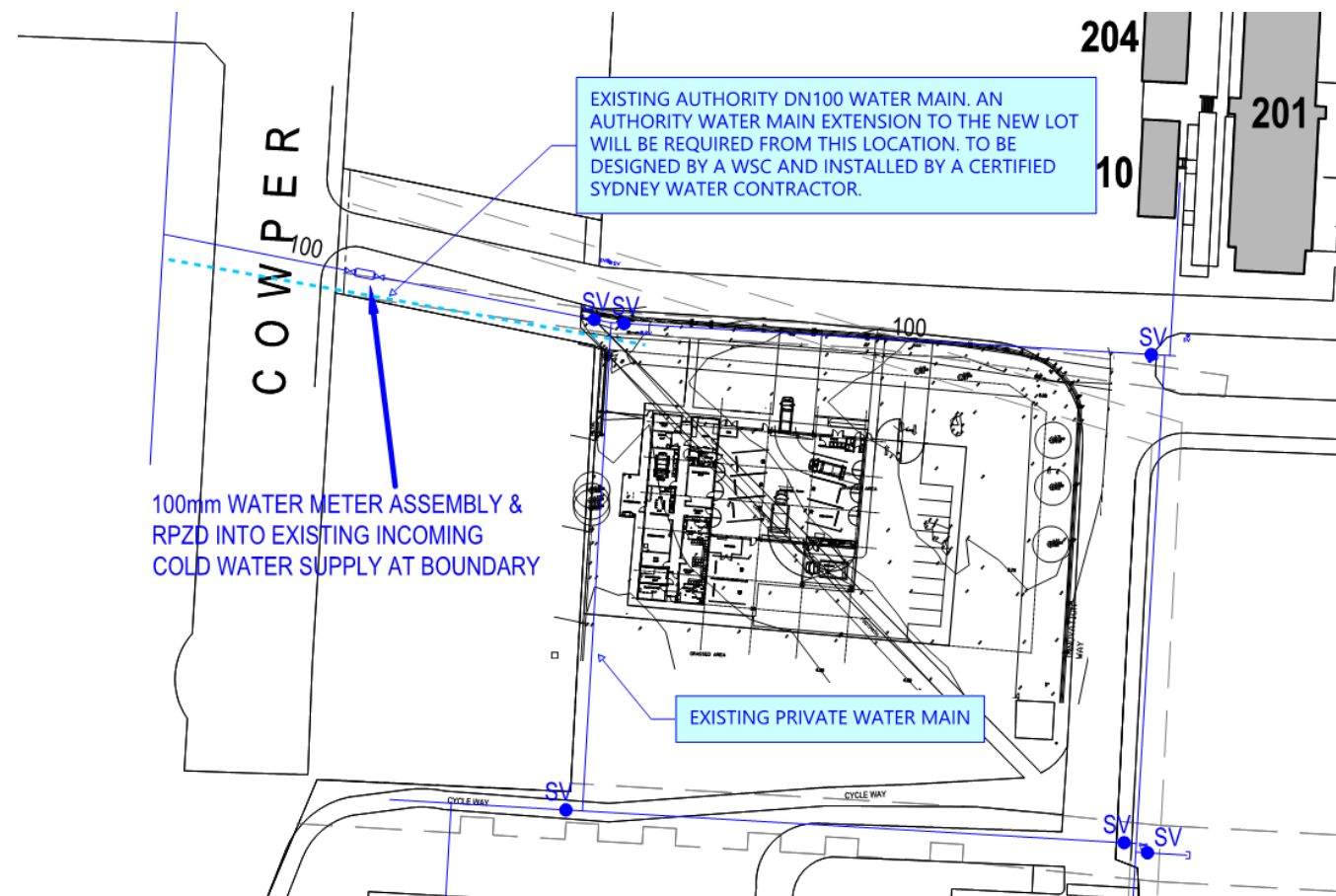


Figure H3 – Existing Private Sewer main

3.2.2 HOT WATER

Hot water is proposed to supply the development via a centralised electric storage hot water plant via a flow and return system. The hydraulic plant shall be equal to Rheem 315L 4.8kW complete with a dual circulating pumpset.

3.2.3 SEWER & TRADE WASTE DRAINAGE SERVICES

It is envisaged the new ambulance station's sewer services will be connected to the authority sewer main S1 as indicated in Figure H2.

It is expected to extend an authority sewer gravity line to the proposed boundary, as indicated in Figure H4.

Final requirements of the site sewer connection are subject to Sydney water and authority applications, which shall be undertaken once development approval is obtained.

It is noted there is an existing University's private sewer main traversing through the proposed site and directly under the building as shown in UoW's as-built drawings but not identified by the surveyor. University to confirm if the sewer exists or has been removed.

Confirmation is required for the utilization of the existing sewer main. The pipe shown in the dashed line can be removed from the ambulance lot if it is not serving anything or diverted inside the UoW lot.

The current survey available has not indicated the exact locality and depth of the existing services for the private and authority sewer main. This will need to be confirmed prior to locking the sewer design intent and avoiding the possibility of a sewer pumping station on the site.

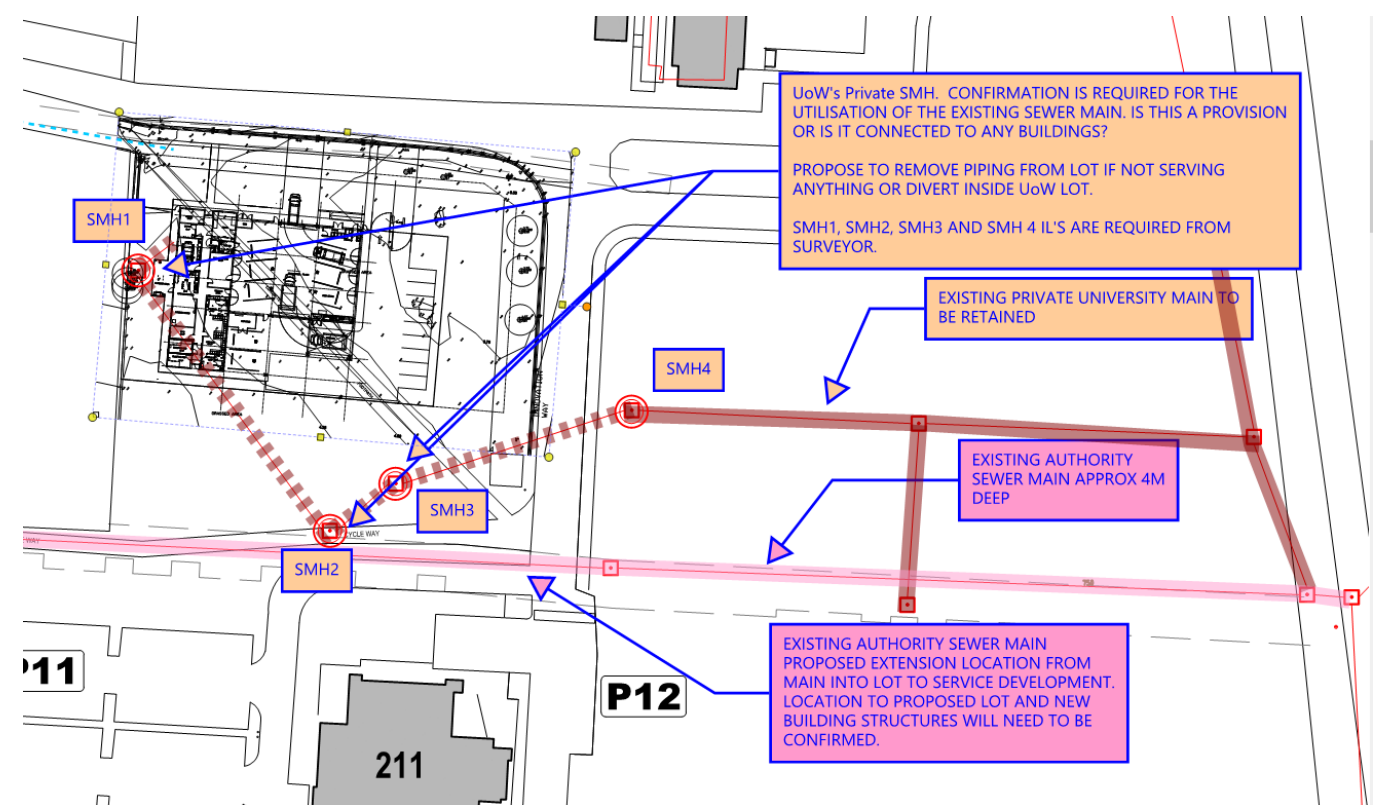


Figure H4 – Sewer connection

The trade waste discharge from the wash bay is proposed to be treated with a diaphragm pump & above ground oil separator unit prior to discharging to the council's sewer main. This is intended to separate any oils, hydrocarbons or chemicals not deemed acceptable to discharge to sewer by council's guidelines. A trade waste application has to be made and approved by the council prior to commencement of operation in the premises.

