

Report

Infrastructure Management Plan

NEW PRIMARY SCHOOL AT GOOGONG School Infrastructure NSW

Report

CONFIDENTIAL

Revision: C – SSDA
Issued: 19 May 2021



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1 EXECUTIVE SUMMARY

1.1 Introduction

This Infrastructure Management Plan accompanies an Environmental Impact Statement (EIS) pursuant to Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act) in support of an application for a State Significant Development (SSD-10326042).

The development is for a new primary school located on land bound by Gorman Drive, Aprasia Avenue, Wilkins Way and McPhail Way in Googong.

This report addresses the relevant Secretary's Environmental Assessment Requirements (SEARs), namely:

- Item '14. Utilities' within the SEARs application SSD-10326042

1.2 The Proposal

The proposed development is for construction and operation of a new primary school in Googong that will accommodate up to 700 students.

The proposed development is a Core 35 school and includes:

- A collection of 1-2 storey buildings containing 30 home base units, 3 special education learning units, canteen, hall, library and administrative facilities.
- On-site carpark with 60 spaces and on-street kiss-and-ride facilities.
- Outdoor sports court and play area.
- Integrated landscaping, fencing and signage.

1.3 Site Description

The site is located at Aprasia Avenue, Googong, and is formally described as Lot 3 DP1179941 (refer to Figure 1). The site is irregular in shape and has an area of 28,118.39m².

The site is located within the Queanbeyan-Palerang Regional Council local government area approximately 10km south of the Queanbeyan Central Business District.

The site is bordered by Aprasia Avenue to the north, Gorman Drive to the southwest, Wilkins way to the east/southeast and McPhail way to the west.

Googong North Village Centre, which contains a child care centre, supermarket, cafes and take-away food outlets, is located approximately 100m west of the site across McPhail Way. The site is otherwise surrounded by low density residential development.

Googong is a recently developed town, with the planning beginning in the early 2000s and the first residents taking up residence in 2014.

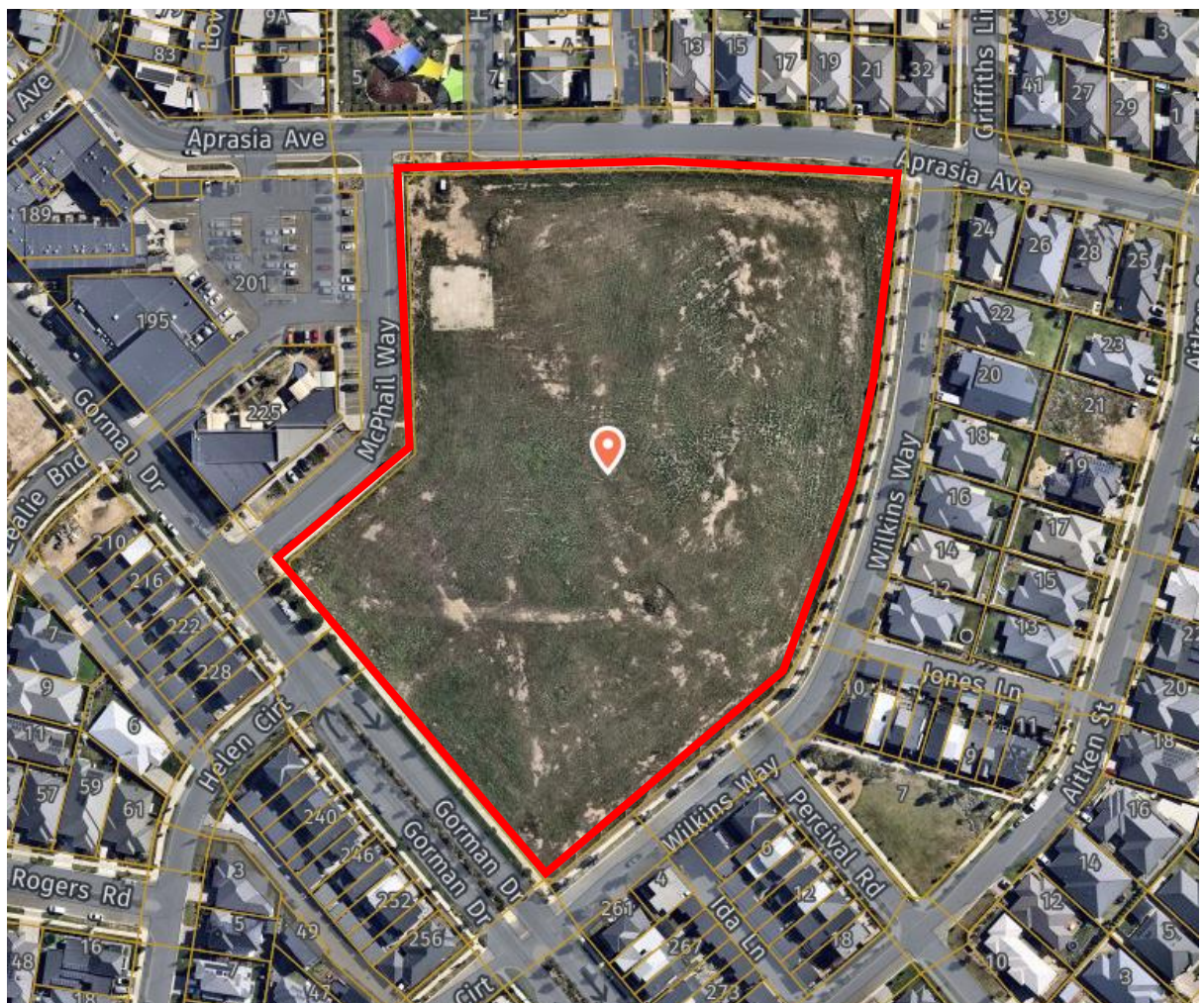


Figure 1: Site aerial photograph
Source: Nearmap



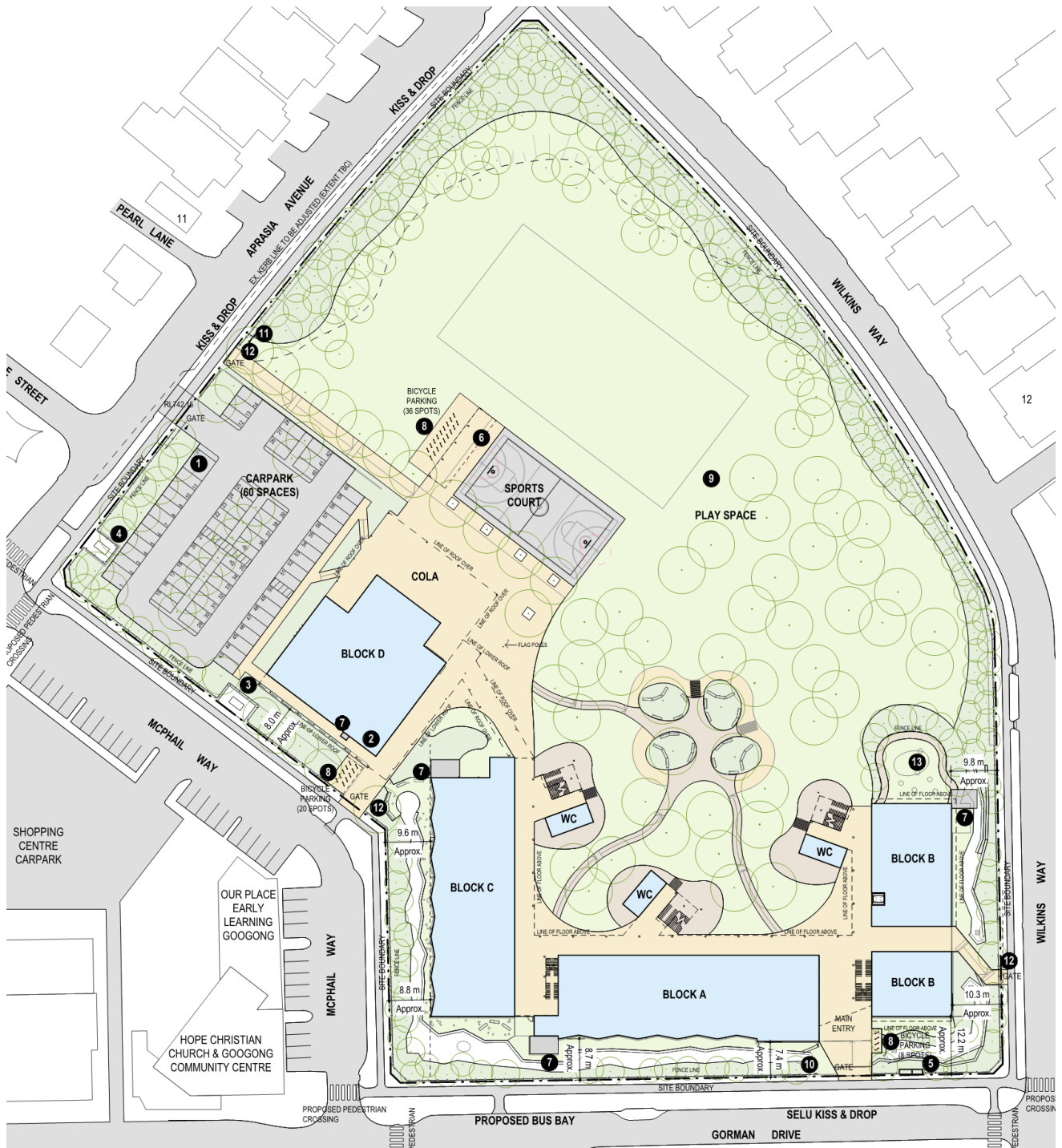
2 SEARS ITEMS ADDRESSED

This report addresses how the proposed project addresses Item 14 of the SEARs and outlines strategies relating to Utilities. These requirements are outlined below alongside where the response to each can be found within this report;

Item	Action to Address the Requirement	Report Location
<p>A site plan showing all infrastructure and facilities (including any infrastructure that would be required for the development, but the subject of a separate approvals process).</p>		
<p>14. Utilities</p> <p>In consultation with relevant service providers:</p> <ul style="list-style-type: none">• assess the impacts of the development on existing utility infrastructure and service provider assets surrounding the site.• identify any infrastructure upgrades required off-site to facilitate the development and any arrangements to ensure that the upgrades will be implemented on time and be maintained.• provide an infrastructure delivery and staging plan, including a description of how infrastructure requirements would be co-ordinated, funded and delivered to facilitate the development.		

3 SITE DESCRIPTION

The new Primary School at Googong is being constructed on vacant land between Gorman Drive and Aprasia Avenue. The lot is currently vacant. It is currently served by potable water recycled water, sewer, storm water and gas in multiple locations.





Project Description:

The building characteristics are as noted below:

1. WASTE PAD
2. MAIN SWITCHBOARD ROOM
3. SUBSTATION
4. EXISTING SUBSTATION
5. PUMPS/METERS
6. SHADE STRUCTURE
7. PLANT WITH SCREEN
8. BICYCLE PARKING
9. PLAYING FIELD
10. MAIN SCHOOL SIGN
11. ELECTRONIC SCHOOL SIGN
12. PROPOSED SECONDARY ENTRANCE
13. SECURE PLAY SPACE



4 INFRASTRUCTURE DEMANDS

The maximum demand for the site is as follows:

Sl No.	Service	Unit	Maximum Demand	Remarks
1.	Electricity	KVA	1052	Based on AS3000 Incl. Stage 2
2.	Potable Water	l/s	2.5	peak
3.	Sewer Drainage	520FU ADWF = 0.26 l/s PDWF = 1.6 l/s		
4.	Fire Hydrant	l/s	30	AS2419.1-2005
5.	Fire Sprinklers	No sprinklers required		
6.	Fire Drenchers	No drenchers required		
7.	Natural Gas	N/A	N/A	Current design intent is to eliminate Gas use.



5 INFRASTRUCTURE OVERVIEW

5.1 Potable Water Services

5.1.1 Existing Potable Water Supply

The site has frontage to the following QPRC potable water mains:

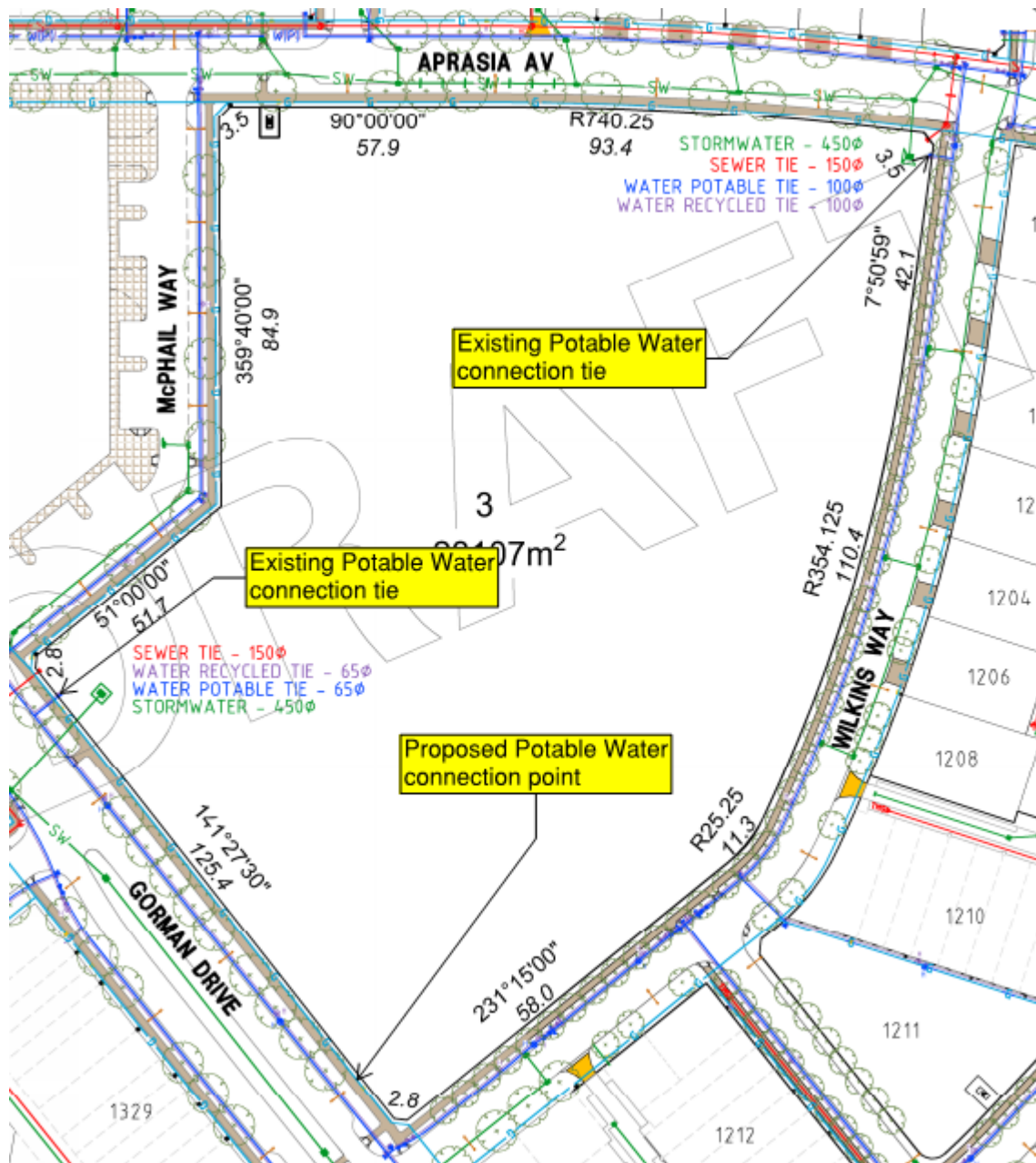
- A potable water main within Apsaria Avenue with a 100mm potable water tie within the north eastern boundary of the site;
- A potable water main within Gorman Avenue with a 150mm potable water tie within the south western boundary of the site;
- A potable water main within Wilkins Way;
- A potable water main within McPhail Way;
- An in-ground services survey is must be undertaken to ascertain the exact location of the asset.

5.1.2 Proposed Potable Water Supply

A new potable water connection shall be made to the existing QPRC potable water main located within Gorman Drive. A new fire services connection shall be made to the existing QPRC potable water main located within Gorman Drive. The QPRC potable water main located within Gorman Drive has adequate capacity to service the proposed development.

The incoming Potable cold water supply shall be provided with a backflow prevention device and a water meter assembly in accordance with the requirements of QPRC. Potable cold water supply shall then reticulated to all fixtures and tapware

The pressure and flow enquiry to QPRC indicates no localised potable water pressure boosting pump stations, fire hydrant tanks or pumps are required.



Existing and Proposed Potable Water Connection Points

5.2 Recycled Water

5.2.1 Existing Recycled Water Supply

The site has frontage to the following QPRC recycled water mains:

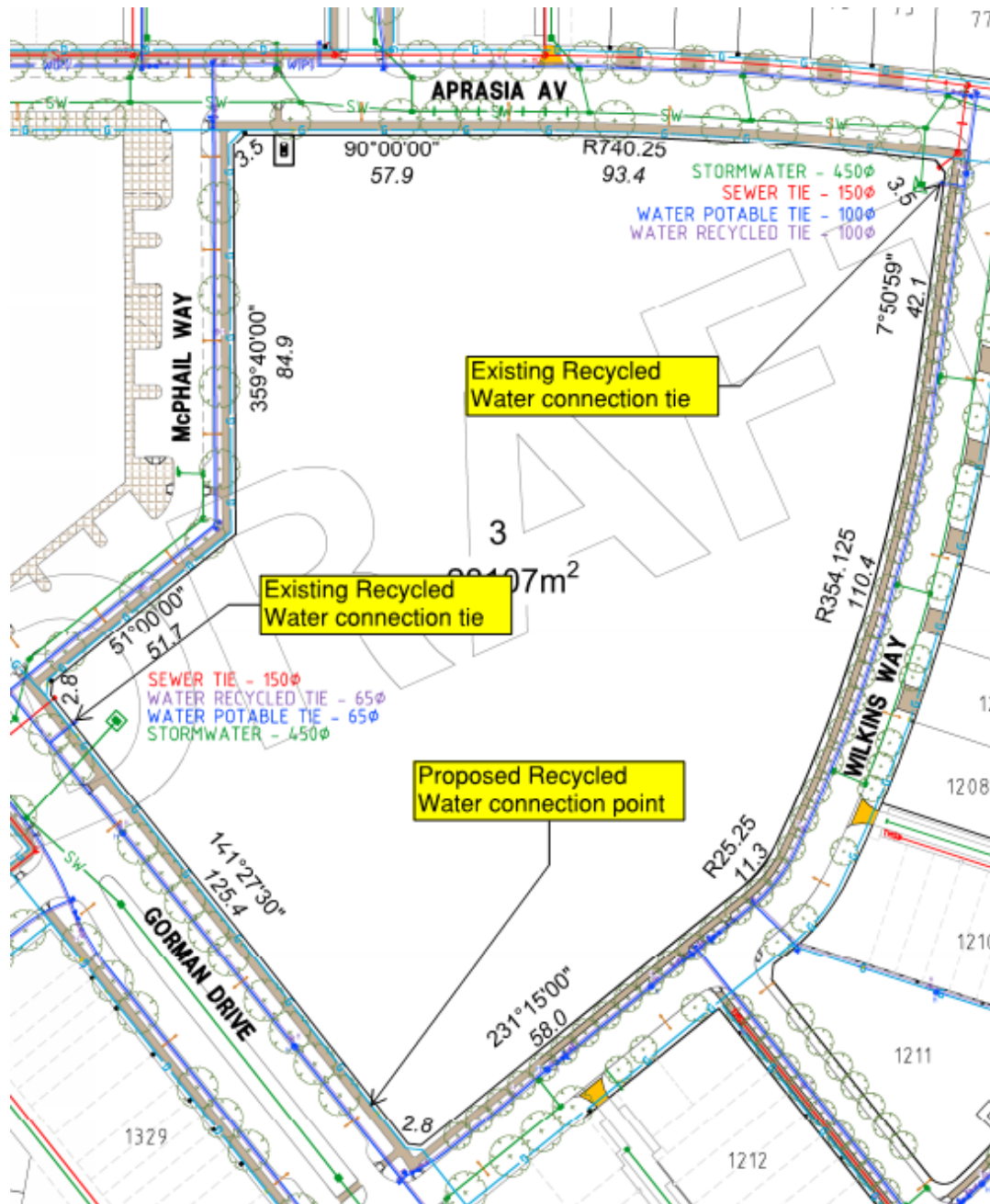
- A recycled water main within Aprasia Avenue with a 100mm recycled water tie within the north eastern boundary of the site;
- A recycled water main within Gorman Avenue with a 150mm recycled water tie within the south western boundary of the site;

- A recycled water main within Wilkins Way;
- A recycled water main within McPhail Way;

An in-ground services survey is also to be undertaken to ascertain the exact location of the asset.

5.2.2 Proposed Recycled Water Supply

A new recycled water connection shall be made to the existing QPRC recycled water main located within Gorman Drive upon receipt of approval from council. The recycled water will be used to for toilet flushing and irrigation to reduce the load on potable cold water demand.



Existing and Proposed Recycled Water Connection Points



5.3 Sewer Drainage Services

5.3.1 Existing Sewer Drainage

The site has frontage to the following QPRC sewer mains:

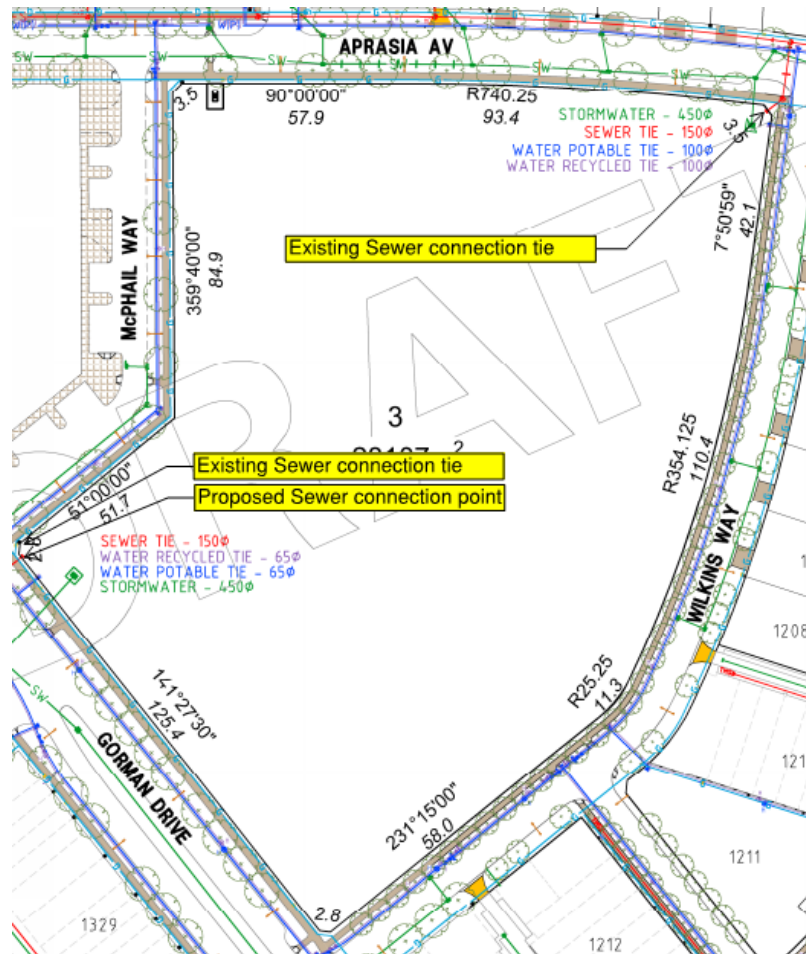
- 150mm sewer main within Apsaria Avenue with a 150mm sewer tie terminating within the north eastern boundary;
- 150mm sewer main within Gorman Drive with a 150mm sewer tie terminating within the south western boundary;

An in-ground services survey is also to be undertaken to ascertain the exact location of the asset.

5.3.2 Proposed Sewer Drainage

The sewer drainage from the proposed buildings are proposed to be connected to the existing QPRC sewer main reticulating within Gorman Drive utilising the existing drainage ties provided by the developer. The 150mm QPRC sewer main within Gorman Drive appears to have sufficient capacity to service the school development subject to preliminary service to council for connection.

Gravity flow sewer drainage systems will collect waste and effluent from all fixtures, fittings and appliances from the proposed buildings and connected to the QPRC sewer main. The sewer connection shall be complete with boundary trap, overflow relief gully and IPMF. Venting to waste pipes will be provided to maintain fixture trap seals and adequate flow throughout the systems. Vent pipes shall rise and terminate to atmosphere in accordance with the requirements of AS 3500.2. The vent pipe is proposed to rise in a dedicated hydraulic services riser, penetrate the roof and be terminated 150mm above the roof. Tundishes and floor drains are to be provided to service mechanical plant and condensate drains.



Existing and Proposed Sewer Services Connections

5.4 Natural Gas

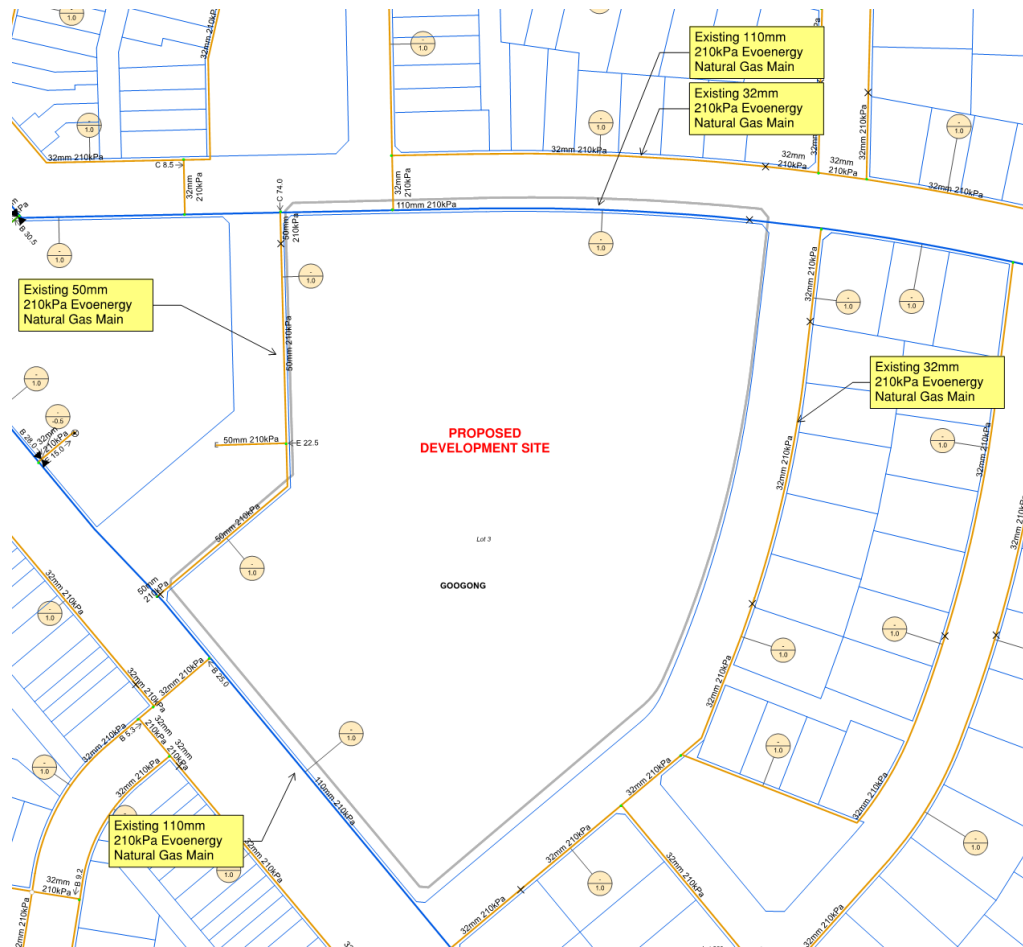
5.4.1 Existing Natural Gas Services

The site has frontage to the following Evoenergy natural gas mains:

- A 32mm 210kPa natural gas main within Aprasia Avenue;
- A 110mm 210kPa natural gas main within Aprasia Avenue;
- A 110mm 210kPa natural gas main within Gorman Avenue;
- A 32mm 210kPa natural gas main within Wilkins Way;
- A 50mm 210kPa natural gas main within McPhail Way;

5.4.2 Proposed Natural Gas Services

The current design intent of the project is to eliminate the use of Natural Gas throughout the facility. Should this intent change, the existing Evoenergy natural gas mains within Gorman Avenue appears to have adequate capacity to service the proposed development.



Natural Gas Infrastructure Overview

5.5 Stormwater

Inground stormwater and subsoil drainage around retaining walls will be designed and documented by the Civil Engineer.

The roof drainage system shall be designed in accordance with the requirements of AS3500.3 and QPRC requirements. The system will cater for a 1:100 year storm event of 5 minutes duration.

5.6 Electrical HV Services

The information provided within Section 5.6 (Electrical HV Services) Was provided to NDY by Northrop Engineers PTY LTD

5.6.1 Existing Electrical HV Services

The below diagram is taken from Essential Energy GIS. It shows that there is an existing padmount substation 33-75592 which supplies the residential area along Gorman Drive, Herman Circuit, Wilkins Way, Aprasia Avenue. The cables supplying this substation go through the Aprasia Avenue.



Existing HV Electrical Services

5.6.2 Proposed Electrical HV Services Works

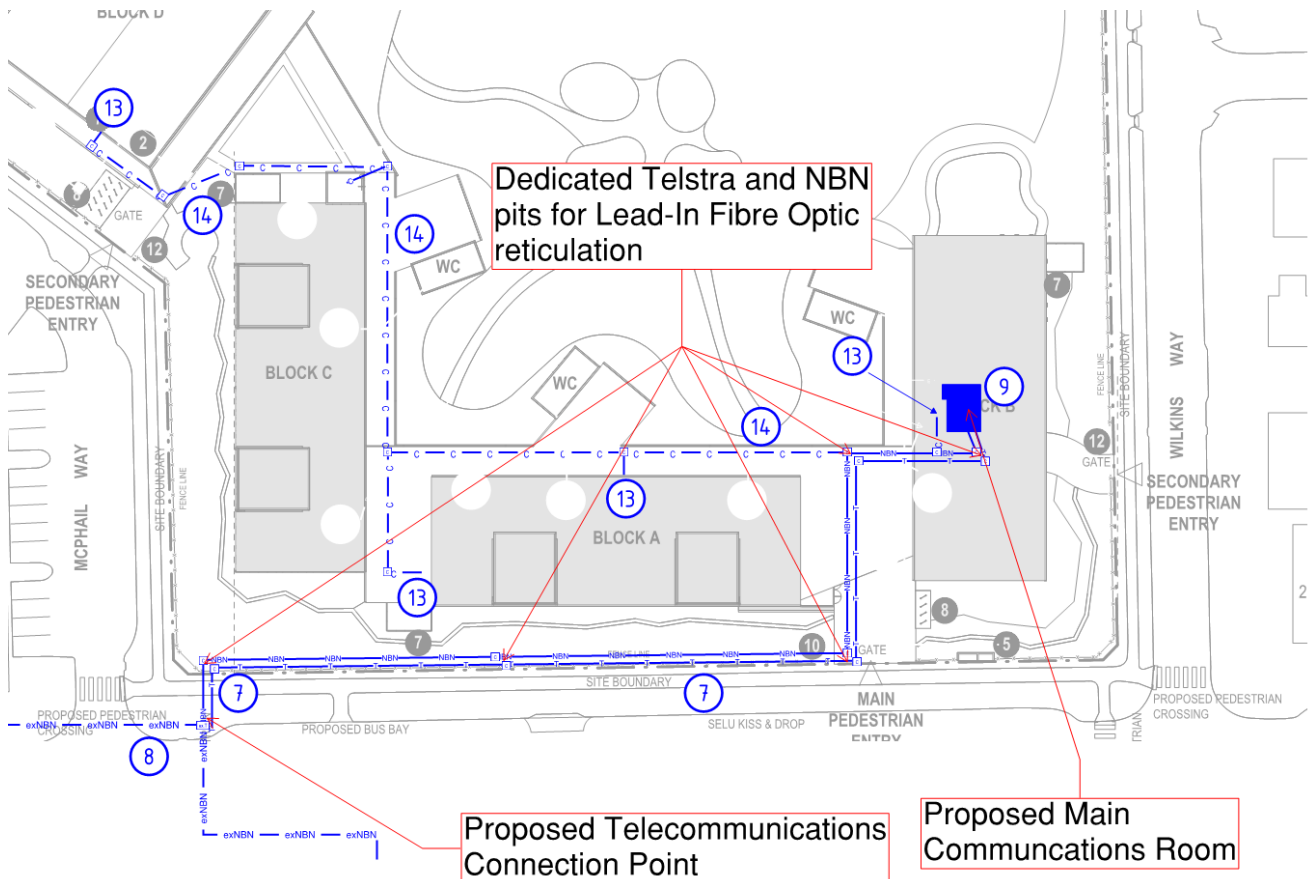
The school site has no existing LV supply and the proposed load required for the school is likely to be larger than any spare capacity on the existing padmount substation. This is in a 11kV area. A new padmount substation is required to service the school. It is in an easement 4.2m x 7.0m. The area inside the easement is flat and may not be crossed by any other services. Ideally the substation is easement directly onto McPhail Way. From there the HV & LV cables would be laid underground to Aprasia Avenue and joined to the cables in that location. If the number of pedestrians in the area increases markedly or new pedestrian crossings are required, then it might be prudent to get a street lighting assessment done and upgrade the surrounding street lighting to support the development.

The potential for upgrading the existing substation is currently being explored and if this cannot be achieved then we will proceed with building a new sub-station.

5.7 Communication Services

5.7.1 Existing Site Infrastructure

As per Telstra DBYD documentation, there is an existing Telstra pit and associated lead-in conduit to the site located in Aprasia Avenue. Given that this location is far away from the proposed building shown in the concept plan, NDY recommends taking the approach note in Section 6.2 for servicing the campus.



Existing and Proposed Telecommunications Services Connection Points

5.7.2 Proposed Communication Services

Based on DBYD documentation there is an existing Telstra/NBN pit on the corner of Mcphail Way and Gorman Drive. It is proposed to use this existing pit as a connection point to the NBN and Telstra network. New NBN and Telstra pits and associated underground conduits are proposed to be installed as per Figure 2 below for Lead-in fibre optic reticulation.

The new lead-in will be terminated in a new main communications room to be located in the admin building. Furthermore, NDY envisages that each group of buildings will require a dedicated comms room per level.



The strategy described above is to be reviewed and approved by NBN Co. by submitting a new development NBN application form. Such form is to be developed and lodged in the design development stage.

A new development application form will need to be submitted to NBN Co. for the new connection described in Section 3.1.



6 CIVIL INFRASTRUCTURE OVERVIEW

The information provided within Section 6 (Civil Infrastructure Overview) was provided to NDY by Northrop Engineers PTY LTD

6.1 Existing Infrastructure and Easements

Northrop has undertaken a preliminary investigation of existing infrastructure in the vicinity of the proposed development site. Our assessment has been based on limited survey information as well as publicly available information from Queanbeyan-Palerang Regional Council and DBYD.

6.1.1 Existing stormwater infrastructure

There is an existing stormwater pit adjacent to the boundary in the north east which appears to be the legal point of discharge for the proposed development site. A 375mm stormwater pipe extends north across the verge to connect with another grated pit in Aprasia Avenue before being directed across the road and then east in Council owned infrastructure to Aprasia Park which appears to feature a wetland or precinct basin.

There is another existing stormwater pit adjacent to the boundary in the south west which appears to be collecting flows from a depression / basin within the site. A 450mm stormwater pipe extends south across the verge to connect with an existing stormwater pit on the southern side of Gorman Drive. The network then extends east in Council owned infrastructure.

6.2 Stormwater Management Strategy

6.2.1 Stormwater Quantity Management

Northrop has performed a desktop investigation to determine a conceptual stormwater management strategy for the proposed development scenario, and the requirements for the development. This has relied on Queanbeyan-Palerang Council's current stormwater management requirements. It is understood that a Flood Investigation has previously been undertaken to inform elements of the stormwater drainage design.

6.2.1.1 Major / Minor Drainage System

The major/minor approach to stormwater drainage is the recognised drainage concept for urban catchments within the Queanbeyan-Palerang Regional Council Local Government Area

The minor drainage system is comprised of below ground pit and pipe network and is designed to control nuisance flooding and enable effective stormwater management for the site. Council requires the minor drainage system to be designed for the critical 10% Annual Exceedance Probability (AEP) with overland flow safely catering for the 1% AEP.

The major drainage system will be designed to control and convey flows from the critical 1% AEP event. This incorporates suitably designed overland flow paths and drainage to direct flows into the OSD, system for all events up to the critical 1% AEP storm event.

In accordance with Council's requirements, overland flow paths are to be designed to contain a 1% AEP storm flow are to be provided over all pipelines that are not designed to cater for this flow. The design of the overland flowpath must consider the velocity-depth hazard.

Further catchment and pipe network modelling will be required for the site to suitably size the major/minor drainage network during the design phase of the project. Allowance for stormwater pit and pipe network needs to be considered as a permanent feature of the proposed development. Please refer to Appendix A for a proposed concept stormwater layout for the New Primary School in Googong.



6.2.1.2 On-site Stormwater Detention

According to Queanbeyan-Palerang Regional Council's Development Design Specification D5 Stormwater Drainage Design, On-site Stormwater Detention (OSD) is generally required for all types of developments in the Queanbeyan-Palerang Local Government area to limit post development flows to predevelopment rates. This is typically provided on most developments to avoid nuisance flooding of downstream properties.

For the purposes of the Concept Design, OSD has been specified for the project. Further discussion with Queanbeyan-Palerang Regional Council is being undertaken to confirm if existing Council owned assets and facilities have capacity to accommodate flows generated from the proposed development site.

To control flows generated during storm events, water is stored and released at controlled rate on the development site. Storage is typically provided either of the following:

- below ground in a purpose made holding tanks; or
- above ground in landscaped basins or on the surface of hardstand areas such as car parks.

The proposed concept stormwater drainage layout shown in Appendix A considers the provision of a below ground OSD system which is considered appropriate in a school environment.

It should be noted that Queanbeyan-Palerang Council allow dispensations on OSD volumes if rainwater storage tanks are provided. It is noted that only roof water can be reused and is to be kept separate for surface water runoff with 50% of the rainwater storage tank volume permitted to offset OSD storage capacity. This option is to be further explored with the broader design team during the Schematic Design Phase of the project.

6.2.1.3 Connection to Councils Drainage System

Typically outflow pipes from stormwater drainage systems connect either directly to Council's stormwater infrastructure or utilise existing site stormwater connections within the site.

Based on review of the Detailed survey prepared by Steger and Associates dated 30th April 2020, there are several Council owned Stormwater Infrastructure Assets in the surrounding road network.

There is an existing stormwater pit adjacent to the boundary in the north east which appears to be the legal point of discharge for the proposed development site. A 375mm stormwater pipe extends north across the verge to connect with another grated pit in Aprasia Avenue before being directed across the road and then east in Council owned infrastructure to Aprasia Park which appears to feature a wetland or precinct basin.

There is another existing stormwater pit adjacent to the boundary in the south west which appears to be collecting flows from a depression / basin within the site. A 450mm stormwater pipe extends south across the verge to connect with an existing stormwater pit on the southern side of Gorman Drive. The network then extends east in Council owned infrastructure.

As there are two connection points available to Council's system it is possible that both could be maintained as part of the overall stormwater design strategy for the site. This could result in separate OSD systems at either end of the development site however may also result in efficiencies in pipe sizes not having to convey flows from one side of the site to the other.

6.2.2 Stormwater Quality Management

Queanbeyan-Palerang Regional Council's Development Design Specification D7 Erosion Control and Stormwater Management (Version 1 – December 2018) requires developments to treat stormwater to meet the minimum level of pollutant load objectives in accordance with the below.

- 80% reduction in post development mean annual load of Total Suspended Solids (TSS)



- 65% reduction in post development mean annual load of Total Phosphorus (TP)
- 65% reduction in post development mean annual load of Total Nitrogen (TN)
- 100% reduction in post development mean annual load of total gross pollutants (greater than 5mm)

This reduction in pollutant loads can be achieved via a variety (or 'train') of different treatment devices including pit filter baskets, gross-pollutant traps, proprietary filtration devices and/or bioretention areas/basins. Proprietary devices are generally more expensive but can be located underground, saving space in the development.

With consideration to the nature of the proposed development, and for the purposes of the concept design it is envisaged that mechanical treatment devices could be provided within the OSD tank rather than providing separate structures. This can be further refined as the design is developed.

To demonstrate compliance with Queanbeyan-Palerang Regional Council's Development Design Specification D7 Erosion Control and Stormwater Management (Version 1 – December 2018), treatment removal loads will be analysed from pre-to post development scenarios using MUSIC (Model for Urban Stormwater Improvement Conceptualisation). Model development and results will be provided in subsequent reports and documentation for further review incorporating a combination of various treatment devices as described below.

6.3 Flooding

From review of the Flooding Assessment prepared for the New Primary School in Googong, the site is flood affected in the south west in the location of the existing basin for the 5% AEP and 1% AEP Flood. It is understood that flooding has been identified in this area due to the presence of a local depression / basin and would otherwise not occur if the area is filled.

Localised flooding has also been identified in the north east corner of the site in the vicinity of the existing pit. It is understood that flooding in this area could also be alleviated by resolution of surface levels to allow flows to be directed towards Aprasia Avenue. It is unknown if the existing stormwater pit and pipe network has adequate capacity to convey localised flows which will need to be further investigated.

It is recommended to further consult with the Flood Engineer as the design is developed to understand the displacement and behaviour flows if surface levels are modified to ensure there is no adverse impact to adjacent properties.



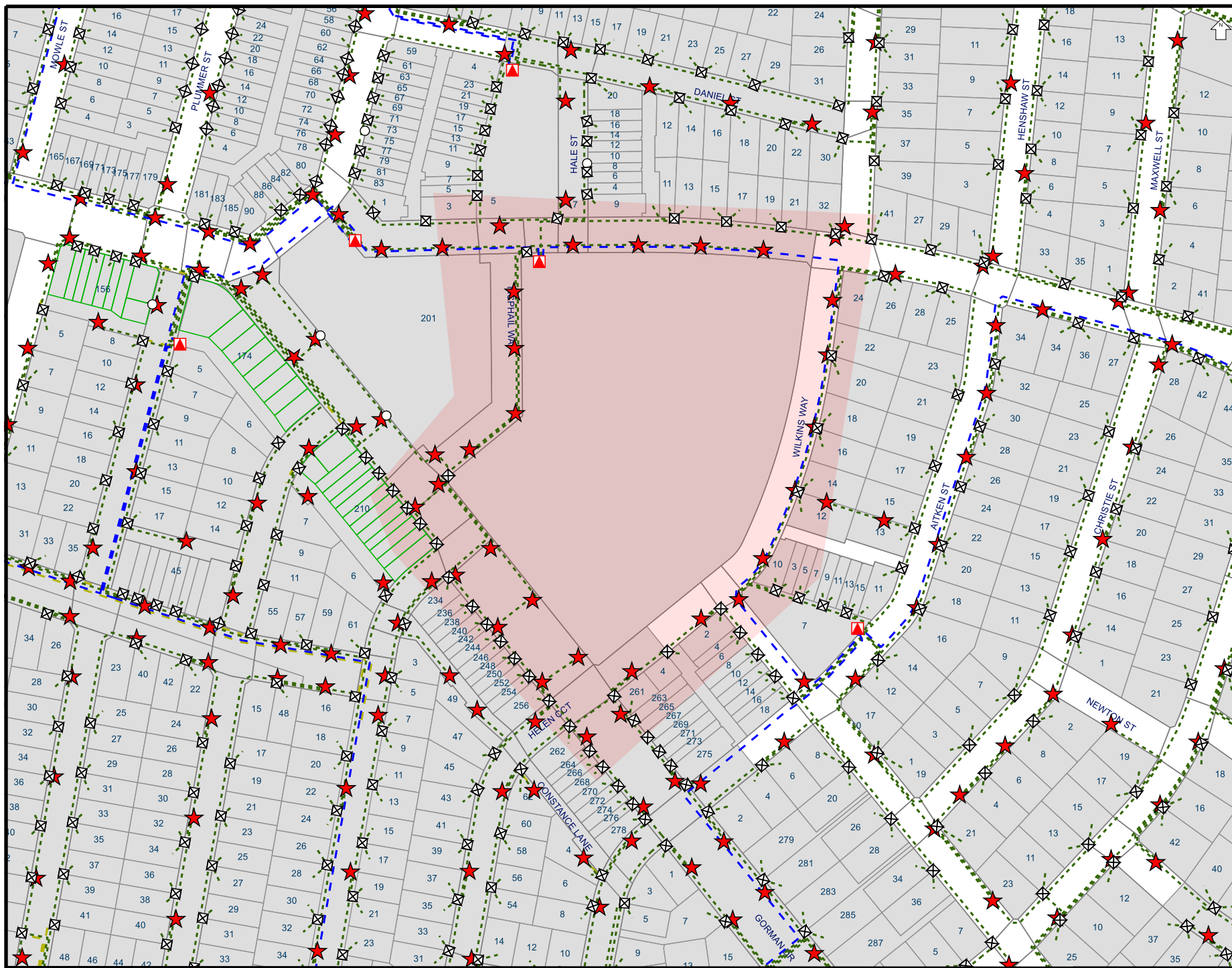
7 INFRASTRUCTURE DELIVERY AND STAGING

The below table outlines the approval pathways, time lines and funding responsibilities of the different authority approvals required for the Project.

Service	Authority	Process	Funding Responsibility
Power	Endeavour Energy	<ul style="list-style-type: none">– Engage Level 3 Designer– Submit application for connection– Receive Design Brief– ASP Design and 40 day notice– Submit Design– Authority review– Resubmit design– Authority approval– Construction	Project / Builder
Communications	NBN	<ul style="list-style-type: none">– Submit application– 15 days for offer– Client accepts offer– NBN Design, appointed builder engages accredited installer.	Project / Builder
Communications	Telstra	<ul style="list-style-type: none">– Submit application– 15 days for offer– Client accepts offer– Telstra Design and Construct	NSW Department of Education
Water & Sewer	Sydney Water	<ul style="list-style-type: none">– Engage QPRC accredited Water Services Coordinator (WSC) and lodge section 73 application– Water connection application via tap in– Authority review and approval– QPRC meter procurement by contractor and inline pumping application via tap in– Builder to manage construction	Project / Builder
Natural Gas	n/a	<ul style="list-style-type: none">– n/a	n/a



APPENDIX A DIAL BEFORE YOU DIG



Overhead wires not shown
LOOK UP & LIVE!

LEGEND

- LV Underground Cable
- HV Underground Cable
- Underground Pipe
- ★ Underground Earth or Wires
- ▲ Ground Substation
- Pole
- ⊠ Cubicle
- Pit
- Area of Interest

Critical Assets

Contact Essential Energy
on 13 23 91

- ▨ Zone Substation
- Underground Cable
- Underground Fibre

Proposed Works

- ▨ Area of proposed works

Proposed assets are shown as
orange symbols

**THE INFORMATION ON THIS
MAP MAY NOT BE
ACCURATE.**

If details are
incorrect, please
notify

Essential Energy on
13 23 91
(or fax 1800 354 636)

ISSUE DATE: 24/06/2020

You must resubmit your
request if you have not
started work within 4 weeks
of the 'Issue Date' above

A4 SCALE: 1:2711

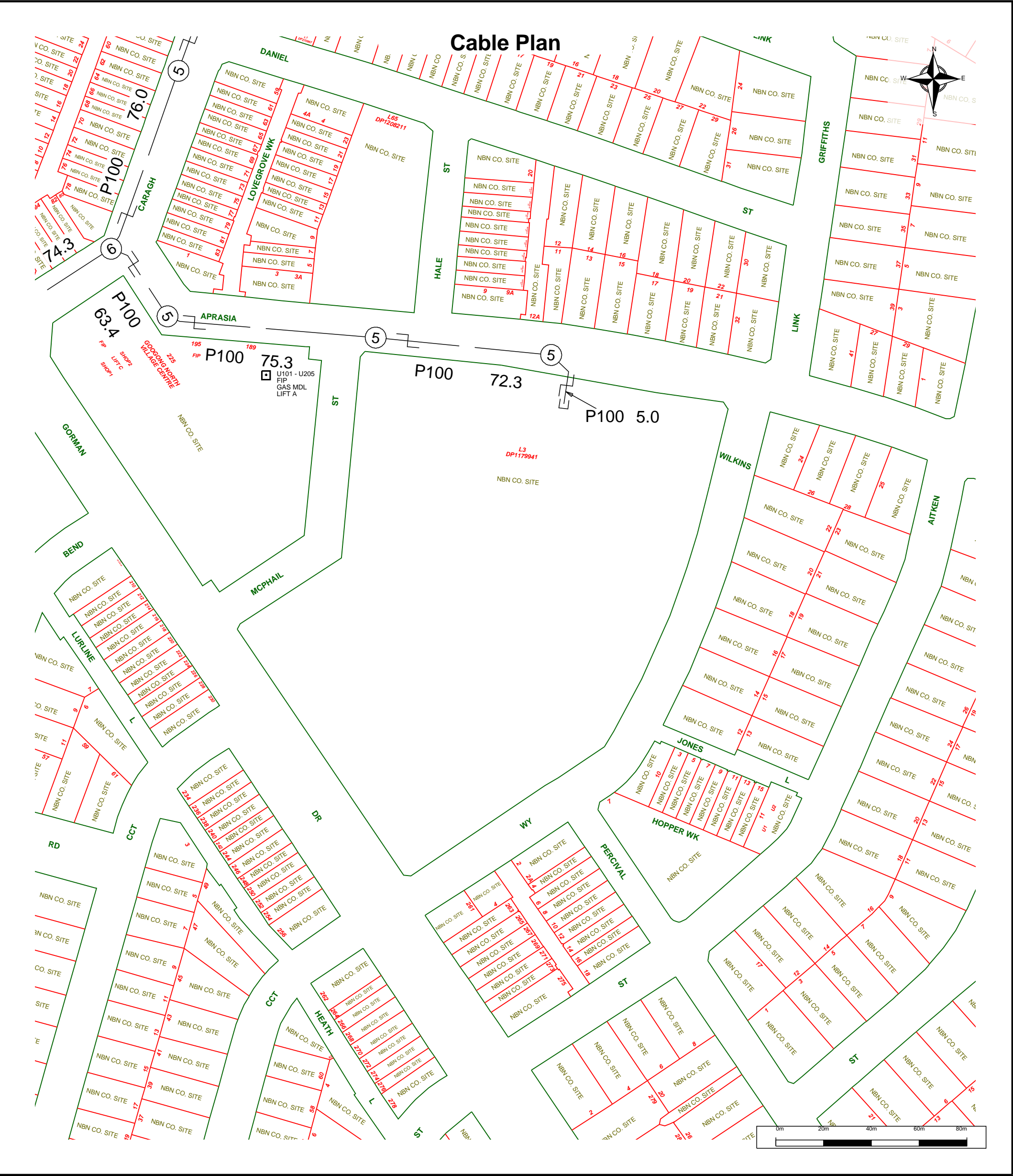


Job Number: 19767874

Sequence number: 99027235

Job location: Gorman Drive, Googong

Map
Centre: 149° 14' 17.4", -35° 25' 23.6"





For all Telstra DBYD plan enquiries -
email - Telstra.Plans@team.telstra.com
For urgent onsite contact only - ph 1800 653 935 (bus hrs)

TELSTRA CORPORATION LIMITED A.C.N. 051 775 556

Generated On 24/06/2020 20:15:47

Sequence Number: 99027236

Please read Duty of Care prior to any excavating

WARNING - Due to the nature of Telstra underground plant and the age of some cables and records, it is impossible to ascertain the precise location of all Telstra plant from Telstra's plans. The accuracy and/or completeness of the information supplied can not be guaranteed as property boundaries, depths and other natural landscape features may change over time, and accordingly the plans are indicative only. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans.


It is your responsibility to locate Telstra's underground plant by careful hand pot-holing prior to any excavation in the vicinity and to exercise due care during that excavation.

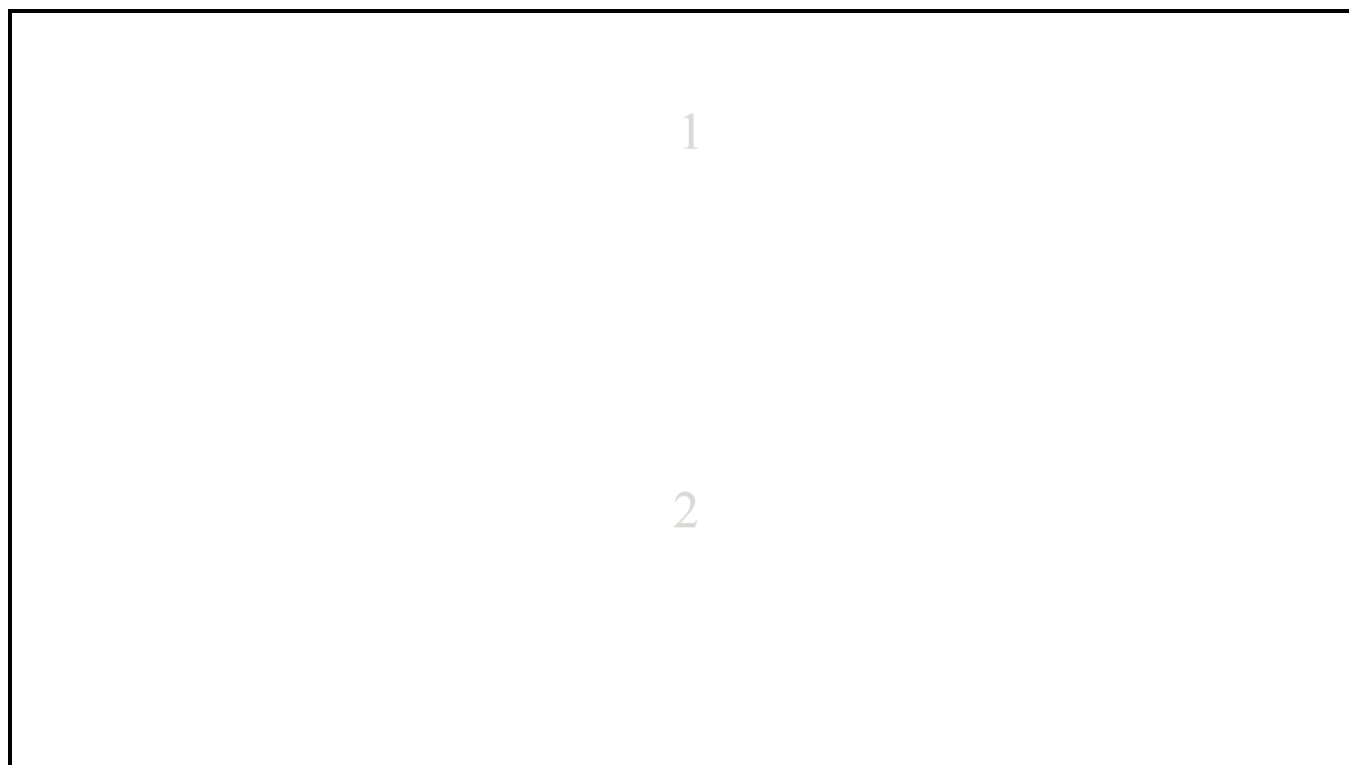
Please read and understand the information supplied in the duty of care statement attached with the Telstra plans. TELSTRA WILL SEEK COMPENSATION FOR LOSS CAUSED BY DAMAGE TO ITS PLANT.

Telstra plans and information supplied are valid for 60 days from the date of issue. If this timeframe has elapsed, please reapply for plans.



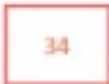




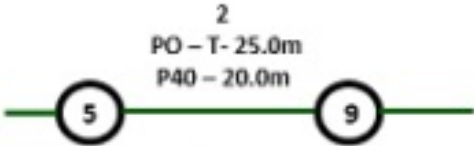
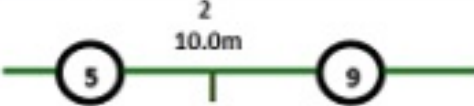





Indicative Plans

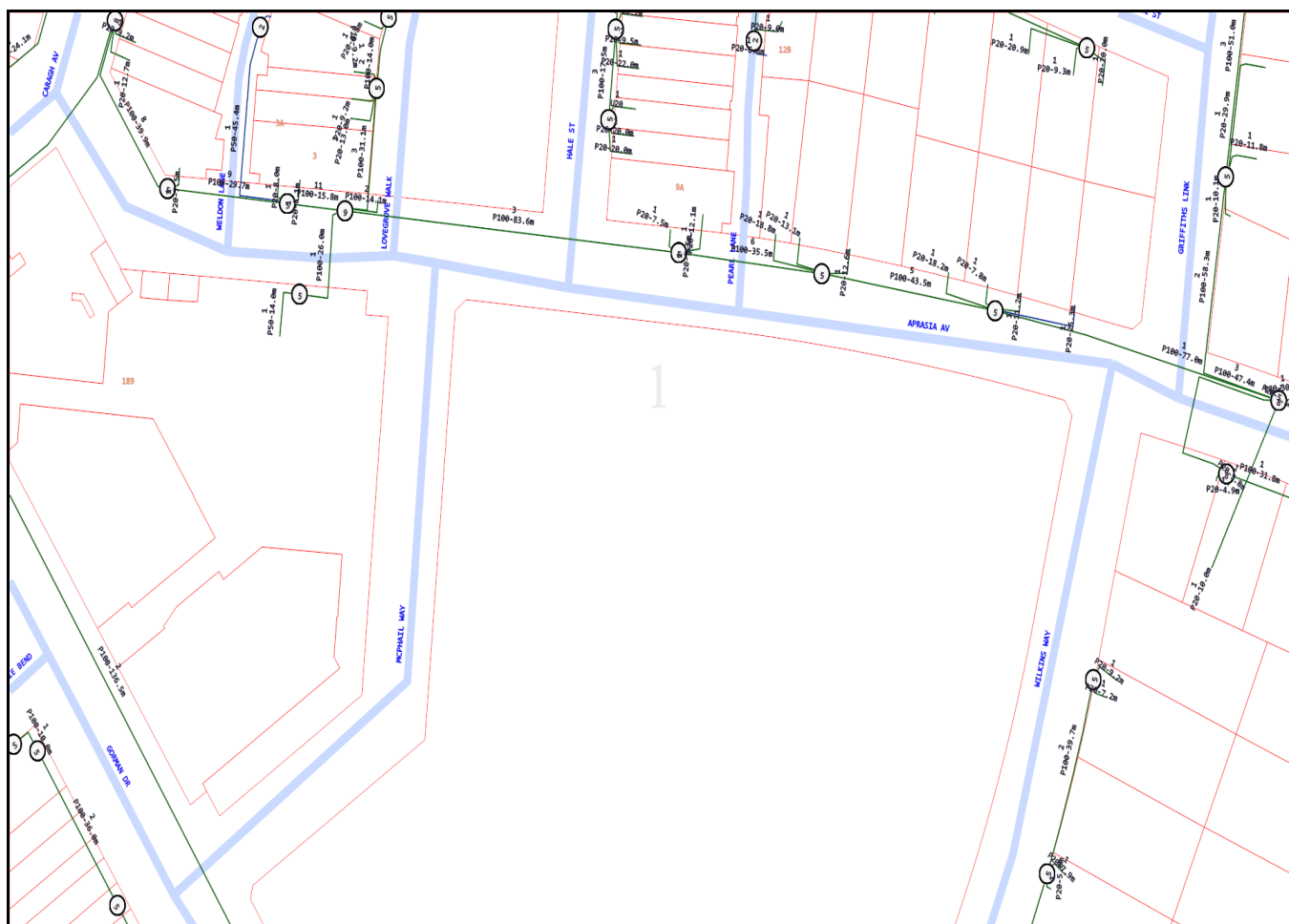
Issue Date:	24/06/2020	 DIAL BEFORE YOU DIG www.1100.com.au
Location:	Gorman Drive , Googong , NSW , 2620	

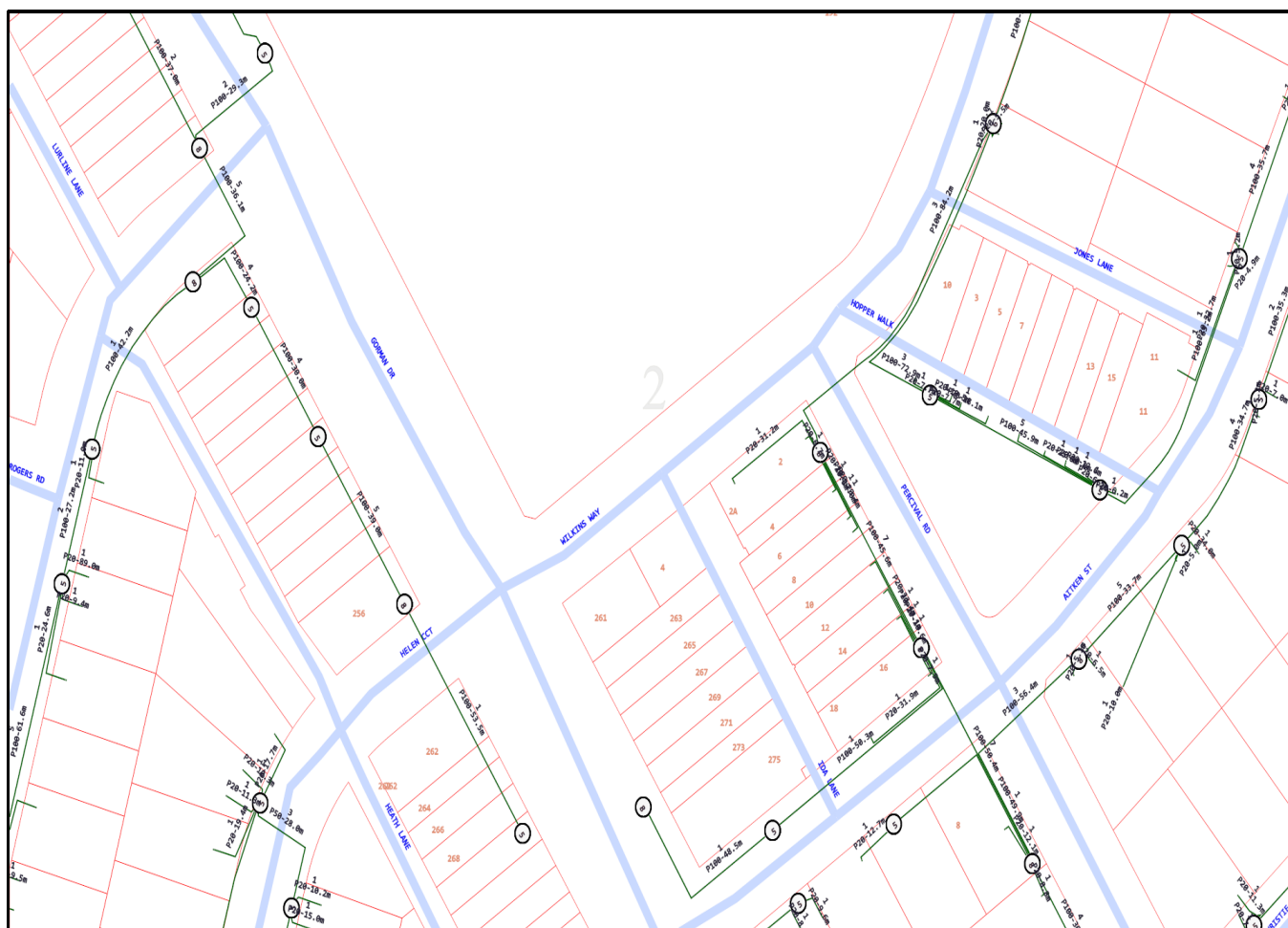




LEGEND

	Parcel and the location
	Pit with size "5"
	Power Pit with size "2E". Valid PIT Size: e.g. 2E, 5E, 6E, 8E, 9E, E, null.
	Manhole
	Pillar
	Cable count of trench is 2. One "Other size" PVC conduit (PO) owned by Telstra (-T-), between pits of sizes, "5" and "9" are 25.0m apart. One 40mm PVC conduit (P40) owned by NBN, between pits of sizes, "5" and "9" are 20.0m apart.
	2 Direct buried cables between pits of sizes, "5" and "9" are 10.0m apart.
	Trench containing any INSERVICE/CONSTRUCTED (Copper/RF/Fibre) cables.
	Trench containing only DESIGNED/PLANNED (Copper/RF/Fibre/Power) cables.
	Trench containing any INSERVICE/CONSTRUCTED (Power) cables.
	Road and the street name "Broadway ST"
Scale	0 20 40 60 Meters 1:2000 1 cm equals 20 m 



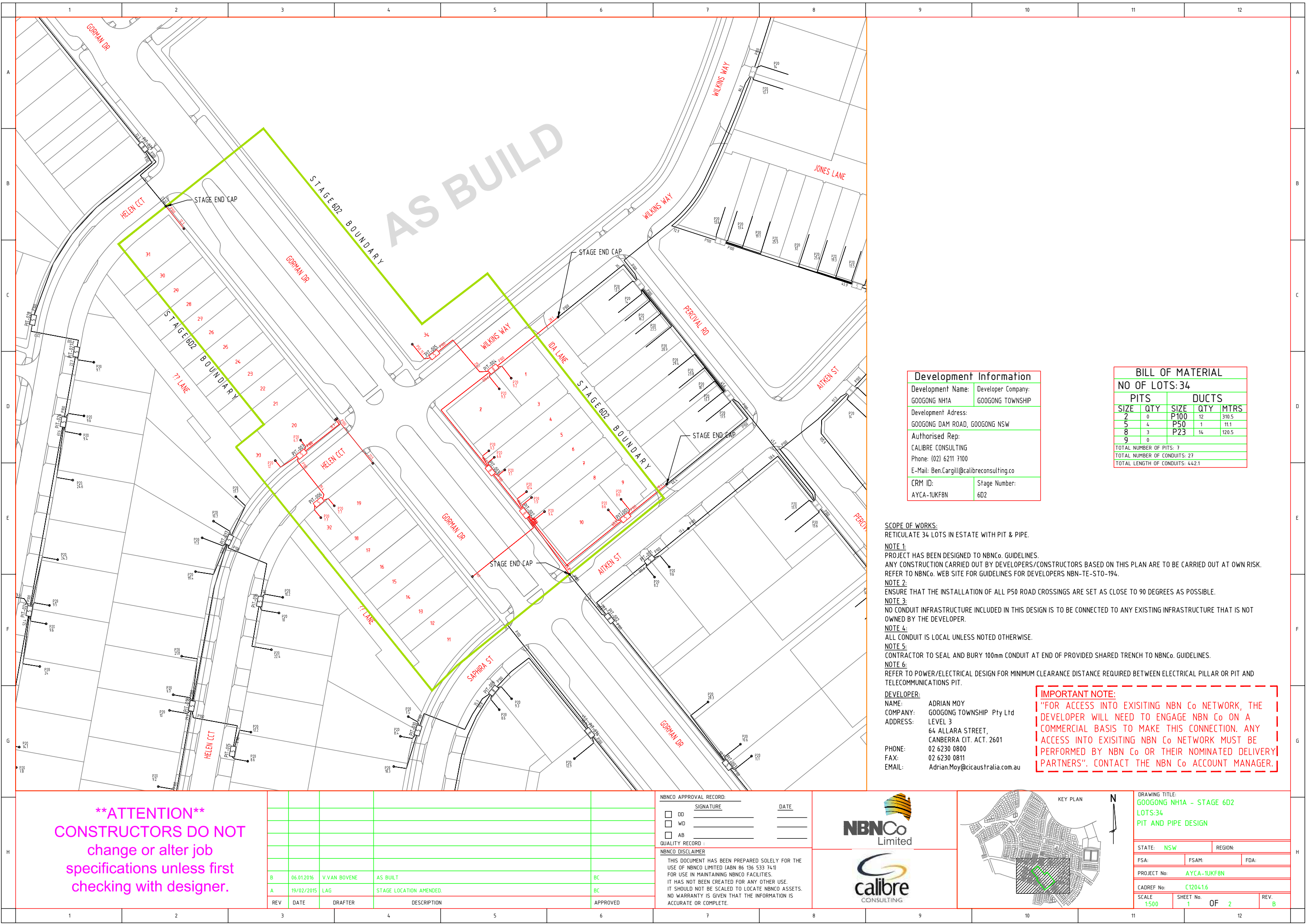


Emergency Contacts

You must immediately report any damage to **nbn™** network that you are/become aware of. Notification may be by telephone - 1800 626 329.



APPENDIX B NBN AS BUILT DOCUMENTATION



Development Information	
Development Name:	Developer Company:
GOOGONG NH1A	GOOGONG TOWNSHIP
Development Address:	
GOOGONG DAM ROAD, GOOGONG NSW	
Authorised Rep:	
CALIBRE CONSULTING	
Phone: (02) 6211 7100	
E-Mail: Ben.Cargill@calibreconsulting.co	
CRM ID:	Stage Number:
AYCA-1UKF8N	6D2

BILL OF MATERIAL				
NO OF LOTS:34				
PITS		DUCTS		
SIZE	QTY	SIZE	QTY	MTRS
2	0	P100	12	310.5
5	4	P50	1	11.1
8	3	P23	14	120.5
9	0			
TOTAL NUMBER OF PITS: 7				
TOTAL NUMBER OF CONDUITS: 27				
TOTAL LENGTH OF CONDUITS: 442.1				

SCOPE OF WORKS:
RETICULATE 34 LOTS IN ESTATE WITH PIT & PIPE.

NOTE 1:
PROJECT HAS BEEN DESIGNED TO NBNCo. GUIDELINES.
ANY CONSTRUCTION CARRIED OUT BY DEVELOPERS/CONSTRUCTORS BASED ON THIS PLAN ARE TO BE CARRIED OUT AT OWN RISK.
REFER TO NBNCo. WEB SITE FOR GUIDELINES FOR DEVELOPERS NBN-TE-STO-194.

NOTE 2:
ENSURE THAT THE INSTALLATION OF ALL P50 ROAD CROSSINGS ARE SET AS CLOSE TO 90 DEGREES AS POSSIBLE.

NOTE 3:
NO CONDUIT INFRASTRUCTURE INCLUDED IN THIS DESIGN IS TO BE CONNECTED TO ANY EXISTING INFRASTRUCTURE THAT IS NOT OWNED BY THE DEVELOPER.

NOTE 4:
ALL CONDUIT IS LOCAL UNLESS NOTED OTHERWISE.

NOTE 5:
CONTRACTOR TO SEAL AND BURY 100mm CONDUIT AT END OF PROVIDED SHARED TRENCH TO NBNCo. GUIDELINES.

NOTE 6:
REFER TO POWER/ELECTRICAL DESIGN FOR MINIMUM CLEARANCE DISTANCE REQUIRED BETWEEN ELECTRICAL PILLAR OR PIT AND TELECOMMUNICATIONS PIT.

DEVELOPER:
NAME: ADRIAN MOY
COMPANY: GOOGONG TOWNSHIP Pty Ltd
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64 ALLARA STREET,
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PHONE: 02 6230 0800
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EMAIL: Adrian.Moy@cicaustralia.com.au

IMPORTANT NOTE:
"FOR ACCESS INTO EXISTING NBN Co NETWORK, THE DEVELOPER WILL NEED TO ENGAGE NBN Co ON A COMMERCIAL BASIS TO MAKE THIS CONNECTION. ANY ACCESS INTO EXISTING NBN Co NETWORK MUST BE PERFORMED BY NBN Co OR THEIR NOMINATED DELIVERY PARTNERS". CONTACT THE NBN Co ACCOUNT MANAGER.

****ATTENTION****
CONSTRUCTORS DO NOT
change or alter job
specifications unless first
checking with designer.

REV	DATE	DRAFTER	DESCRIPTION	APPROVED
B	06.01.2016	V.VAN BOVENE	AS BUILT	BC
A	19/02/2015	LAG	STAGE LOCATION AMENDED.	BC

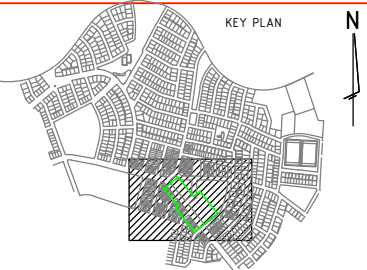
NBNCO APPROVAL RECORD:

SIGNATURE	DATE
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<input type="checkbox"/> WD	_____
<input type="checkbox"/> AB	_____

QUALITY RECORD:

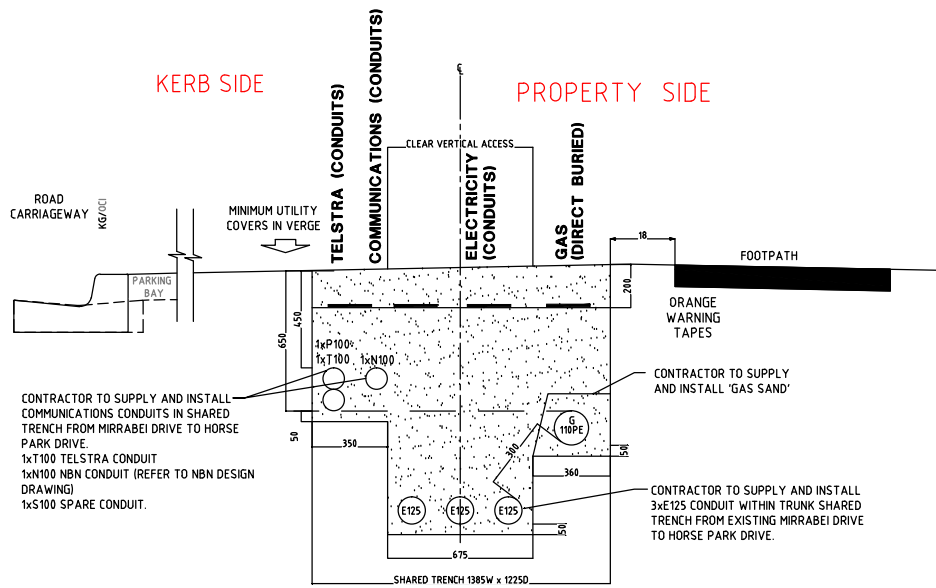
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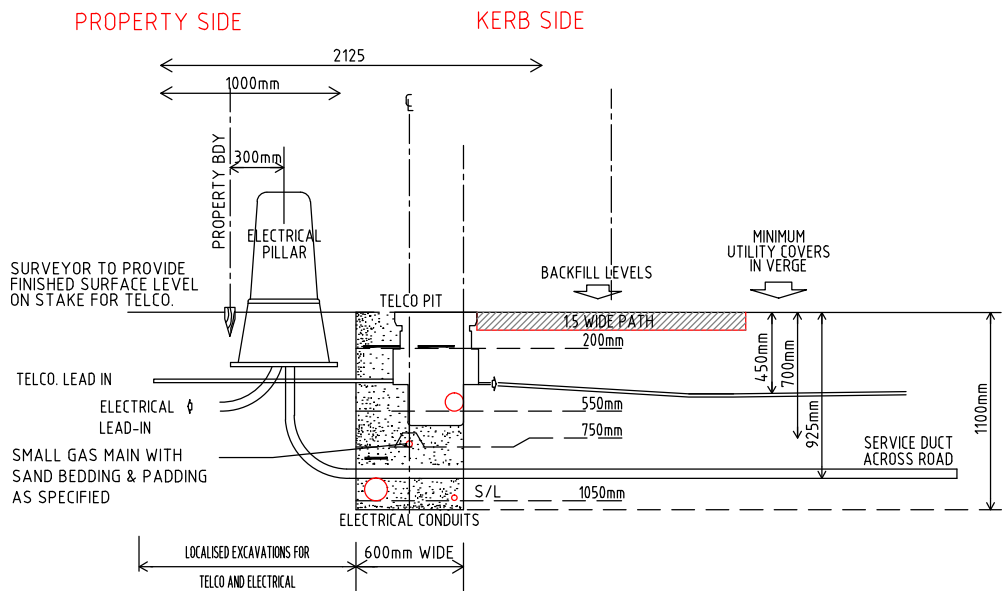


DRAWING TITLE:		
GOOGONG NH1A - STAGE 6D2		
LOTS:34		
PIT AND PIPE DESIGN		
STATE: NSW	REGION:	
FSA:	FSAM:	FDA:
PROJECT No:	AYCA-1UKF8N	
CADREF No:	C1204.1.6	
SCALE 1:500	SHEET No. 1 OF 2	REV. B

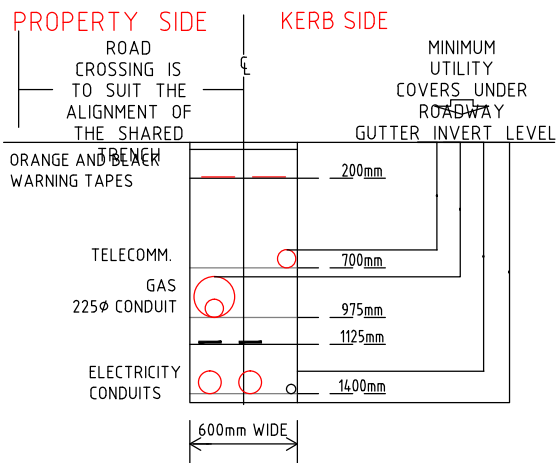
NOTE: " All network in shared trench"



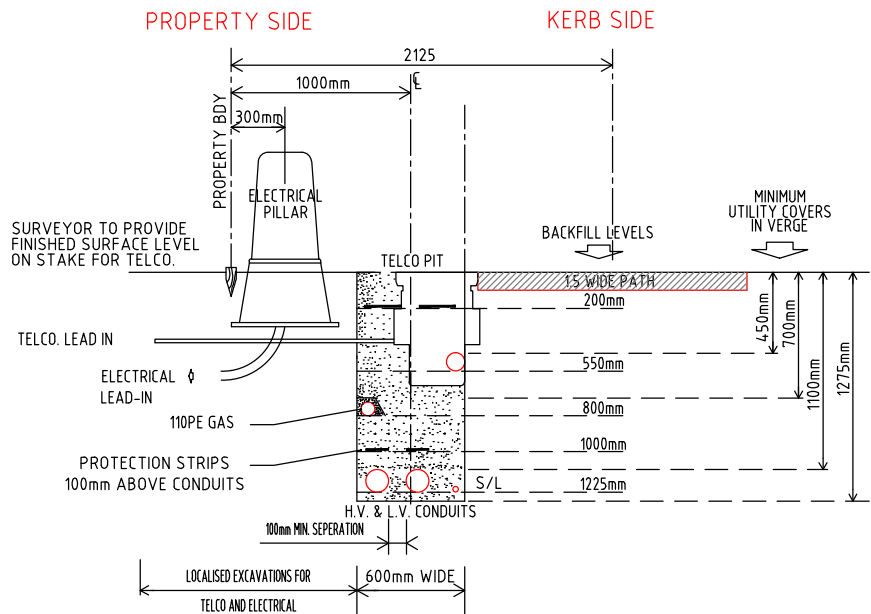
TYPICAL TRUNK SHARED TRENCH DETAIL
GORMAN DRIVE



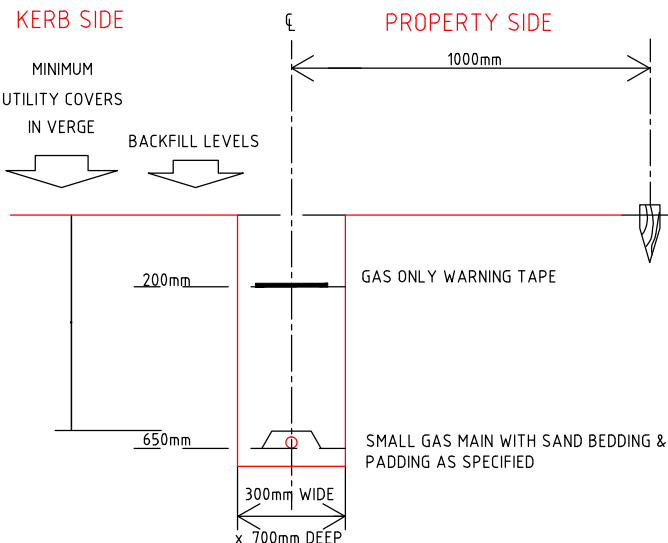
TYPICAL DETAIL - 3-WAY TRENCH



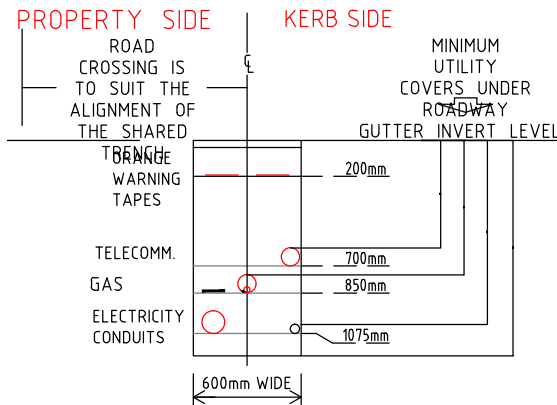
TYPICAL DETAIL - CONDUIT CROSSINGS
FOR LARGE PLANT



TYPICAL DETAIL - 3 WAY TRENCH FOR
LARGE PLANT



TYPICAL DETAIL - 1-WAY TRENCH



TYPICAL CONDUIT CROSSINGS
IN SHARED TRENCH

****ATTENTION****
CONSTRUCTORS DO NOT
change or alter job
specifications unless first
checking with designer.

REV	DATE	DRAFTER	DESCRIPTION	APPROVED

NBNCO APPROVAL RECORD:

SIGNATURE	DATE
<input type="checkbox"/> DD	_____
<input type="checkbox"/> WD	_____
<input type="checkbox"/> AB	_____

QUALITY RECORD:

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DRAWING TITLE:
GOOGONG NH1A - STAGE 602
LOTS:34
TRENCH DETAILS

STATE: NSW	REGION:	
FSA:	FSAM:	FDA:
PROJECT No:	AYCA-IP8U1E	
CADREF No:	C12041.6	
SCALE: 1:20	SHEET No: 3 OF 3	REV:



APPENDIX C HYDRAULICS LOT DETAILS



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YouTube: <https://www.youtube.com/ndygroup>

NDY QA SYSTEM

Revision No: C

Revision Date: 19 May 2021

Reason Description: SSDA

File

Location:

\\tt.local\NDY\syd\w\S387xx\S38745\004\00\24_

Reports

Filename: rp210426s0008

Authorisation By: - Ryan Hahn

Verification By: - Ryan Hahn

Client Name: School Infrastructure NSW

Client Contact: Hansen Yuncken

Project Leader: Tom Meggitt

Editor: Tom Meggitt

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