LANDPARTNERS

Surveyors - Planners
Water Service Coordinators

Planning Titling Surveying Mapping & GIS Urban Design Environmental

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To: **DEXUS**

Project: **311 SOUTH STREET, MARSDEN PARK**

Our Ref: **SY074944.000**

Date: **APRIL 2022**

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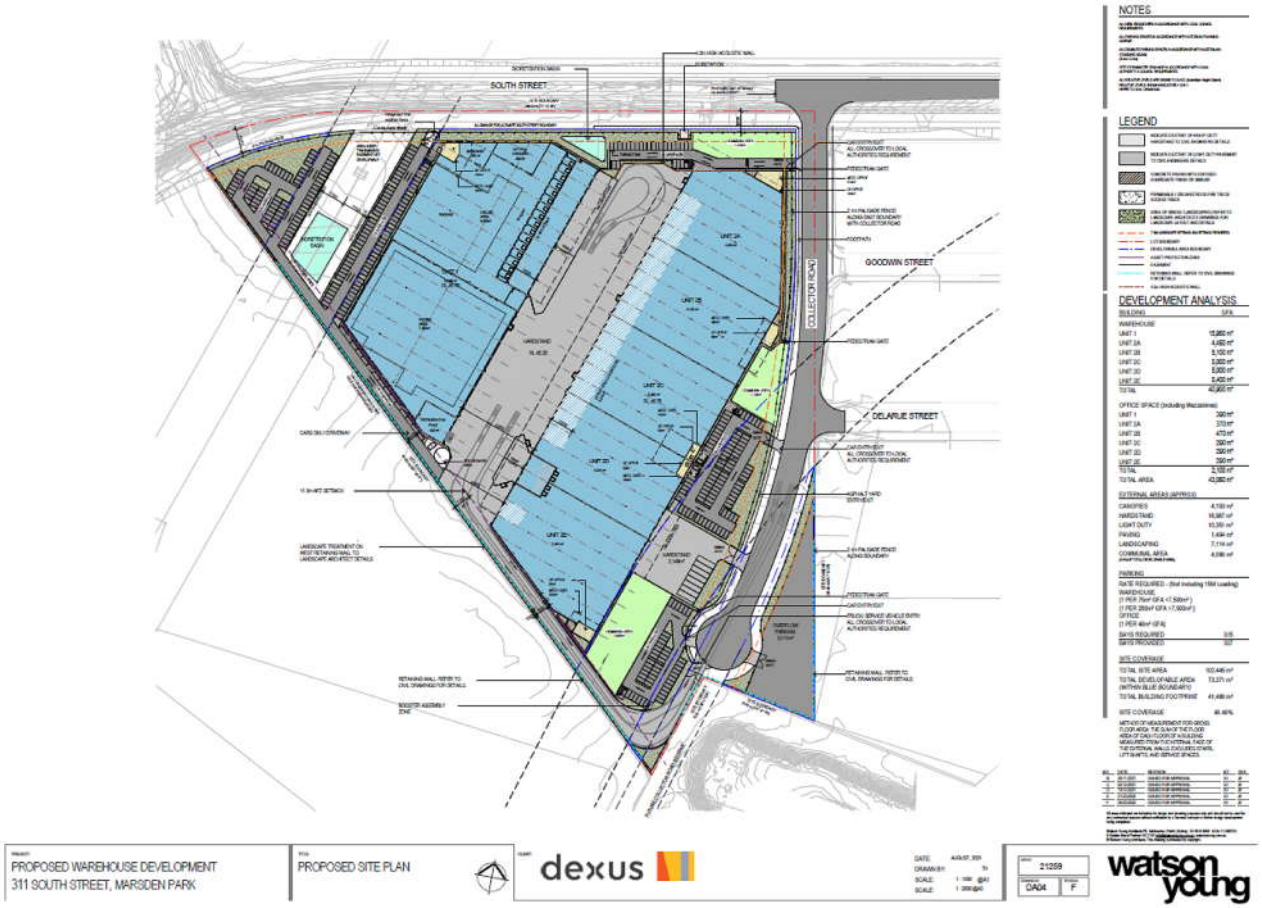
Revision:

Issue	Date	Comment
A	10/2021	Issue for comment
B	04/2022	Revised Masterplan, Sydney Water comments received

1.0 INTRODUCTION

A utility service assessment has been requested for a proposed development om 311 South Street Marsden Park, also described as Lot 31 DP262886. The land is zoned B7-Business Park and SP2-Infrastructure.

A concept masterplan has been developed for the site and is shown as follows:



1.1 SEARS REQUIRMENTS

It is likely that a State Significant Development (SSD) application will be made to Department of Planning, Industry and Environment for the proposed development and as a consequence of that process a SEARS requirement outlining infrastructure requirements will be required. The likely requirements outlining the key issues are identified as follows:

SEARS ITEM	Section in Report
Infrastructure requirements - including: - a detailed written and/or graphical description of infrastructure required on the site, including any electrical substation/s and on-site switch yard/s. - identification of any infrastructure upgrades required off-site to facilitate the development and describe any arrangements to ensure that the upgrades will be implemented in a timely manner and maintained. - an infrastructure delivery and staging plan, including a description of how infrastructure on and off-site will be co-ordinated and funded to ensure it is in place prior to the commencement of construction. - an assessment of the development's impacts on existing utilities and services and service providers' asset surrounding the site.	Refer to Section 3.1, 3.2, 4.0, 5.0 & 6.0 of the report.

2.0 SERVICE AUTHORITIES:

The service authorities responsible for utility services in this area are:

(a)	Sydney Water:	Potable Water and Waste Water
(b)	Endeavour Energy:	Electrical Services
(c)	NBN Co	Telco provisioning
(d)	Jemena:	Gas Services

3.0 SYDNEY WATER

3.1 POTABLE WATER

a) The site has frontage to a 200mm water main located within the South Street road corridor and along the eastern boundary of the site, a new 200mm water main has been constructed as part of the adjoining development. That new water main is located in a road named Duckworth Street which at this date has not yet been dedicated as a public road.

b) Both these mains would be available for connection. Sydney Water in their feasibility response have indicated that the 200mm water main in Duckworth St is the preferred main for connection of the subject site. This will require an extension of the existing water main in Duckworth St to provide full frontage for the subject site.

c) Based on calculations outlined in Appendix A the estimated demand for potable water is:

Average Day Demand	78kl/day
Max Day Demand	125kl/day

d) The surrounding Sydney Water reticulation system can cater for this level of demand to support the proposed development.

3.2 WASTE WATER

a) Sydney Water in their feasibility response (refer Annexure A) have indicated that the subject site will need to connect to a recently constructed sewer main (constructed under Case No. 179024).

b) This newly constructed sewer main is approximately 170m to the south-west of the subject site. Construction of this sewer extension will require permission to enter and construction of a lead-in sewer main through the adjacent property from the adjacent property owner.

c) The estimated Average Dry Weather Flow (ADWF) outlined in Appendix A indicates a waste water discharge of 40kl/day or over a 10 hour work shift discharge would be 1.2litres/second. The new main constructed under Case No. 179024 is capable of handling this level of discharge.

d) The catchment diagram included under the design plan for the sewer in Case No. 179024 clearly indicates that the subject site has been included in the calculation of discharge and therefore pipe sizing outlined in Case No. 179024.

e) In summary an extension of a 225mm waster water reticulation line from the recently constructed sewer under Case No. 179024 will adequately cater for waste water discharge from the subject site.

f) The sewer reticulation design plan constructed under Case No.179024 is attached in Appendix A

4.0 ELECTRICITY

a) Substantial Endeavour Energy electrical distribution system exists in South Street. Existing 132kv feeder cables exist in a conduit bank with the South Street corridor.

b) A recent certified electrical design under URS18742 has recently been issued by Endeavour Energy for the residential development on the northern side of South Street, opposite the subject site. Conduit crossings across South Street are to be installed.

c) The developer of the adjoining development to the east of the subject site has installed a conduit bank in Duckworth Street together with low voltage reticulation. These conduit banks would be available to install any 11kv feeders that would be required to service the site.

d) Appendix B of this report estimates a demand of 1MVa for the proposed development. A padmount substation will be required to provide service to the proposed development.

e) Substantial feeder network exists in the area to adequately cater for the proposed electrical demand for the site.

5.0 TELCO

a) NBN Co is the network provider for this area

b) The adjacent development to the east of the site has installed pit and pipe infrastructure but it appears no cable has yet been "pulled" through the pit and pipe system. This would be expected to be undertaken shortly to enable provisioning certificates to be released which would enable the subdivision certificate for the adjacent site to be released by Council.

c) Limited telco services are available along the frontage of the subject site to South Street. These consist of old copper pair cabling. However, the adjacent site will be serviced by fibreoptic system which would be extended into the subject site. Also, the residential development on the northern side of South Street opposite this development will have fibre optic reticulation installed as part of that development.

6.0 GAS

(a) A 110mm PE 210kpa distribution gas main is laid within South Street immediately adjacent to the subject site.

(b) The adjacent development to the east of the site has installed a gas reticulation system comprising a 110mm PE 210kPa gas reticulation system that can be extended into the subject development.

(c) A 210kpa main may not be adequate to serve a larger industrial/commercial user. Jemena do not supply gas reticulation systems "on spec". Jemena require a defined end user with a known demand requirement before they would consider the commercial advantage of supplying a larger capacity main from the distribution system in Richmond Road.

7.0 TRANSGRID

A high voltage transmission network within easement crosses the north west corner of the property. Development of the site would need to take into account TransGrid Easement Guidelines which are outlined in TransGrid publication "Living and working with electricity transmission Lines".

Vehicle and truck manoeuvring would be allowed within the easement corridor however parking of heavy vehicles, storage of materials and any structures that restrict Transgrid Access to its assets will not be allowed.

APPENDIX A
POTABLE WATER & WASTE WATER DEMAND

Potable Water Demand

1. Dexus have provided a concept masterplan for the proposed development of a warehouse/logistics facility.
2. Based on that masterplan the developable area of the site is 8.45ha.
3. The Oakdale Local Area Servicing Plan (LASP) for a warehouse/logistics precinct outlines average day demand for potable water of 9.2kl/day/PNha.
4. On this basis potable water demand is estimated at 9.2kl/day/PNha = 9.2 x 8.45 = 78kl/day

Waste Water Demand

1. Based on the Warehouse Gross Floor Area (GFA) and office GFA it is estimated that the fulltime equivalent worker population (i.e., EP) can be calculate as follows:

Development Type	Floor Area	EP/m^2	EP
Office	40,900	1EP/250m^2	164
Warehouse	2,100	1EP/20m^2	105
		Total	**269**

2. Based on the Sewerage Code of Australia (Sydney Water edition) a value of 150litres/day for each EP is noted. The resultant discharge would be:

   269(EP) x 150L/day = 40kl/day – ADWF

Case Number: 195171

November 16, 2021

DEXUS
c/- LANDPARTNERS PTY LTD

Feasibility Letter

Developer:	**DEXUS**
Your reference:	**SY07944.S73**
Development:	**Lot 31 DP262886 311 SOUTH ST, Marsden Park**
Development Description:	**Proposed Warehouse development at 311 South Street Marsden Park**
Your application date:	**November 9, 2021**

Dear Applicant

This Feasibility Letter (Letter) is a guide only. It provides general information about what our requirements could be if you applied to us for a Section 73 Certificate (Certificate) for your proposed development. **The information is accurate at today's date only.**

If you obtain development consent for that development from your consent authority (this is usually your local Council) they will require you to apply to us for a Section 73 Certificate. You will need to submit a new application (and pay another application fee) to us for that Certificate by using your current or another Water Servicing Coordinator (WSC).

We'll then send you either a:

- Notice of Requirements (Notice) and Developer Works Deed (Deed)
  or
- Certificate.

These documents will be the definitive statement of our requirements.

There may be changes in our requirements between the issue dates of this Letter and the Notice or Certificate. The changes may be:

- if you change your proposed development eg the development description or the plan/site layout, after today, the requirements in this Letter could change when you submit your new application

- if you decide to do your development in stages then you must submit a new application (and pay another application fee) for each stage.

No warranties or assurances can be given about the suitability of this document or any of its provisions for any specific transaction. It does not constitute an approval from us and to the extent that it is able, we limit its liability to the reissue of this Letter or the return of your application fee. You should rely on your own independent professional advice.

What You Must Do To Get A Section 73 Certificate In The Future.

To get a Section 73 Certificate you must do the following things. You can also find out about this process by visiting Plumbing, building & developing page on our website.

1. **Obtain Development Consent from the consent authority for your development proposal.**

2. **Engage a Water Servicing Coordinator (WSC).**

   You must engage your current or another authorised WSC to manage the design and construction of works that you must provide, at your cost, to service your development. If you wish to engage another WSC (at any point in this process) you must write and tell us.

   You'll find a list of WSC's at Listed providers on our website.

   The WSC will be your point of contact with us. They can answer most questions that you might have about the process and developer charges and can give you a quote or information about costs for services/works (including our costs).

3. **Developer Works Deed**

   After the WSC has submitted your new application, they'll receive the our Notice and Developer Works Deed. You and your accredited Developer Infrastructure Providers (Providers) will need to sign and lodge both copies of the Deed with your nominated Coordinator. After we've signed the documents, one copy will be returned to the WSC.

   The Deed sets out for this project:
   - your responsibilities
   - our responsibilities
   - the Provider's responsibilities.

   You must do all the things that we ask you to do in that Deed. This is because your development does not have water and sewer services and you must construct and pay for the following works extensions under this Deed to provide these services.

   Note: The Coordinator must be fully authorised by us for the whole time of the agreement.

4. Water and Sewer Works

4.1 Water

Your development must have a frontage to a water main that is the right size and can be used for connection.

We've assessed your application and found that:

- **You must construct a water main extension to serve your development**. These works must be constructed by a constructor with the appropriate capability. Your Coordinator will be able to provide further advice about this.

- Our current preferred connection extension point is via the 200 mm oPVC water main in Duckworth St (eastern side of your site), however, this may be subject to change. You will need to investigate a suitable connection point and alignment for your proposed water main. Main sizing must comply with the Water Supply Code of Australia. Connection point, alignment and main sizing will be confirmed upon the future submission of your 'Section 73' application.

4.2 Sewer

Your development must have a sewer main that is the right size and can be used for connection. That sewer must also have a connection point within your development's boundaries.

We've assessed your application and found that:

- **You must construct a wastewater main extension to serve your development**. The terms of the Deed define this extension as 'Major Works'.

- Sewer services to your development are dependent upon works being delivered by Water Servicing Coordinator (WSC), *RMA Infrastructure Pty Ltd*, under Sydney Water Case Number 179024 – see section '7' below for further information.

- You will need to investigate a suitable connection point and alignment for your proposed sewer main. Main sizing must comply with the Sewerage Code of Australia. Connection point, alignment and main sizing will be confirmed upon the future submission of your 'Section 73' application.

5. Ancillary Matters

5.1 Asset adjustments

After we issue this Notice (and more detailed designs are available), we may require that the water main/sewer main/stormwater located in the footway/your property needs to be adjusted/deviated. If this happens, you'll need to do this work as well as the extension we have detailed above at your cost. The work must meet the conditions of this Notice and you will need to complete it **before we can issue the Certificate**. We'll need to see the completed designs for the work, and we'll require you to lodge a security. The security will be refunded once the work is completed.

5.2 Entry onto neighbouring property

If you need to enter a neighbouring property, you must have the written permission of the relevant property owners and tenants. You must use our **Permission to Enter** form(s) for this. You can get copies of these forms from your WSC or on our website. Your WSC can also negotiate on your behalf. Please make sure that you address all the items on the form(s) including payment of compensation and whether there are other ways of designing and constructing that could avoid or reduce their impacts. You will be responsible for all costs of mediation involved in resolving any disputes. Please allow enough time for entry issues to be resolved.

5.3 Costs

Construction of these **future** works will require you to pay project management, survey, design, and construction costs **directly to your suppliers**. Additional costs payable to us may include:

- water main shutdown and disinfection
- connection of new water mains to our system(s)
- design and construction audit fees
- contract administration, Operations Area Charge & Customer Redress prior to project finalisation
- creation or alteration of easements etc
- water usage charges where water has been supplied for building activity purposes prior to disinfection of a newly constructed water main.

Note: Payment for any Goods and Services (including Customer Redress) provided by Sydney Water will be required prior to the issue of the Section 73 Certificate or release of the Bank Guarantee or Cash Bond.

Your WSC can tell you about these costs.

5.4 Contaminated Land

Due to your site potentially being located within contaminated land, you will need to undertake adequate design control measures and ensure your future design packages comply with our Engineering Competency Standards.

6. Approval of your Building Plans

You must have your building plans approved **before the Certificate can be issued. Building construction work MUST NOT commence until we have granted approval.** Approval is needed because construction/building works may affect our assets (e.g. water and sewer mains).

Your WSC can tell you about the approval process including:

- Your provision, if required, of a "Services Protection Report" (also known as a "pegout"). This is needed to check whether the building and engineering plans show accurately where our assets are located in relation to your proposed building work. Your WSC will then either approve the plans or make requirements to protect those assets before approving the plans
- Possible requirements
- Their Costs
- Timeframes.

We recommend that you apply for Building Plan Approval early as in some instances your WSC may need to refer your building plans to us for detailed review. You'll be required to pay us for the costs associated with the detailed review.

You can also find information about this process (including technical specifications) on our Plumbing, building & developing page on our website or call us on 13 20 92.

Notes:

- **The Certificate will not be issued until the plans have been approved and, if required, our assets are altered or deviated**
- **You can only remove, deviate, or replace any of our pipes using temporary pipework if you have written approval from us. You must engage your WSC to arrange this approval**
- **You must obtain our written approval before you do any work on our systems. We'll take action to have work stopped on the site if you do not have that approval. We will apply Section 44 of the *Sydney Water Act 1994*.**

7. Dependent Works

Sewer services to your development are dependent upon the prior completion of works being delivered by Water Servicing Coordinator (WSC), *RMA Infrastructure Pty Ltd*, under Sydney Water Case Number 179024WW – cross-connecting sewer main near Goodison Pde, which is required to provide sufficient capacity to your site.

A Section 73 Compliance Certificate will not be issued prior to the completion and transfer to Sydney Water's ownership of the above-mentioned case/works.

OTHER THINGS YOU MAY NEED TO DO

Shown below are other things you need to do that are NOT a requirement for the Certificate. They may well be a requirement from us in the future because of the impact of your development on our assets. You must read them before you go any further.

Disused Sewerage Service Sealing

Please do not forget that you must pay to disconnect all disused private sewerage services and seal them at the point of connection to our sewer main. This work must meet our standards in the Plumbing Code of Australia (the Code) and be done by a licensed drainer. The licensed drainer must arrange for an inspection of the work by a NSW Fair Trading Plumbing Inspection Assurance Services (PIAS) officer. After that officer has looked at the work, the drainer can issue the Certificate of Compliance. The Code requires this.

Soffit Requirements

Please be aware that floor levels must be able to meet our soffit requirements for property connection and drainage.

Requirements for Business Customers for Commercial and Industrial Property Developments

If this property is to be developed for Industrial or Commercial operations, it may need to meet the following requirements:

Trade Wastewater Requirements

If this development is going to generate trade wastewater, the property owner must submit an application requesting permission to discharge trade wastewater to Sydney Water's sewerage system. You must wait for approval of this permit before any business activities can commence.

The permit application should be emailed to Sydney Water's Business Customer Services at businesscustomers@sydneywater.com.au

It is illegal to discharge Trade Wastewater into the Sydney Water sewerage system without permission.

A **Boundary Trap** is required for all developments that discharge trade wastewater where arrestors and special units are installed for trade wastewater pre-treatment.

If the property development is for Industrial operations, the wastewater may discharge into a sewerage area that is subject to wastewater reuse. Find out from Business Customer Services if this is applicable to your development.

Backflow Prevention Requirements

Backflow is when there is unintentional flow of water in the wrong direction from a potentially polluted source into the drinking water supply.

All properties connected to Sydney Water's supply must install a testable **Backflow Prevention Containment Device** appropriate to the property's hazard rating. Property with a high or medium hazard rating must have the backflow prevention containment device tested annually. Properties identified as having a low hazard rating must install a non-testable device, as a minimum.

Separate hydrant and sprinkler fire services on non-residential properties, require the installation of a testable double check detector assembly. The device is to be located at the boundary of the property.

Before you install a backflow prevention device:

1. Get your hydraulic consultant or plumber to check the available water pressure versus the property's required pressure and flow requirements.
2. Conduct a site assessment to confirm the hazard rating of the property and its services. Contact PIAS at NSW Fair Trading on **1300 889 099**.

For installation you will need to engage a licensed plumber with backflow accreditation who can be found on the Sydney Water website:
http://www.sydneywater.com.au/Plumbing/BackflowPrevention/

Water Efficiency Recommendations

Water is our most precious resource and every customer can play a role in its conservation. By working together with Sydney Water, business customers are able to reduce their water consumption. This will help your business save money, improve productivity and protect the environment.

Some water efficiency measures that can be easily implemented in your business are:

- Install water efficiency fixtures to help increase your water efficiency, refer to WELS (Water Efficiency Labelling and Standards (WELS) Scheme, http://www.waterrating.gov.au/
- Consider installing rainwater tanks to capture rainwater runoff, and reusing it, where cost effective. Refer to http://www.sydneywater.com.au/Water4Life/InYourBusiness/RWTCalculator.cfm
- Install water-monitoring devices on your meter to identify water usage patterns and leaks.
- Develop a water efficiency plan for your business.

It is cheaper to install water efficiency appliances while you are developing than retrofitting them later.

Contingency Plan Recommendations

Under Sydney Water's **customer contract** Sydney Water aims to provide Business Customers with a continuous supply of clean water at a minimum pressure of 15meters head at the main tap. This is equivalent to 146.8kpa or 21.29psi to meet reasonable business usage needs.

Sometimes Sydney Water may need to interrupt, postpone or limit the supply of water services to your property for maintenance or other reasons. These interruptions can be planned or unplanned.

Water supply is critical to some businesses and Sydney Water will treat vulnerable customers, such as hospitals, as a high priority.

Have you thought about a **contingency plan** for your business? Your Business Customer Representative will help you to develop a plan that is tailored to your business and minimises productivity losses in the event of a water service disruption.

For further information please visit the Sydney Water website at: http://www.sydneywater.com.au/OurSystemsandOperations/TradeWaste/ or contact Business Customer Services on **1300 985 227** or businesscustomers@sydneywater.com.au

Fire Fighting

Definition of fire fighting systems is the responsibility of the developer and is not part of the Section 73 process. It is recommended that a consultant should advise the developer regarding the fire fighting flow of the development and the ability of our system to provide that flow in an emergency. Sydney Water's Operating Licence directs that our mains are only required to provide domestic supply at a minimum pressure of 15 m head.

A report supplying modelled pressures called the Statement of Available pressure can be purchased through Sydney Water Tap in ™ and may be of some assistance when defining the fire fighting system. The Statement of Available pressure may advise flow limits that relate to system capacity or diameter of the main and pressure limits according to pressure management initiatives. If mains are required for fire fighting purposes, the mains shall be arranged through the water main extension process and not the Section 73 process.

Large Water Service Connection

A water main will be available, once you have completed your drinking water main construction to provide your development with a domestic supply. The size of your development means that you will need a connection larger than the standard domestic 20 mm size.

To get approval for your connection, you will need to lodge an application with Sydney Water Tap in ™. You, or your hydraulic consultant, may need to supply the following:

- a plan of the hydraulic layout
- a list of all the fixtures/fittings within the property
- a copy of the fireflow pressure inquiry issued by us
- a pump application form (if a pump is required)
- all pump details (if a pump is required).

You'll have to pay an application fee.

We don't consider whether a water main is adequate for fire fighting purposes for your development. We can't guarantee that this water supply will meet your Council's fire fighting requirements. The Council and your hydraulic consultant can help.

Disused Water Service Sealing

You must pay to disconnect all disused private water services and seal them at the point of connection to our water main. This work must meet our standards in the Plumbing Code of Australia (the Code) and be done by a licensed plumber. The licensed plumber must arrange for an inspection of the work by a NSW Fair Trading Plumbing Inspection Assurance Services (PIAS) officer. After that officer has looked at the work, the drainer can issue the Certificate of Compliance. The Code requires this.

Other fees and requirements

The requirements in this Notice relate to your Certificate application only. We may be involved with other aspects of your development and there may be other fees or requirements. These include:

- plumbing and drainage inspection costs
- the installation of backflow prevention devices;
- trade waste requirements
- large water connections and
- council fire fighting requirements. (It will help you to know what the fire fighting requirements are for your development as soon as possible. Your hydraulic consultant can help you here.)

No warranties or assurances can be given about the suitability of this document or any of its provisions for any specific transaction. It does not constitute an approval from us and to the extent that it is able, we limit its liability to the reissue of this Letter or the return of your application fee. You should rely on your own independent professional advice.

END

A1

ENVIRONMENTAL REQUIREMENTS.

E1. THE REVIEW OF ENVIRONMENTAL FACTORS WAS AN INTEGRAL PART OF THIS DESIGN. ALL EROSION AND SEDIMENTATION CONTROL COMPLIED TO THE STANDARDS OF THE SOIL CONSERVATION SERVICE OF N.S.W

E2. ALL OPEN STORM WATER GRATES & STORM WATER CHANNELS DOWNSTREAM OF CONSTRUCTION ACTIVITY ADEQUATELY PROTECTED BY STRAW BALES OR GEOTEXTILE FENCE.

E3. SILT STOP DEVICES INSTALLED PRIOR TO ANY CONSTRUCTION ACTIVITY, EFFECTIVELY MAINTAINED AND REMOVED ONLY AFTER THE AREA HAD BEEN SATISFACTORILY RE – VEGETATED.

E4. SILTATION CONTROL CARRIED OUT TO THE SATISFACTION OF THE SITE SUPERINTENDENT.

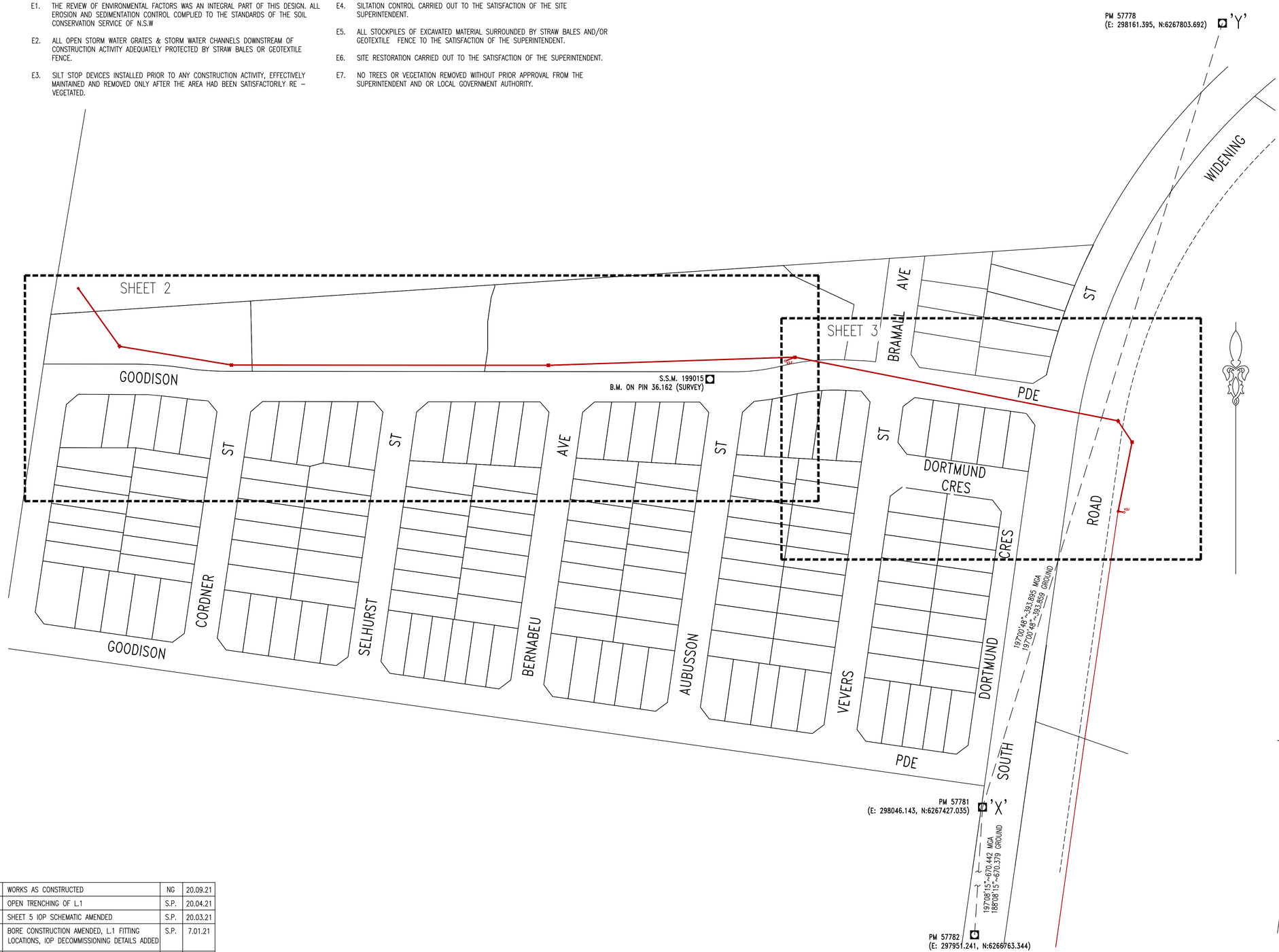
E5. ALL STOCKPILES OF EXCAVATED MATERIAL SURROUNDED BY STRAW BALES AND/OR GEOTEXTILE FENCE TO THE SATISFACTION OF THE SUPERINTENDENT.

E6. SITE RESTORATION CARRIED OUT TO THE SATISFACTION OF THE SUPERINTENDENT.

E7. NO TREES OR VEGETATION REMOVED WITHOUT PRIOR APPROVAL FROM THE SUPERINTENDENT AND OR LOCAL GOVERNMENT AUTHORITY.

CONTRACT PLAN
WORK-AS-CONSTRUCTED

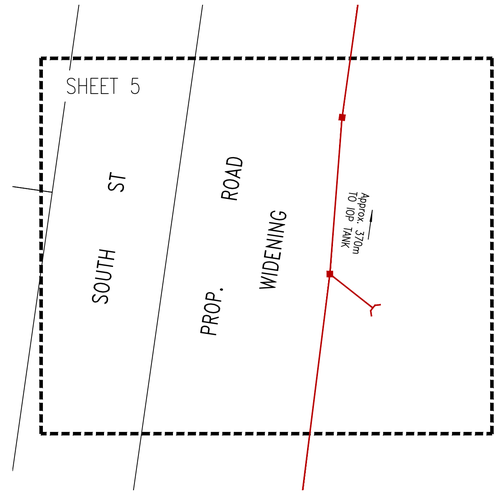
0 5 10 20 30 40 50 100 METRES



SITE PLAN

LOCALITY SKETCH, ORIGIN & AZIMUTH DIAGRAM
SHEET LAYOUT
SCALE: 1:1000

REFER INSET PLAN FOR SHEET 5



INSET PLAN

NOT TO SCALE

NOTES :–

1. DESIGNER & WATER SERVICE COORDINATOR:

   RMA INFRASTRUCTURE PTY LTD SHOP
   6 / 2 CASTLEREAGH ST, PENRITH NSW 2750
   PH (02) 4722 2774. REFERENCE No. W–11430

   FOR:

   MARSDEN PARK DEVELOPMENTS (CONSTRUCTION) PTY LTD
   920 RICHMOND ROAD MARSDEN PARK NSW 2765

www.dialbeforeyoudig.com.au DIAL 1100 BEFORE YOU DIG TM
DIAL BEFORE YOU DIG SHOULD BE CONTACTED PRIOR TO ANY EXCAVATION ON SITE

2. THE WORKS AND MATERIAL ARE CONSTRUCTED IN ACCORDANCE WITH THE SEWER RETICULATION CODE OF AUSTRALIA (WSA 02–2002–2.2 VERSION 4).
3. ALL STRUCTURES CONSTRUCTED TO FINISHED SURFACE LEVELS. ALL LEVELS QUOTED ON THIS PLAN REFER TO PROPOSED FINISHED SURFACE LEVELS. IT WAS THE CONTRACTORS RESPONSIBILITY TO LIAISE WITH THE SUPERINTENDENT & VERIFIED THE PROPOSED SURFACE LEVELS QUOTED ON THIS PLAN ARE CORRECT PRIOR TO INSTALLING SEWER STRUCTURES. IF ANY DISCREPANCIES FOUND, THE WATER SERVICING COORDINATOR WAS NOTIFIED IMMEDIATELY.
4. ALL SERVICES SHOWN ARE INDICATIVE ONLY. A CURRENT SERVICES SEARCH & SITE CHECK OF ALL EXISTING SERVICES WAS NECESSARY PRIOR TO THE COMMENCEMENT OF WORK & APPROPRIATE PROCEDURES, PRECAUTIONS AND CARE WAS TAKEN BY THE CONSTRUCTOR WHEN WORKING IN CLOSE PROXIMITY TO SERVICES. THE CONSTRUCTOR VERIFIED THE EXACT LOCATION OF ALL EXISTING SERVICES DURING CONSTRUCTION AND ANY DAMAGE TO EXISTING SERVICES WAS RECTIFIED AT THE CONSTRUCTORS EXPENSE.
5. FIELD COMPACTION TESTS UNDERTAKEN TO SATISFY THE SEWAGE CODE OF AUSTRALIA SYDNEY WATER EDITION 1 – VERSION 4 (WSA 02–2002–2.2 VERSION 4). IT WAS THE LISTED FIELD TESTERS RESPONSIBILITY TO ENSURE THE CORRECT NUMBER OF TESTS ARE CARRIED OUT TO SATISFY THE SEWAGE CODE OF AUSTRALIA AS PER SYDNEY WATER'S INSTRUCTIONS TO FIELD TESTERS CLAUSE 3. TESTS CONDUCTED – 50.
6. MANHOLES CONSTRUCTED IN ACCORDANCE WITH SYDNEY WATER DEEMED TO COMPLY DRAWINGS. PLEASE REFER TO THE MAINTENANCE STRUCTURE SCHEDULE ON SHEET 4 FOR FURTHER DETAILS.
7. THE CONTRACTOR CONFIRMED THE LOCATION AND INVERT LEVELS OF THE EXISTING SEWER AT CHAINAGE 0.00 & 563.99 OF LINE 1 PRIOR TO COMMENCEMENT OF WORKS. IF ANY DISCREPANCIES ARE DETERMINED BETWEEN WHAT IS LOCATED ON SITE AND WHAT IS QUOTED ON THIS PLAN, THE DESIGNER WAS NOTIFIED IMMEDIATELY.
8. A HIGH–DENSITY POLYETHYENE (HDPE) LINER INSTALLED FOR CORROSION PROTECTION TO ALL MAINTENANCE HOLES. HDPE LINER IS IN ACCORDANCE WITH SYDNEY WATER STANDARD SPECIFICATION SS 210 CORROSION PROTECTION AND REHABILITATION OF MAINTENANCE HOLES AND IN ACCORDANCE WITH WSA 201–2017–2.1.
9. BORING CONTRACTOR DETERMINED, CALCULATED AND ASSESSED THRUST FORCES ON NOMINATED CARRIER PIPE GRP SN20,000.
10. VENT CONNECTION TO THE EXISTING M.H. AT L.1 CH. 563.99 CONSTRUCTED AS PER DTC 2220 ISSUE D 18/03/2015.
11. EXISTING DN375 INLET CONSTRUCTED AT MH L.1 CH ADJUSTED TO R.L. 27.01
12. ⊗ DENOTES THREATENED FLORA SPECIES.

No.	AMENDMENT DESCRIPTION	BY	DATE
I	WORKS AS CONSTRUCTED	NG	20.09.21
H	OPEN TRENCHING OF L.1	S.P.	20.04.21
G	SHEET 5 IOP SCHEMATIC AMENDED	S.P.	20.03.21
F	BORE CONSTRUCTION AMENDED, L.1 FITTING LOCATIONS, IOP DECOMMISSIONING DETAILS ADDED	S.P.	7.01.21
E	VENT SHAFT CHANGED TO GUY WIRE TYPE	S.P.	03.07.20
D	ISSUED FOR SWC APPROVAL	S.P.	16.04.20
C	RE–DESIGN OF L.1	S.P.	22.11.19
B	RE–DESIGN OF L.1 & CATCHMENT PLAN	S.P.	30.09.19
A	FOR REVIEW	S.P.	29.07.19

GDA1994

PLAN TO BE READ IN CONJUNCTION WITH CURRENT SYDNEY WATER STANDARDS
SYDNEY WATER CORPORATION

PRIOR TO COMMENCEMENT OF EXCAVATION FOR PROPOSED AND EXISTING SERVICES CONTACT :-

DIAL BEFORE YOU DIG Ph. 1100
ELECTRICITY Ph.
GAS Ph.
TELECOMMUNICATIONS Ph.
Ph.

GIVING AT LEAST 48 HOURS NOTICE.

UTILITIES

TYPE	DATE	REF.	TYPE	DATE	REF.
WATER: DN100 Water	25.07.19	DBYD			
GAS: GAS GAS	25.07.19	DBYD			
ELECTRICITY: E E	25.07.19	DBYD			
PROP STORMWATER: SWD SWD	10.11.19	COUNCIL			
SEWER: S S	25.07.19	DBYD			
STORMWATER: SWD SWD	25.07.19	DBYD			

WORK AS CONSTRUCTED CERTIFICATION

DEVELOPER GRAHAM PROJECTS P/L
WATER SERVICE CO-ORDINATOR RMA INFRASTRUCTURE P/L
CONSTRUCTOR PWG INFRASTRUCTURE P/L
COMPLETED 27.08.21 W.A.C. PREPARED 20.09.21

DESIGNER RMA INFRASTRUCTURE P/L

I CERTIFY THAT THE WORKS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE WORK AS CONSTRUCTED DRAWINGS.

PIPE SCHEDULE

SIZE DN	TYPE	CLASS	LENGTH	PIPE JOINING METHOD / NOTES
375	G.R.P.	SN20000	563.99	
300	P.V.C.	SN8	8.48	
300	S.S.	S40	36	

DESIGN HEAD ..... m

NO BOUNDARY TRAPS REQUIRED.

AUSTRALIAN HEIGHT DATUM

SCALES

PLAN 1:500 SECTION HOR. 1:500 VERT. 1:125

CROSS SECTIONS ..... NATURAL

LENGTHS, DEPTHS & LEVELS ARE IN METRES.

NO AMENDMENTS ARE TO BE MADE TO THIS PLAN WITHOUT REFERENCE TO SYDNEY WATER. THIS PLAN IS NOT NECESSARILY UP TO DATE OR CORRECT AND SYDNEY WATER ACCEPTS NO RESPONSIBILITY.

U.B. DIRECTORY MAP 146 REF H11 Edition 41

SHEET 1 OF 5 File No. N/A

Sydney WATER SYDNEY WATER CORPORATION

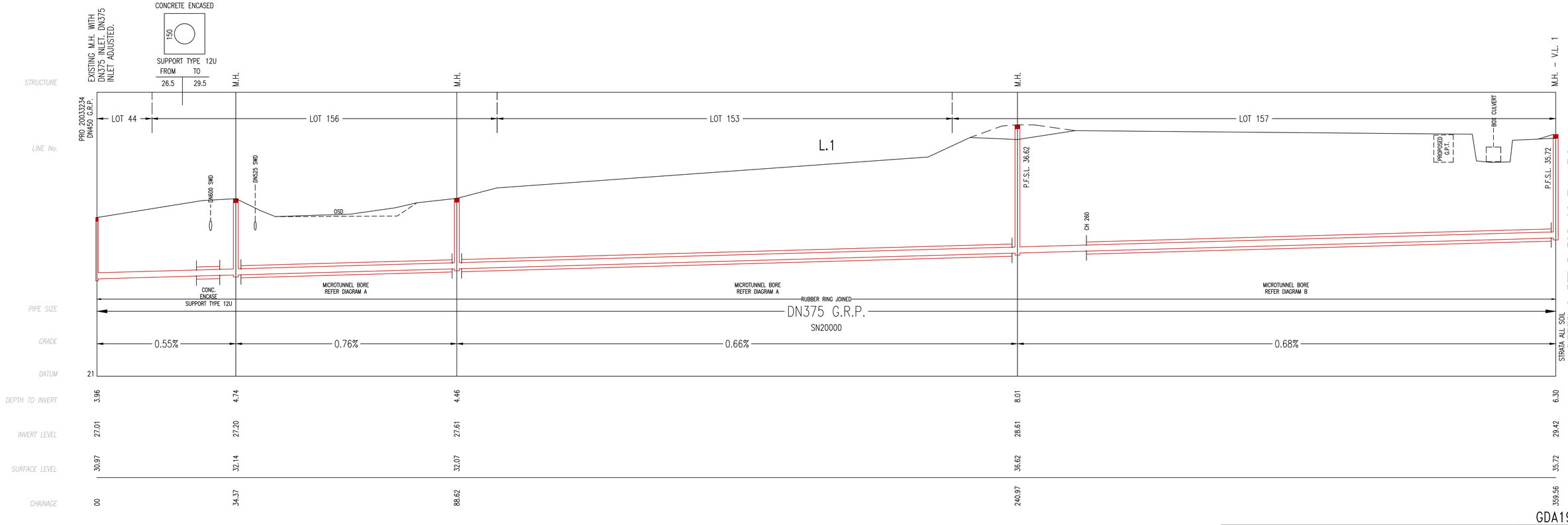
Case No. 179024WW

BLACKTOWN SEWERAGE
DRAINS VIA
SP1160
RIVERSTONE WTP

PLAN DRAWN DATE: 20.9.2021 VERSION: I SHEET 1 OF 5 SHEETS

A1F

CONTRACT PLAN
WORK-AS-CONSTRUCTED



GDA1994

PLAN DRAWN DATE: 20.09.21 VERSION: 1 SHEET 2 OF 5 SHEETS

WORK AS CONSTRUCTED CERTIFICATION	
DEVELOPER	GRAHAM PROJECTS P/L
W.S.C.	RMA INFRASTRUCTURE P/L
CONSTRUCTOR	PWC INFRASTRUCTURE P/L
COMPLETED	27.08.21
W.A.C. PREPARED	20.09.21
DESIGNER	RMA INFRASTRUCTURE P/L

I CERTIFY THAT THE WORKS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE WORK AS CONSTRUCTED DRAWINGS

Sydney WATER

SYDNEY WATER CORPORATION

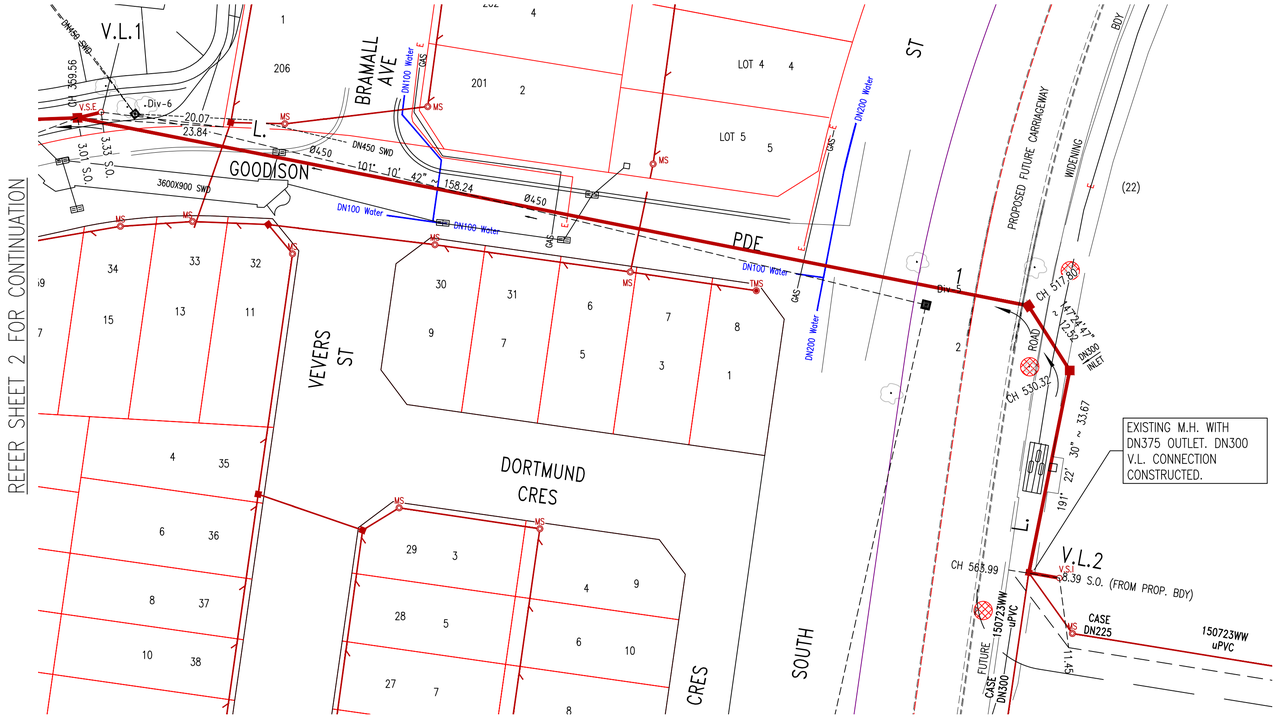
Case No. 179024WW | SHT 2 OF 5 SHTS.

SYDNEY WATER CORPORATION

FOR DETAILS OF SERVICES SEE SHEET 1

A1F

CONTRACT PLAN
WORK-AS-CONSTRUCTED



- DN375 G.R.P. PIPE CENTRALLY PLACED WITHIN LASER GUIDED FREE-BORED MICROTUNNEL
- ANNULUS BETWEEN PIPE BARREL AND BORED MICROTUNNEL COMPLETELY FILLED WITH GROUT BY GRAVITY
- TO PERMIT FLOW THROUGH ENTIRE VOID WITHOUT CLOGGING, GROUTING MIX TO COMPRISE A CEMENT FLY ASH FLUIDFIER AND WATER OR EQUIVALENT

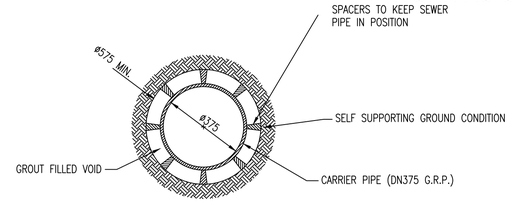


DIAGRAM A – TYPICAL FREE BORED MICRO TUNNEL & SEWER PIPE ARRANGEMENT

SCALE N.T.S

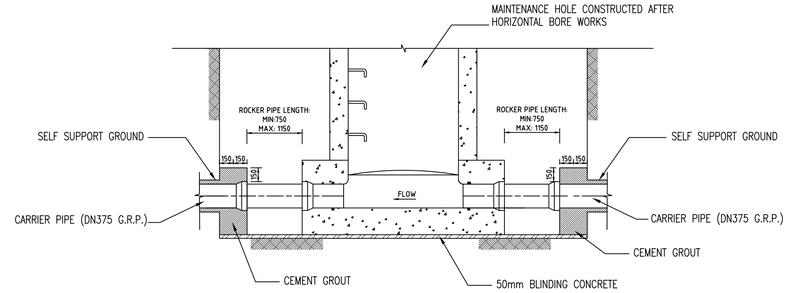
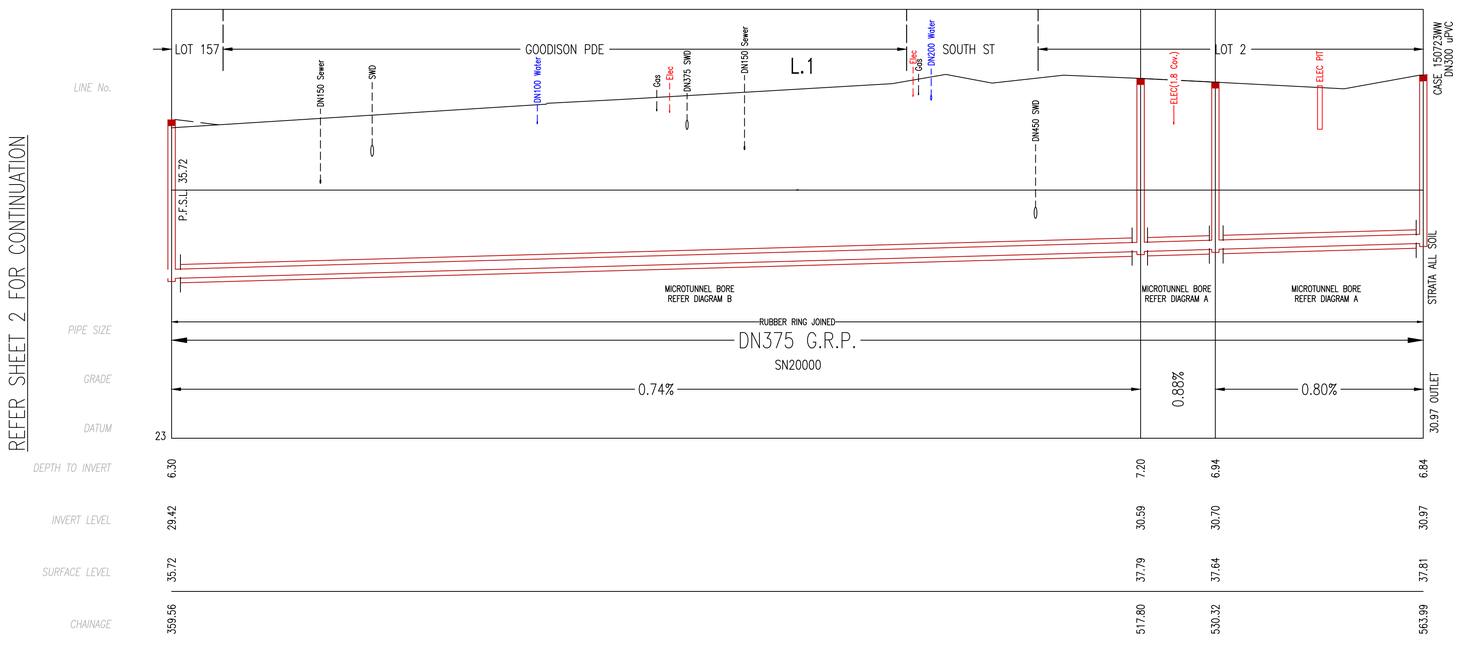
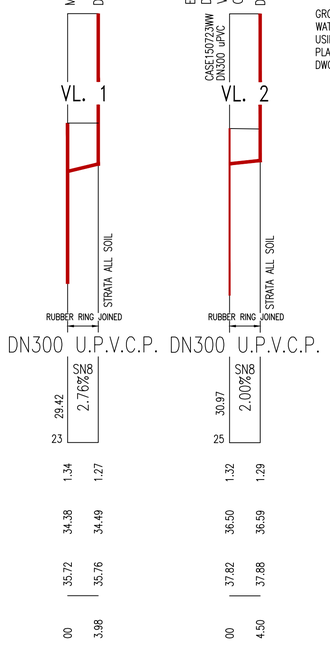
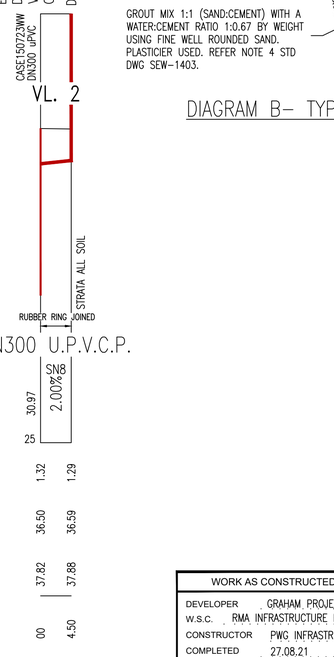


DIAGRAM B – TYPICAL M.H. CONNECTION DETAIL

SCALE N.T.S







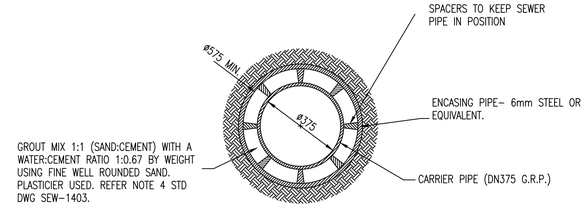


DIAGRAM B– TYPICAL MICROTUNNEL BORE DETAIL

SCALE N.T.S

PLAN DRAWN DATE: 20.09.2021 VERSION: 1 SHEET 3 OF 5 SHEETS

GDA1994

WORK AS CONSTRUCTED CERTIFICATION	
DEVELOPER	GRAHAM PROJECTS P/L
W.S.C.	RMA INFRASTRUCTURE P/L
CONSTRUCTOR	PWG INFRASTRUCTURE P/L
COMPLETED	27.08.21
W.A.C. PREPARED	20.09.21
DESIGNER	RMA INFRASTRUCTURE P/L

I CERTIFY THAT THE WORKS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE WORK AS CONSTRUCTED DRAWINGS

SYDNEY WATER CORPORATION

Sydney WATER

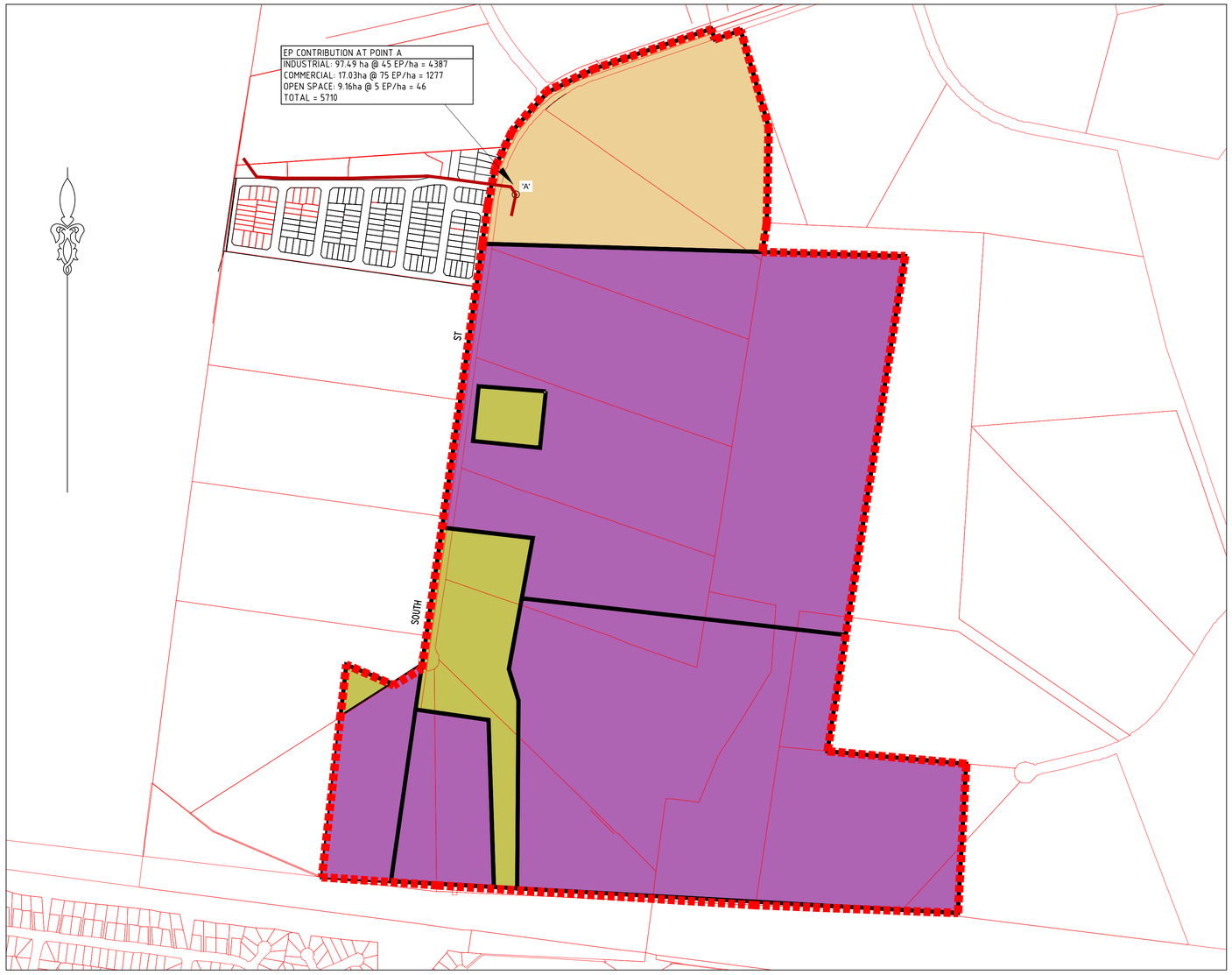
Case No. 179024WW | SHT 3 OF 5 SHTS.

SYDNEY WATER CORPORATION

FOR DETAILS OF SERVICES SEE SHEET 1

A1F

CONTRACT PLAN
WORK-AS-CONSTRUCTED



CATCHMENT PLAN

NOT TO SCALE

INDUSTRIAL 97.49 Ha @ 45EP/Ha = 4387 EP
COMMERCIAL 17.03 Ha @ 75EP/Ha = 1277 EP
OPEN SPACE 9.16 Ha @ 5EP/Ha = 46 EP
TOTAL CONTRIBUTING EP = 5710 EP

375 GRP
0.70%
TOTAL EP = 5710 EP
CAP.(Qf)= 183.88 L/S
DF = 65.51 L/S
PDWF = 21.84 L/S

LINE 1

NODE A
CHAINAGE 00
575.42

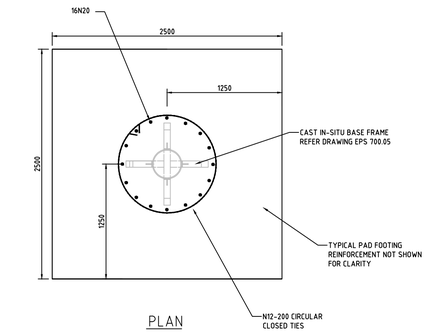
EP CALCS – LINE 1

LEGEND

: INDUSTRIAL USE
: COMMERCIAL USE
: OPEN SPACE
: MAJOR CATCHMENT BOUNDARY
: MINOR CATCHMENT BOUNDARY
: PROPOSED SEWER

STRUCTURE SCHEDULE

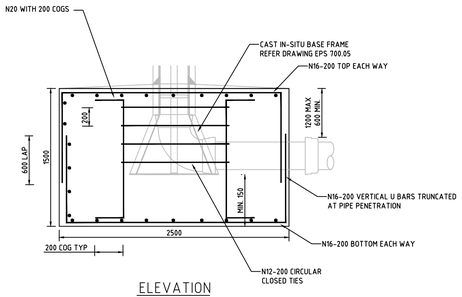
Line No.	Chainage	Easting	Northing	Type	Class of Cover	Material	Comments
1	0	297611.41	6267676.29	M.H.	-	in-Situ	Existing
1	34.37	297631.58	6267648.45	M.H.	D	in-Situ	DTC-2200 Issue F 18/03/15
1	88.62	297685.11	6267639.67	M.H.	D	in-Situ	DTC-2200 Issue F 18/03/15
1	240.97	297837.46	6267639.27	M.H.	D	in-Situ	DTC-2200 Issue F 18/03/15
1	359.56	297955.98	6267643.41	M.H.	D	in-Situ	DTC-2200 Issue F 18/03/15
1	517.80	298111.21	6267612.73	M.H.	D	in-Situ	DTC-2200 Issue F 18/03/15
1	530.32	298117.95	6267602.19	M.H.	D	in-Situ	DTC-2200 Issue F 18/03/15
1	563.99	298111.31	6267569.19	M.H.	-	in-Situ	Existing
V.L.1	0	297955.98	6267643.41	M.H.	D	in-Situ	DTC-2200 Issue F 18/03/15
V.L.1	3.98	297959.840	6267644.34	Vent		Stainless Steel	DN300, 18m High. Vent Shaft to be Guywire Type and constructed per drawing 700.05 Ver 1, EPS 700.06 Ver 1 . Educt Cowl constructed to drawing 700.11 Ver 1.
V.L.2	0	298111.31	6267569.19	M.H.	-	in-Situ	Existing
V.L.2	4.50	298116.26	6267568.30	Vent		Stainless Steel	DN300, 18m High. Vent Shaft to be Guywire Type and tconstructed per drawing 700.05 Ver 1, EPS 700.06 Ver 1 . Induct Cowl constructed to drawing 700.11 Ver 1.



PLAN

BASE BLOCK NOTES

1. ALL DIMENSIONS IN MILLIMETERS
2. CONCRETE CLASS N32 TO AS 1379
3. BASE BLOCK CAST ON UNDISTURBED GROUND AND SHALL HAVE A MINIMUM ALLOWABLE BEARING PRESSURE OF 100KPA
4. FOUNDATION MATERIALS INSPECTED AND APPROVED BY AN EXPERIENCED GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION OF THE CONCRETE BASE BLOCK. ANY OVER-EXCAVATION OR VOIDS IN THE FOUNDATION MATERIALS FILLED WITH N15 MASS CONCRETE TO AS1379.
5. VENT SHAFT WAS NOT ERECTED UNTIL THE CONCRETE BASE BLOCK HAS REACHED 25MPa STRENGTH
6. MAXIMUM HEIGHT OF VENT SHAFT 18m. OUTSIDE DIA. OF VENT SHAFT = 323.9mm



ELEVATION

VENT SHAFT BASE BLOCK DETAIL

FLOW SCHEDULE

SUMMARY												
SECTION	CHAINAGE	TOTAL AREA	TOTAL Grav	TOTAL Grav + Pump	PIPE SIZE (DN)	PIPE SIZE (ID)	PIPE GRADE	DESIGN FLOW (DF)	Qf (Capacity)	Actual	SELF CLEANSING	SLIME CONTROL	Capacity
	m	Ha	EP	EP	mm	mm	%	L/s	L/s	PDWF			Deficit
A	00-564	123.68	5710	5710	375	407	0.7	65.51	183.88	21.84	Self Cleansing OK	Slime Control OK	OK

GDA1994

WORK AS CONSTRUCTED CERTIFICATION

DEVELOPER GRAHAM PROJECTS P/L
W.S.C. RMA INFRASTRUCTURE P/L
CONSTRUCTOR PWG INFRASTRUCTURE P/L
COMPLETED 27.08.21
W.A.C. PREPARED 20.09.21
DESIGNER RMA INFRASTRUCTURE P/L

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SYDNEY WATER CORPORATION

Sydney WATER

Case No. 179024WW | SHT 4 OF 5 SHTS.

SYDNEY WATER CORPORATION

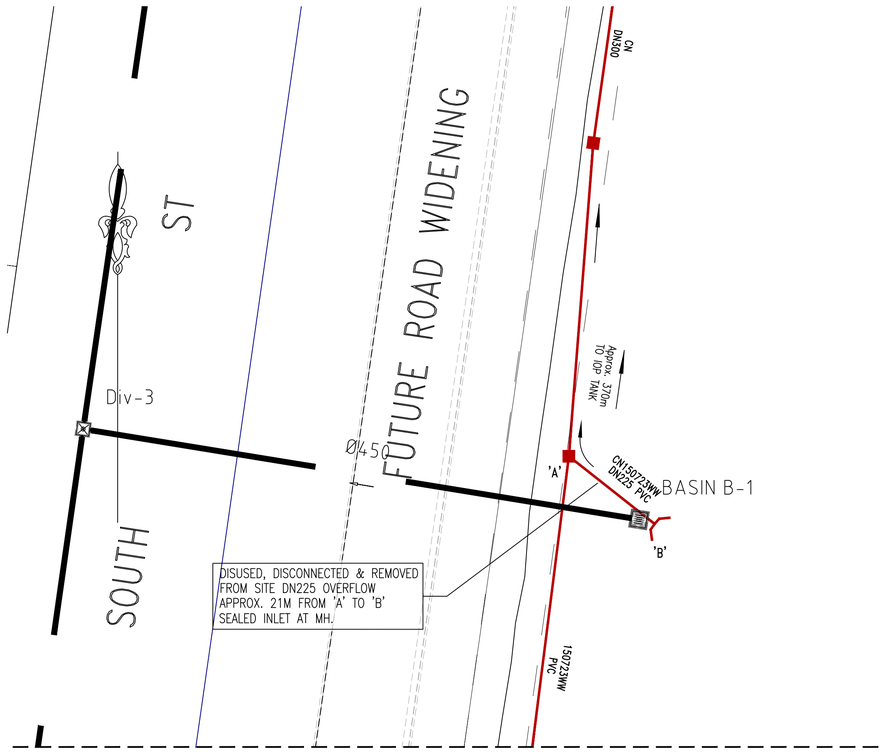
FOR DETAILS OF SERVICES SEE SHEET 1

PLAN DRAWN DATE: 20.09.2021 VERSION:1 SHEET 4 OF 5 SHEETS

A1F

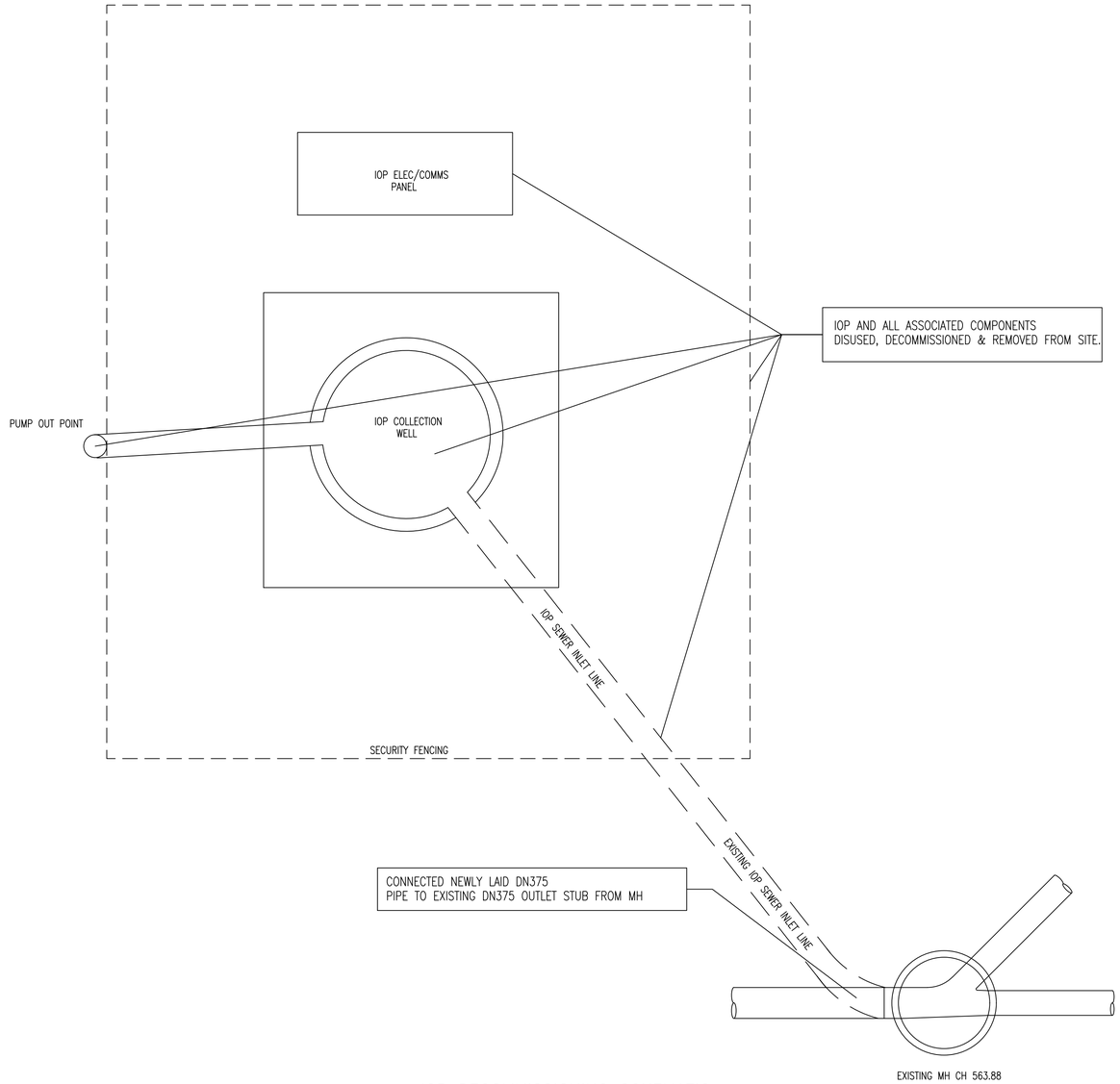
CONTRACT PLAN

WORK-AS-CONSTRUCTED



INSET PLAN

NOT TO SCALE



IOP DECOMMISSIONING SCHEMATIC

NOT TO SCALE

GDA1994

WORK AS CONSTRUCTED CERTIFICATION	Sydney WATER — SYDNEY WATER CORPORATION
DEVELOPER . GRAHAM PROJECTS P/L	Case No. 179024WW | SHT 5 OF 5 SHTS.
W.S.C. . RMA INFRASTRUCTURE P/L	
CONSTRUCTOR . PWC INFRASTRUCTURE P/L	
COMPLETED . 27.08.21	
W.A.C. PREPARED . 20.09.21	
DESIGNER . RMA INFRASTRUCTURE P/L	SYDNEY WATER CORPORATION
I CERTIFY THAT THE WORKS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE WORK AS CONSTRUCTED DRAWINGS	FOR DETAILS OF SERVICES SEE SHEET 1

PLAN DRAWN DATE: 20.09.2021 VERSION:1

SHEET 5 OF 5 SHEETS

APPENDIX B
ELECTRICAL DEMAND

1. Dexus have provided a concept masterplan for the proposed development of a warehouse/logistics facility.

2. Based on that masterplan the estimated electrical demand:

Development Type	Floor Area	Demand/m^2	Demand
Warehouse	40,900	17VA/m^2	0.7MVa
Office	2,100	120VA/m^2	0.25MVa
		Total	**0.95MVa SAY 1MVa**