Donnelley Simpson Cleary
Consulting Engineers

CAMPBELLTOWN HOSPITAL REDEVELOPMENT

STAGE 2

Infrastructure Report

For

HYDRAULIC AND FIRE SERVICES

Project No : 7951

Revision : Final Issue

Date : 21st June, 2018

REVISION SCHEDULE

NO	DATE	DESCRIPTION
1	25th May, 2018	Review Issue
2	4th June, 2018	Review Issue
3	20th June, 2018	Review Issue
4	21st June, 2018	Final Issue

☒	APPROVED	This document is issued for the purpose of the latest revision.
☐	UNCONTROLLED	Content in this document may differ from that contained in the latest revision.

Note: Revisions to the text of this specification section subsequent to Tender Issue are indicated with a vertical line and Revision number in the right margin.

Modified text - eg: Provide and install pressure switches and flow switches where required to ensure correct operation of the pumps.

Deleted text, no longer applicable - eg: ~~Provide and install pressure switches and flow switches where required to ensure correct operation of the pumps.~~

TABLE OF CONTENTS

1 EXECUTIVE SUMMARY

General – Campbelltown Hospital Stage 2 Expansion will be connected to the existing infrastructure within the site. The services that are being provided will be generally compliant with BCA.

Sanitary Plumbing and Drainage – There are Sydney Water sewer services serving the site, which are located in or adjacent to Parkside Crescent. It is envisaged the new building will connect to the existing sewer via new manholes. This will be confirmed as part of the feasibility application and subsequent section 73 notice of requirement from Sydney Water.

Domestic Cold Water –The site is fed from two Sydney Water Watermain's located in Parkside Crescent and Appin Road. The connection between the main located in Parkside Crescent and the site is via 1x150mm dia line and the connection to the main in Appin Road is via 1x225mm dia service.

Potable water to the new building will be provided from the existing reticulated system. The two services are interconnected within the site. The system has been installed with the intention of creating a 150mm site ringmain with isolation valves throughout the ringmain to enable the closure of sections without disrupting the cold water supply to the whole facility. The currently the 150mm ring main is approximately 80% complete and is proposed to be completed as part of this development. Isolation valves will be installed within the existing piped system to enable the new works to proceed with little disruption to the operation of the hospital.

Gas Services – The site is fed from a high pressure main and is reticulated through the site as a medium pressure installation. The new building will connect to the existing gas main via a new tee and valve. Initial advice is being sought from Jemena as to the capacity of the gas mains a formal application to Jemena via Origin Energy will be required as the design develops and the will confirm the extent of amplification of the meter set that will be required.

Fire Hydrant System – The existing Fire hydrant system to the hospital is from a 150mm dia connection to the authorities watermain located in the Parkside Crescent. Fire protection is from external and internal hydrants. The internal mains have been installed with the intention of creating a ringmain with isolation valves throughout to enable the closure of sections of the main without disrupting the fire hydrant water supply to the whole facility. The internal ring main is approximately 80% complete and should be completed as part of this development. A new building fire hydrant supply will connect to the existing system via a new tee and valve. Pumps and tanks will be installed as part of a dual supply to the new building and the internal building pipework will be configured as a ringmain.

Fire Sprinkler System – The existing Fire sprinkler system to the hospital is from a 150mm dia connection to the authorities watermain located in the Parkside Crescent. The internal mains have been installed with the intention of creating a ringmain with isolation valves throughout to enable the closure of sections of the main without disrupting the fire sprinkler water supply to the whole facility. The internal ring main is approximately 80% complete and will need to be completed. A new building sprinkler supply will connect to the existing system via a new tee and valve. Pumps and tanks will be installed as part of a dual supply to the new building. An alarm valve room will be provided.

Existing site services drawing has been included in the appendixes

2 GENERAL

The proposed Campbelltown Stage 2 Expansion is to be located on the existing Hospital site

This review covers the following services: -

Sewer Drainage
Cold Water
Hot Water
Natural Gas
Fire Services

2.1 SITE LOCATION

The Campbelltown Hospital main entrance is off Therry Road, the site also has a second entry from Parkside Crescent

In addition to the Hospital the site also contains the Western Sydney University Clinical School.

3 EXISTING AND NEW AUTHORITIES SERVICES

3.1 WATER MAINS

With reference to Sydney Water map 6513369513065181 services map 09/10/2017 Watermain's are located as follows: -

- Parkside Crescent – 1x150mm dia uPVC watermain, located on the southern side of the road where the main enters central road from Therry Road and on the Northern side of the road west of the roundabout in Central Road.
- Appin Road – 1x250mm dia DICL watermain, located on the eastern side of the road adjacent to the Northern boundary of the site.
- Refer attached Sydney Water map in appendix A.

3.2 WATER MAIN PRESSURE

Two mains pressure enquiries were lodged with Sydney Water on 7/12/2017 (copy attached). The enquires were for the pressure and flow within the 150mm dia watermain located in Central Road adjacent to the "Tee and Valves" for the hospital supply and one for the connection to the 250mm main located in Appin Road.

Pressure and Flow results for the 150mm main with an AHD of		Pressure and Flow results for the 250mm main with an AHD of 84m	
Flow l/s	Pressure Head M	Flow l/s	Pressure Head M
0.66	76	0.66	66
5	78	5	67
10	77	10	67
15	77	15	67
20	77	20	67
26	76	26	66
30	76	30	66
40	75	40	65
50	74	50	65
Maximum Permissible flow		Maximum Permissible flow	
67	69	120	54

The pressures obtained are good at domestic and fire flow rates. The water main can provide reasonable flow rates and pressures at domestic flow rates however storage tanks may be provided to the development.. At the higher firefighting flow rate requirements and due to the height of the building onsite storage tanks will be provided for the fire services. We note the pressure enquiries are valid for a period of 12 months from the date of issue by Sydney Water. While the pressures and flows are reasonable a feasibility study has been lodged with Sydney Water who will determine if the network has capacity to service the proposed on site expansion. The report will be updated following receipt of the feasibility study.

3.3 WATER CONNECTIONS

There are three potable water main connections to the site. One 100mm connection to the main located in Parkside Crescent, one 32mm connection to the main located in Parkside Crescent and one 225 connection to the water main located in Appin Road. The two larger services are interconnected within the site via a 150mm service. The third service feeds the helipad

The 100mm connection in Parkside Crescent passes through an 80mm water meter assembly and then through two 150mm Reduced Pressure Zone Devices (RPZD) before connecting into a common 150mm service.

The 225mm connection to the main in Appin road passes through a 150mm water meter assembly and then through two 150mm Reduced Pressure Zone Devices (RPZD) before connecting into a common 150mm service

The 150mm service covers approximately 80% of the site in a ring main configuration. The connection on of the remaining section of the service is via a 100mm service connected to the ring main at the rear of Block B. The service travels from North Block B between Waratah House and Block C before turning in a westerly direction and crossing the carpark to connect to the 150mm ring main.

Based on visual inspections, survey information and available drawings the following is a description of the services connections for the site.

COLD WATER MAINS CONNECTIONS - SUMMARY					
No.	**Connection Size**	**Meter Size**	**Connection Serves**	**Watermain Connection**	**Comments / Condition**
1	100mm	80mm	Hospital Campus	150mm dia main in Parkside Crescent	Incoming service, to the South West of the main entrance driveway. The services is fitted with Dual 150mm backflow prevention device (RPZD) installed downstream of the water meter.
1	225mm	100mm	Hospital Campus	225mm dia main in Appin Road.	Incoming service, to the North East corner of the site. The service is fitted with dual 150mm backflow prevention device (RPZD) installed downstream of the water meter.
1	32mm	32mm	Helipad	150mm dia main in Parkside Crescent.	Incoming service, to the South West of the main entrance driveway. The services is fitted with Dual 32mm backflow prevention device (RPZD) and flame trap installed downstream of the water meter

A feasibility Study has been completed with Sydney Water (refer appendix C). The initial advice is the surrounding network has the capacity for the proposed increase in the demand from the site. However a more detailed assessment lodged via a section 73 application for Notice of Requirements will be required as the design develops. This may change the advice provided by Sydney Water.

3.4 SEWER MAINS

With reference to Sydney Water map 6513369513065181 services map 09/10/2017 Sewer mains are located as follows: -

- Parkside Crescent – 1x225mm concrete encased PVC sewer main which connects to a 750mm trunk main located in the adjacent park.
- Parkside Crescent – 1x300mm concrete encased PVC sewer main located on the North Western Corner of the site. The line passes through the adjoining property before connecting to the 750mm trunk main located north east of Hyde Parade.
- Refer attached Sydney Water map in appendix A

A feasibility Study has been completed with Sydney Water (refer appendix C). The initial advice is the surrounding network has the capacity for the proposed increase in the demand from the site. However a

more detailed assessment lodged via a section 73 application for Notice of Requirements will be required as the design develops. This may change the advice provided by Sydney Water.

3.5 SEWER CONNECTIONS

There are three sewer connections serving the hospital site.

- A 150mm connection in Parkside Crescent which connects to the 225mm main in Parkside Crescent. We understand this is the connection for the Macarthur Clinical School. Drawings are not available for this building to confirm this understanding.
- A 225mm connection in Parkside Crescent which connects via a boundary trap to the 225mm main in Parkside Crescent.
- A 225mm connection adjacent to Parkside Crescent, this is located at the North West Corner boundary of the site and connects via a boundary trap to the 300mm line in the North Western Corner of the property.

All of the above service connections are gravity connections.

SEWER CONNECTIONS - SUMMARY				
No.	**Connection Size**	**Connection Serves**	**Sewermain Connection**	**Comments / Condition**
1	150	Hospital Campus	Connects to 225dia sideline	Extent of connection to the site is to be confirmed
1	225	Hospital Campus	Connects to 225dia sideline	Line is concrete encased PVC
1	225	Hospital Campus	Connects to 300dia sideline	Line is concrete encased PVC

3.6 GAS MAINS

With reference to Jemena Network drawings MP3D (updated 15/08/2016), MP6B (update 01/03/2017), C1C (update 01/08/2017) and C4A (update 27/09/2017) which were obtained 09/10/2017 gas mains are located as follows: -

- Therry Road – 1x100mm secondary main (1050kPa) located 2.0m from the property boundary.
- Refer attached Jemena maps in appendix A

3.7 GAS CONNECTIONS

There is one gas meter assembly complete with boundary regulators located on the corner of Therry Road and Parkside Crescent.

GAS (Natural) CONNECTIONS - SUMMARY				
No.	**Connection Size**	**Connection Serves**	**Gas Connection**	**Comments / Condition**
1	65mm	Hospital Campus	100mm	Site is connected to medium/high pressure gas main. Boundary regulator is a dual regulator set with medium

				pressure on the outlet side of the assembly.

Application has been made to Jemena to determine the adequacy of the surrounding infrastructure to support the development. Jemena have confirmed the network has sufficient capacity to support the current development and further application will be required through the retailer (Origin Energy) for an upgrade of the connection and meter assembly. A copy of the correspondence has been included in the appendix of the report.

3.8 FIRE HYDRANT SERVICE CONNECTIONS

A 150mm dia fire hydrant water supply for the site connects to the 150mm dia Sydney Water watermain on Parkside Crescent located on the Northern side of the road. The fire hydrant service is connect via a double check detector assembly with by-pass meter

3.9 FIRE SPRINKLER SERVICE CONNECTIONS

A 150mm dia fire sprinkler water supply for the site connects to the 150mm dia Sydney Water watermain on Parkside Crescent located on the Northern side of the road. The fire hydrant service is connected via a double check detector assembly with by-pass meter

FIRE SERVICES CONNECTIONS - SUMMARY				
No.	**Connection Size**	**Connection Serves**	**Fire main Connection**	**Comments / Condition**
1	150mm	Hospital Campus Fire Hydrants	150mm dia main in Parkside Crescent	Incoming service, to the South West of the main entrance driveway. The services is fitted with single double check detector assembly (DCDA) with by-pass meter installed upstream of the booster assembly.
1	150mm	Hospital Campus Fire Sprinklers	150mm dia main in Parkside Crescent	Incoming service, to the South West of the main entrance driveway. The services is fitted with single double check detector assembly (DCDA) with by-pass meter installed upstream of the booster assembly.

4 SERVICES AND CONNECTIONS

Based on survey information received, visual walk through, discussions with the hospital engineering department and other representatives along with information available from existing authority documents, we have reviewed the existing services throughout the site and provide the following commentary describing the major systems.

4.1 COLD WATER SERVICES

As noted earlier in the report there are two potable water main connections to the site. One 100mm connection to the main located in Parkside Crescent and one 225 connection to the water main located in Appin Road. The two supplies are interconnected within the site via a 150mm service. There is also a separate 32mm water meter assembly adjacent to the helideck.

The individual connection of the buildings requires further investigation as based on the current information the buildings appear to be interconnected internally. Further investigation is being completed and confirmation will be provided if an internal site services review is required.

Campbelltown Hospital – Cold Water Supplies to Individual portions of the Buildings and remote Buildings associated with the campus			
Site Services			
Item No.	**Building Name**	**Connection Size**	**Comments**
1	Block A	100	Branch from Block B
	Block A theatres	6000 L storage tank and pumps	Branch from Block A
2	Block B	150mm	Fed from the main external services and extends to potable water storage tanks (approximately 7500 litres each) and on flusherette tank approximately 6000 litres. (note there is conflicting information on this pipe size)
3	Block C	65mm	Fed from Block B main line apart from the Paediatric section constructed in 2000 which has separate connection to the water service external of the building.
4	Block D	100mm	Connected to new partially complete ringmain
5	CTC	2x50mm	Connected from Block A in two locations in a ring configuration.
6	Waratah House	1x40mm	Connect to Block B plant room via ceiling space of walkway
7	Gnakalun	1x40mm	Connects directly the internal water main.
8	Birunji	1 x 32mm	Connects to the internal water main.

4.2 SANITARY PLUMBING AND SEWER DRAINAGE

Based on information received from the Hospital's engineering department, visual "walk through" and information available from existing documents we comment as follows:

The site has three sewer connections;

- A 150mm connection in Parkside Crescent which connects to the 225mm main in Parkside Crescent. We understand this is the connection for the Macarthur Clinical School. (TBC)
- A 225mm connection in Parkside Crescent which connects via a boundary trap to the 225mm main in Parkside Crescent this line extends and connects Block C (partial) Block B, and Block A.
- A 225mm connection adjacent to Parkside Crescent, this is located at the North West Corner boundary of the site and connects via a boundary trap to the 300mm line in the North Western Corner of the property. This line extends initially as a 225dia line to Block D, CTC building, dilution pit from Block A, and reduces to be 100mm where Block C (partial) is connected.

BUILDING SEWER CONNECTIONS - SUMMARY				
No.	**Connection Size**	**Building Connection Serves**	**Sewermain Connection**	**Comments / Condition**
1	150	Education Centre	150	The extent of connection is to be confirmed following receipt of Education Centre Buildings
2	225	Block C(partial), Block B, and Block A, Gnakalun Building and the original section of the Waratah House	225	Block B and a portion of Block C are connected the upstream 150dia sewer, Block A is connected to the 225dia section of the sewer.
3	225	Block C(partial), CTC Building, dilution pit from Block A, Block D and the extension on Waratah House	225	Line is concrete encased PVC

4.3 GAS SERVICES

The gas supply for the site extends from the boundary regulator to the new partially complete ringmain. The existing service still feeds Block A, B and the Gnakalun Building. There is some conflicting information on the gas services within the site which should be clarified by the current inground services survey. The new building will connect to the existing internal ring main.

Campbelltown Hospital – Gas Supplies to Individual portions of the Buildings and remote Buildings associated with the campus			
Site Services			
Item No.	**Building Name**	**Connection Size**	**Comments**
1	Block A	50mm to regulator 100mm within building	Feeds from external medium pressure main line (not the ring main) Regulator located on fire stairs adjacent to main entry. Feeds mechanical services, steam plant and the café.
2	Block B	50mm	Feeds mechanical and kitchen.
3	Block C	Nil	-
4	Block D	100mm	Building is connected to the external services via a 100kPa line. Building meter set and

			pressure regulator are located in a dedicated room on ground floor. Gas is circulated through the building to the upper level plant room via a 100mm line at 7Kpa.
5	CDC	Nil	Nil
6	Waratah House	TBC	-
7	Gnakalun	1x32mm	Connects to internal medium pressure proposed ring main feeds mechanical and domestic hot water
8	Birunji	1x25mm	Connects to internal medium pressure proposed ring main feeds mechanical and domestic hot water

When the mechanical and hydraulic services designs have been developed and the final gas demands are clarified application will be required through Origin Energy to determine the extent of upgrade that will be required to cater for the increase in demand. The upgrade may include an increase in the incoming connection pipework and an increase in the size of the gas meter assembly.

4.4 FIRE HYDRANT SERVICES

The fire hydrant booster assembly for the site is located at the main vehicular entry to the site. The services are connected to the partially completed 150mm service that has been installed with the intention of providing a ringmain to the site. There are provisional valves and branches provided for on the partially completed ringmain for connection to the new building. The site is protected via a series of external and internal fire hydrants.

4.5 FIRE SPRINKLER SERVICES

The fire sprinkler booster assembly for the site is located at the main vehicular entry to the site adjacent to the fire hydrant booster assembly. The services are connected to the partially complete ringmain. There are provisional valves and branches provided for on the ringmain for connection to the new building

5 APPENDIX A –INFRASTRUCTURE DIAGRAMS

DIAL BEFORE YOU DIG www.1100.com.au

Asset Information

Sydney WATER

Legend

Sewer

- Sewer Main (with flow arrow & size type text) — 225 PVC
- Disused Main
- Rising Main
- Maintenance Hole (with upstream depth to invert) — 1.7
- Maintenance Hole with Overflow
- Ventshaft EDUCT — 225
- Ventshaft INDUCT — 150
- Property Connection Point (with chainage to downstream MH) — 10.6
- Concrete Encased Section — Concrete Encased
- Terminal Maintenance Shaft — TMS
- Maintenance Shaft — MS
- Rodding Point — RP
- Lamphole
- Vertical — VENT
- Pumping Station — SP0882

Pressure Sewer

- Pressure Sewer Main
- Pump Unit (Alarm, Electrical Cable, Pump Unit) — A
- Property Valve Boundary Assembly
- Stop Valve
- Reducer / Taper
- Flushing Point — FP

Vacuum Sewer

- Pressure Sewer Main
- Division Valve
- Vacuum Chamber
- Clean Out Point

Stormwater

- Stormwater Pipe
- Stormwater Channel
- Stormwater Gully
- Stormwater Maintenance Hole

Property Details

- Boundary Line
- Easement Line
- House Number — 25, 6, 26, 8, 27, 10, 28, 12
- Lot Number
- INFORMATION ELSEWHERE see Guide ref 12345 (work-as-executed diagram available via website)
- Proposed Land — 1, 2
- Sydney Water Heritage Site (please call **132 092** and ask for the **Heritage Unit**)

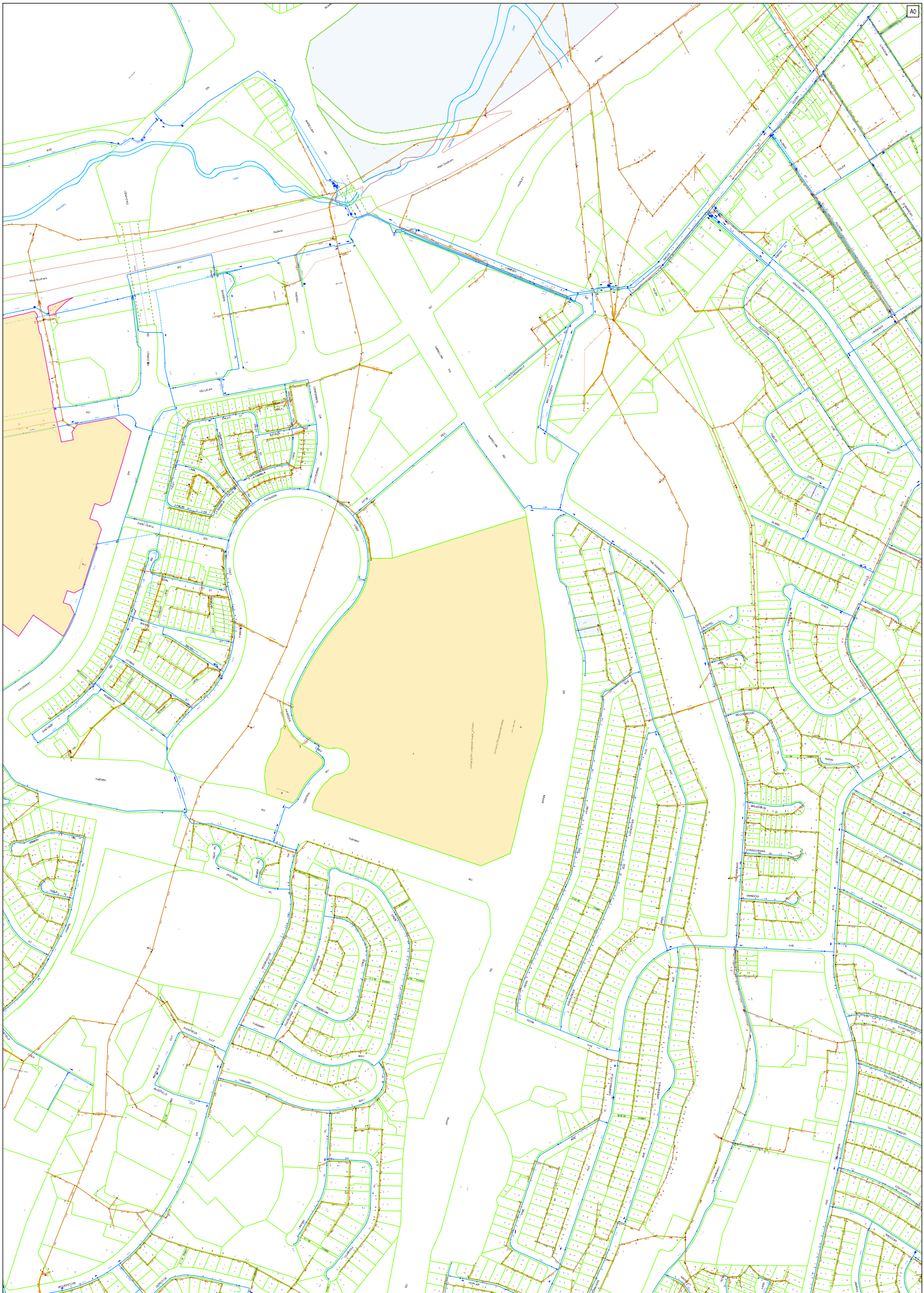
Water

- WaterMain - Potable (with size type text) — 200 PVC
- Disconnected Main - Potable
- Proposed Main - Potable
- Water Main - Recycled
- Special Supply Conditions - Potable
- Special Supply Conditions - Recycled
- Restrained Joints - Potable
- Restrained Joints - Recycled
- Hydrant
- Maintenance Hole
- Stop Valve
- Stop Vale with By-pass
- Stop Valve with Tapers
- Closed Stop Valve
- Air Valve
- Valve
- Scour
- Reducer / Taper
- Vertical Bends
- Reservoir
- Recycled Water is shown as per Potable above. Colour as indicated

Private Mains

- Potable Water Main
- Recycled Water Main
- Sewer Main
- Symbols for Private Mains shown grey

6 APPENDIX B SITE SERVICES INFORMATION



A0

DBYD Address:
n/a Appin Rd
Campbelltown NSW 2560

DBYD Job No: 13065181

DBYD Sequence No: 65133695

SYDNEY WATER CORPORATION

Scale: 1:2000

Date of Production: 09/10/2017

Plan 1 of 1

0m 30m 60m 90m 120m 150m

Network Protection

High Pressure - Assets Affected

In reply to your enquiry, there are **High Pressure Gas Mains** in the vicinity of your intended work, as generally illustrated on the attached map. There may also be other mains or services at the location, as discussed in the warning below. For an explanation of the map, please see the key below.
The following excavations guidelines apply:

Excavation Guidelines:

Prior to **any** excavations in this area, you ***must*** contact the High Pressure Response Coordinator on **1300 665 380**. ***(Appointments will be coordinated with availability of a Jemena Representative)*** to arrange a survey. For all works in the vicinity of High Pressure Gas Mains you must arrange for a Jemena Representative to attend and supervise all excavations. Charges apply for attendance of any works outside the hours of 7am to 4pm, Monday to Friday ("**Standard Business Hours**") and for any attendance during Standard Business Hours that is longer than 2 hours.

In accordance with clause 34(5) of the Gas Supply (Safety and Network Management) Regulation 2013 (NSW), you should be informed that all excavation, (including pot-holing by hand to confirm the location of pipes) should be performed in accordance with "***Work Near Underground Assets Guideline"*** *published in 2007 by the Work Cover Authority.*

A copy of this Guideline is available at: www.workcover.nsw.gov.au

KEY

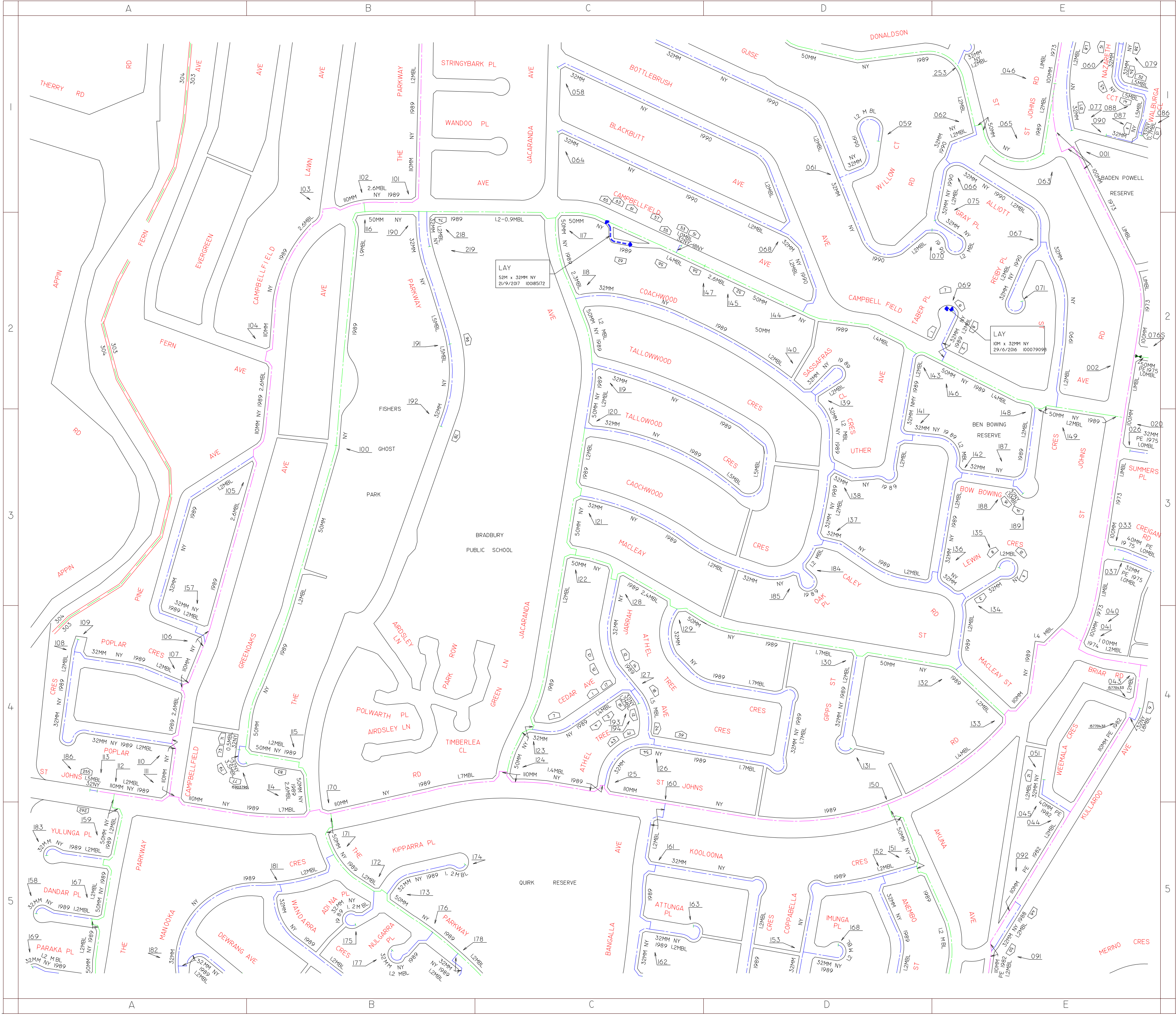
	MAX ALLOWABLE OPERATING PRESSURE
T — TRUNK PIPELINE	7000 kPa
P — PRIMARY MAIN	3500 kPa
S — SECONDARY MAIN	1050 kPa
400 — NETWORK MAIN	400 kPa
NETWORK MAIN	300 kPa
NETWORK MAIN	210 kPa
100 — NETWORK MAIN	100 kPa
30 — NETWORK MAIN	30 kPa
NETWORK MAIN	7 kPa
NETWORK MAIN	2 kPa
PROPOSED MAINS	

	VALVE
S	SYSTEM PRESSURE REGULATOR
	SIPHON
123	NETWORK NODE
123S	NETWORK VALVE NODE
1298	VALVE NUMBER
6NB	6 INCH CAST IRON MAIN
150MM	150MM STEEL MAIN
110MM PE/NY	110MM POLYETHYLENE/NYLON MAIN
6 NB 50MM NY	50MM NYLON INSERTED INTO 6NB CAST IRON MAIN
1.2MBL	DISTANCE IN METRES OF MAIN FROM BOUNDARY LINE
1957	YEAR LAID
123	HOUSE NUMBER
P	PRESSURE MONITORING STATION
	MUNICIPALITY BOUNDARY
	NETWORK BOUNDARY
PR 11-2 3	STEEL MAIN PROJECT NUMBER

Warning: The enclosed plans show the position of Jemena Gas Networks (NSW) Ltd's underground gas mains and installations in public gazetted roads only. **Individual customers' services and services belonging to other third parties are not included** on these plans. These plans have been prepared solely for the use of Jemena Gas Networks (NSW) Ltd and Jemena Asset Management Pty Ltd (together "**Jemena**") and any reliance placed on these plans by you is entirely at your own risk. The plans may show the position of underground mains and installations relative to fences, buildings etc., as they existed at the time the mains etc were installed. The plans may not have been updated to take account of any subsequent change in the location or style of those features since the time at which the plans were initially prepared. Jemena makes no warranty as to the accuracy or completeness of the enclosed plans and does not assume any duty of care to you nor any responsibility for the accuracy, adequacy, suitability or completeness of the plans or for any error, omission, lack of detail, transmission failure or corruption in the information provided. Jemena does not accept any responsibility for any loss that you or anyone else may suffer in connection with the provision of these plans, however that loss may arise (including whether or not arising from the negligence of Jemena, its employees, agents, officers or contractors). The recipient of these plans must use their own care and diligence in carrying out their works and must carry out further surveys to locate services at their work site. Persons excavating or carrying out other earthworks will be held responsible for any damage caused to Jemena's underground mains and equipment. Jemena advises that you may be required to carry out potholing by hand if required by a Jemena Representative to confirm the location of Jemena's main and installations. This must also be performed by you under the supervision of a Jemena Representative and be carried out in accordance with the Working Near Underground Assets Guideline published in 2007 by Work Cover Authority

In case of Emergency Phone 131 909 (24 hours)

Admin
1300 880 906



CAMPBELLTOWN 4A

SCALE 1:2000

50 0 50 100 150 200

THIS MAP UPDATED ON 27/09/2017
THIS PLAN IS DIAGRAMATIC ONLY. DISTANCES SCALED FROM THIS PLAN MAY NOT BE ACCURATE.
DATE ALTERED:........................ BY:...............

MP3D	C1C	C1D
MP6B	C4A	C4B
MP6D	C4C	C4D

ADJOINING MAPS

304 303	CAMPBELLTOWN
NETWORK AREA	MUNICIPALITY AREA

Jemena

KEY

MAX ALLOWABLE OPERATING PRESSURE

Symbol	Description	Pressure
T	TRUNK PIPELINE	7000 kPa
P	PRIMARY MAIN	3500 kPa
S	SECONDARY MAIN	1050 kPa
400	NETWORK MAIN	400 kPa
	NETWORK MAIN	300 kPa
	NETWORK MAIN	210 kPa
100	NETWORK MAIN	100 kPa
30	NETWORK MAIN	30 kPa
	NETWORK MAIN	7 kPa
	NETWORK MAIN	2 kPa
	NETWORK MAIN WITH MAIN STUBS	
	PROPOSED MAINS	
PR II-2 3	STEEL MAIN PROJECT NUMBER	
	PRESSURE MONITORING STATION	
	VALVE	
	SYSTEM PRESSURE REGULATOR	
S	SIPHON	
123	NETWORK NODE	
123S	NETWORK VALVE NODE	
1298	VALVE NUMBER	
6NB	6 INCH CAST IRON MAIN	
150MM	150MM STEEL MAIN	
110MM PE/NY	110MM POLYETHYLENE/NYLON MAIN	
6NB 50MM NY	50MM NYLON INSERTED INTO 6NB MAIN CAST IRON MAIN	
1.2MBL	DISTANCE IN METRES OF MAIN FROM BOUNDARY LINE	
1957	YEAR LAID	
	MUNICIPALITY BOUNDARY	
	NETWORK BOUNDARY	
123	HOUSE NUMBER	

CAMPBELLTOWN 4A

MENANGLE PARK 3D

SCALE 1:2000

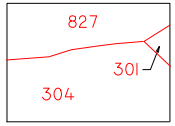
50 0 50 100 150 200

THIS MAP UPDATED ON 15/08/2016
THIS PLAN IS DIAGRAMATIC ONLY. DISTANCES SCALED FROM THIS PLAN MAY NOT BE ACCURATE.

DATE ALTERED:..... BY:.....

MP3A	MP3B	CIA
MP3C	MP3D	CIC
MP6A	MP6B	C4A

ADJOINING MAPS



NETWORK AREA

CAMPBELLTOWN

MUNICIPALITY AREA

Jemena

KEY

MAX ALLOWABLE OPERATING PRESSURE

T	TRUNK PIPELINE	7000 kPa
P	PRIMARY MAIN	3500 kPa
S	SECONDARY MAIN	1050 kPa
400	NETWORK MAIN	400 kPa
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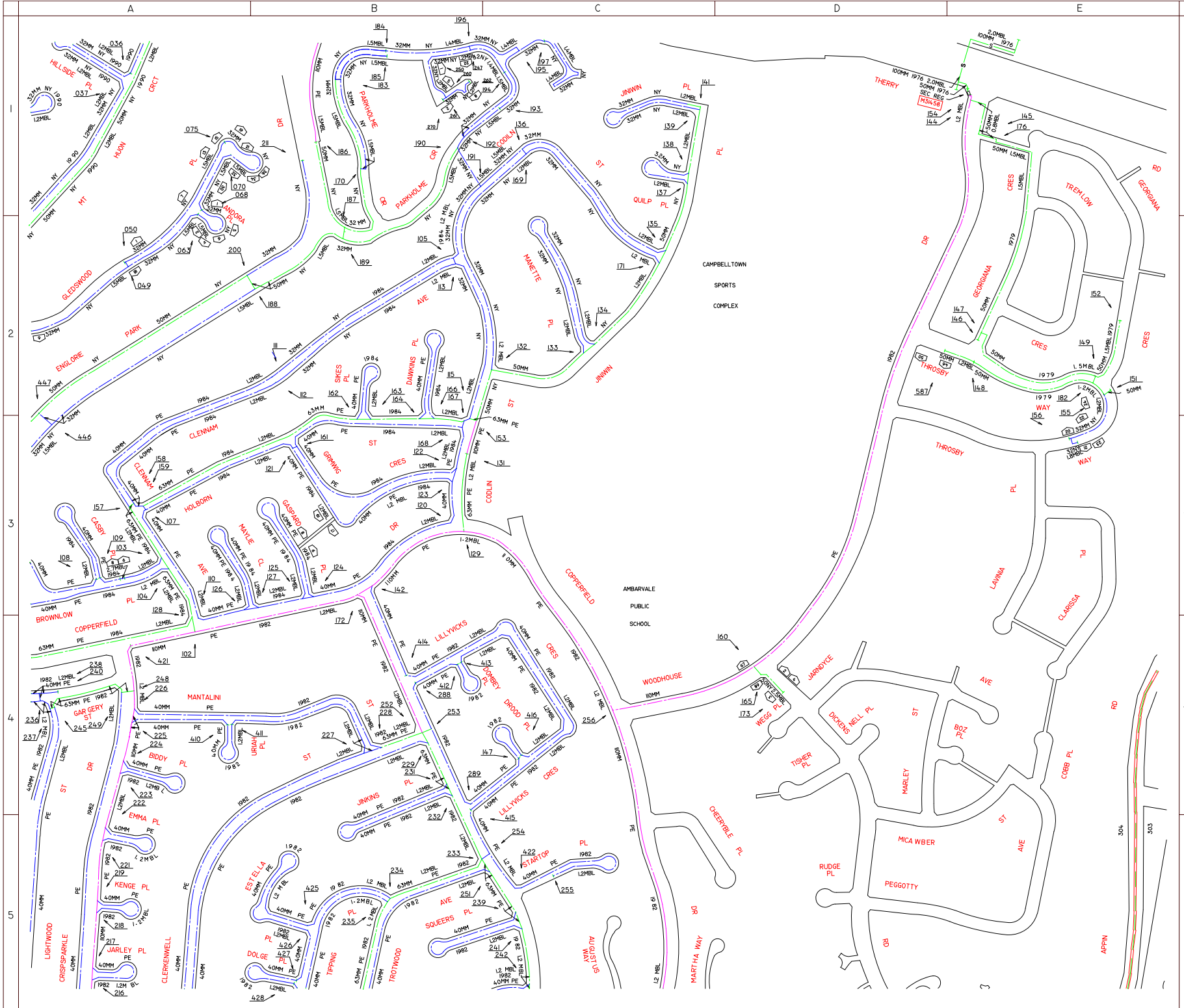
	NETWORK MAIN	210 kPa
100	NETWORK MAIN	100 kPa
30	NETWORK MAIN	30 kPa
	NETWORK MAIN	7 kPa
	NETWORK MAIN	2 kPa
	PROPOSED MAINS	

PR 11-2 3	STEEL MAIN PROJECT NUMBER
P	PRESSURE MONITORING STATION
	VALVE
	SYSTEM PRESSURE REGULATOR
S	SIPHON
123	NETWORK NODE
1238	NETWORK VALVE NODE
098	VALVE NUMBER
6NB	6 INCH CAST IRON MAIN
150MM	150MM STEEL MAIN
110MM PE/NY	110MM POLYETHYLENE/NYLON MAIN
6NB 50MM NY	50MM NYLON INSERTED INTO 6NB MAIN CAST IRON MAIN
1.2MBL	DISTANCE IN METRES OF MAIN FROM BOUNDARY LINE
1957	YEAR LAID
	MUNICIPALITY BOUNDARY
	NETWORK BOUNDARY
93	HOUSE NUMBER

MENANGLE PARK 3D



MENANGLE PARK 6B

SCALE 1:2000

50 0 50 100 150 200

THIS MAP UPDATED ON 01/03/2017
THIS PLAN IS DIAGRAMATIC ONLY. DISTANCES SCALED FROM THIS PLAN MAY NOT BE ACCURATE.

MP3C	MP3D	CIC
MP6A	MP6B	C4A
MP6C	MP6D	C4C

ADJOINING MAPS

304 / 303	CAMPBELLTOWN

NETWORK AREA | MUNICIPALITY AREA

Jemena

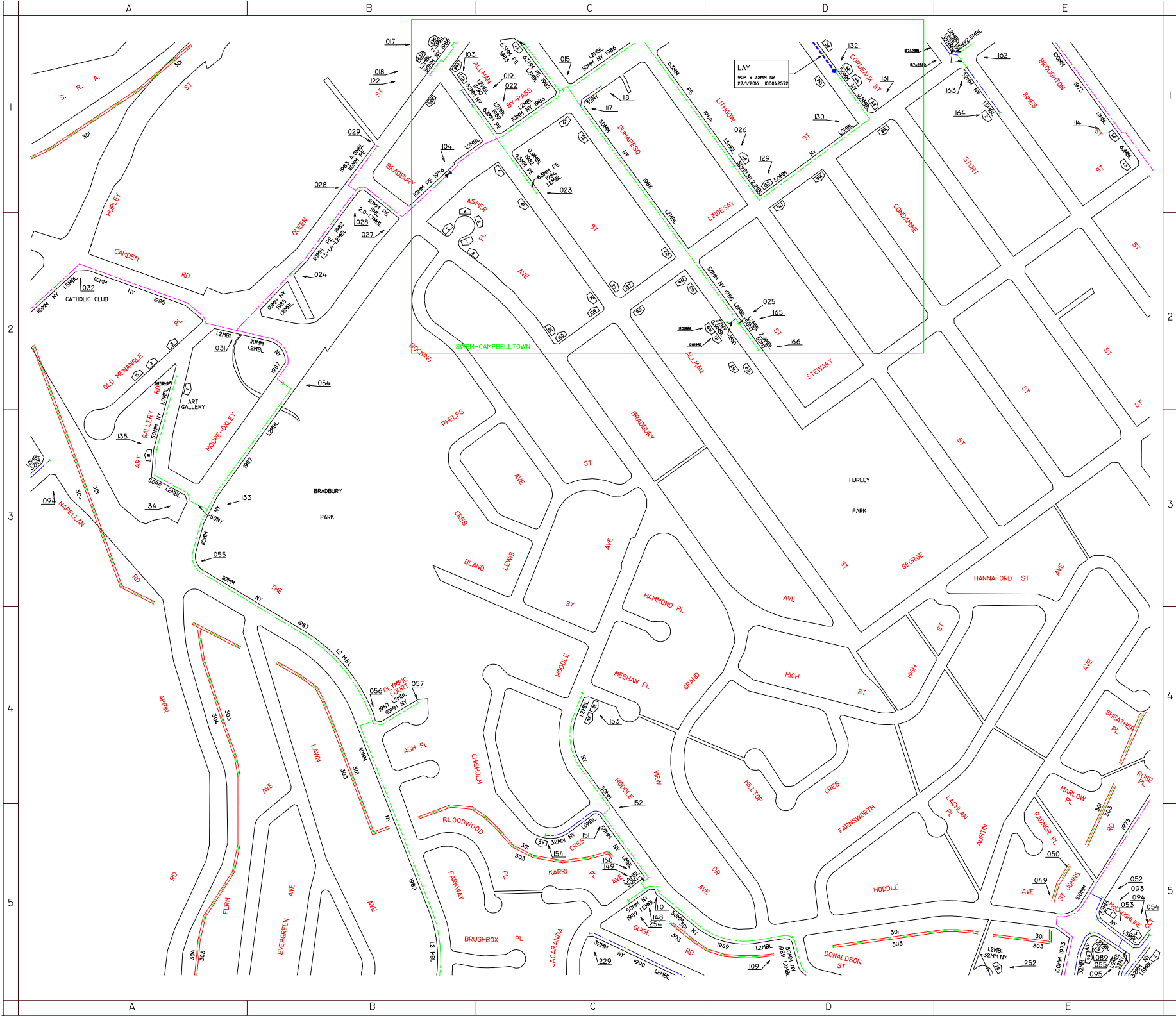
KEY

MAX ALLOWABLE OPERATING PRESSURE

T	TRUNK PIPELINE	7000 kPa
P	PRIMARY MAIN	3500 kPa
S	SECONDARY MAIN	1050 kPa
400	NETWORK MAIN	400 kPa
	NETWORK MAIN	300 kPa
	NETWORK MAIN	210 kPa
100	NETWORK MAIN	100 kPa
30	NETWORK MAIN	30 kPa
	NETWORK MAIN	7 kPa
	NETWORK MAIN	2 kPa
	PROPOSED MAINS	

- PR 11-2 3 — STEEL MAIN PROJECT NUMBER
- PRESSURE MONITORING STATION
- VALVE
- SYSTEM PRESSURE REGULATOR
- SIPHON
- 123 — NETWORK NODE
- 1235 — NETWORK VALVE NODE
- 090 — VALVE NUMBER
- 6NB — 6 INCH CAST IRON MAIN
- 150MM — 150MM STEEL MAIN
- 110MM PE/NY — 110MM POLYETHYLENE/NYLON MAIN
- 6NB 50MM NY — 50MM NYLON INSERTED INTO 6NB MAIN CAST IRON MAIN
- 1.2MBL — DISTANCE IN METRES OF MAIN FROM BOUNDARY LINE
- 1957 — YEAR LAID
- MUNICIPALITY BOUNDARY
- NETWORK BOUNDARY
- 93 — HOUSE NUMBER

MENANGLE PARK 6B


SWGM–CAMPBELLTOWN
LAY
90M x 32MM NY
27/1/2016 100042572
S. R. A.
HURLEY
CAMDEN
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ALLMAN
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DUNARESQ
LINDESAY
LITHGOW
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CORDEAUX ST
BROUGHTON
INNES
STURT
CONDAMINE
STEWART
ROCKING
CATHOLIC CLUB
OLD MENANGLE
ART GALLERY
MOORE-OXLEY
PHELPS
BRADBURY PARK
HURLEY PARK
BLAND
LEWIS
CRES
HODDLE
HAMMOND PL
MEEHAN PL
GRAND
HIGH
GEORGE
HANNAFORD ST
SHEATHER PL
RUSE PL
MARLOW PL
RADNOR PL
LACHLAN PL
AUSTIN
FARNSWORTH
HILLTOP
VIEW
CHISHOLM
ASH PL
BLOODWOOD
KARRI
PARKWAY
BRUSHBOX
JACARANDA
GUISE
DONALDSON ST
ST JOHNS
MCLAUGHLINS CCT
NARELLAN
APPIN
LAWN
THE
OLYMPIC COURT
FERN
EVERGREEN
SCALE 1:2000
50 0 50 100 150 200
THIS MAP UPDATED ON 16/08/2017
THIS PLAN IS DIAGRAMATIC ONLY. DISTANCES SCALED FROM THIS PLAN MAY NOT BE ACCURATE.
DATE ALTERED:..... BY:.....
MP3B
CIA
CIB
MP3D
CIC
CID
MP6B
C4A
C4B
ADJOINING MAPS
301
304
303
CAMPBELLTOWN
NETWORK AREA
MUNICIPALITY AREA
Jemena
KEY
MAX ALLOWABLE OPERATING PRESSURE
T TRUNK PIPELINE 7000 kPa
P PRIMARY MAIN 3500 kPa
S SECONDARY MAIN 1050 kPa
400 NETWORK MAIN 400 kPa
NETWORK MAIN 300 kPa
NETWORK MAIN 210 kPa
100 NETWORK MAIN 100 kPa
30 NETWORK MAIN 30 kPa
NETWORK MAIN 7 kPa
NETWORK MAIN 2 kPa
NETWORK MAIN WITH MAIN STUBS
PROPOSED MAINS
PR 11-2 3 STEEL MAIN PROJECT NUMBER
PRESSURE MONITORING STATION
VALVE
SYSTEM PRESSURE REGULATOR
SIPHON
123 NETWORK NODE
1235 NETWORK VALVE NODE
098 VALVE NUMBER
6NB 6 INCH CAST IRON MAIN
150MM 150MM STEEL MAIN
110MM PE/NY 110MM POLYETHYLENE/NYLON MAIN
6NB 50MM NY 50MM NYLON INSERTED INTO 6NB MAIN CAST IRON MAIN
1.2MBL DISTANCE IN METRES OF MAIN FROM BOUNDARY LINE
1957 YEAR LAID
MUNICIPALITY BOUNDARY
NETWORK BOUNDARY
93 HOUSE NUMBER
CAMPBELLTOWN IC

CAPPED SERVICES TO ALLOW FUTURE EXPANSION

EXISTING DN 300MM SECONDARY SEWER CONNECTION

32mm RPZ ASSEMBLY FOR IRRIGATION SYSTEM.

PROVISIONAL POINTS CAPPED FOR FUTURE EXTENSION

WATER SUPPLY TO FLAME TRAP MAKE UP COMPLETE WITH METER AND BACKFLOW PREVENTION DEVICE

EXISTING VALVES LOCATED IN ROAD

EXISTING 150 FH & FS BOOSTER VALVE ASSEMBLY. REFER DETAIL DRAWING HS-EW-007.

CURRENT LOCATION OF EXISTING MEDIUM PRESSURE NATURAL GAS SUPPLY, METER AND BOUNNDARY REGULATORS

EXISTING 150 WATER METER AND DUAL RPZ ASSEMBLY

EXISTING WATER METER AND DUAL RPZD ASSEMBLY

EXISTING VALVES LOCATED IN ROAD

EXISTING VALVES LOCATED IN GRASS VERGE

TELSTRA EASEMENT OPTIC FIRE

SYDNEY WATER TRUNK MAIN

NEW ELECTRICAL SUB-STATION

NEW LINK ROAD CONNECTION

NEW CLINICAL SERVICES BUILDING

NEW ACCESS ROADWORKS

NEW ON-GRADE CARPARK

MULTI-DECK CAR PARK OUT OF SCOPE

ARGYLE STREET

ARGYLE ROAD

AMBULANCE STATION

ExSMH RL 75.280 IL 72.150

ExSMH RL 75.500 IL 72.600

ExSMH RL 75.500 IL 73.150

ExSMH RL 75.500 IL 74.100

ExSMH RL 78.500 IL 73.150

ExSMH RL 81.500 IL 75.000

ExSMH RL 79.500 IL 75.000

ExSMH RL 82.520 IL 78.820

ExSMH RL 85.400 IL 82.530

ExSMH RL 87.340 IL 82.730

+ RL 83.000

+ RL 83.700

+ RL 83.600

+ RL 96.000

70.500 x

1	-	FOR INFORMATION
No	DATE	DESCRIPTION

☒ APPROVED	This document is issued for the purpose of the latest revision
☐ UNCONTROLLED	Content in this document may differ from that contained in the latest revision

Donnelley Simpson Cleary
Consulting Engineers
59 Hill Street, Roseville
N.S.W. 2069
Tel 9416 1177 Fax 9416 8251
Email mail@dsc.com.au
Mechanical Electrical Hydraulics Lighting Fire Lifts

ARCHITECT

PROJECT
CAMPBELLTOWN HOSPITAL RE-DEVELOPMENT

DRAWING TITLE
HYDRAULIC SERVICES
SERVICES PLAN
STAGE 2

CAD REFERENCE 7951_HY-EW-SK01	PROJECT NUMBER 7951
SCALE @ A1 1:1000	
DATE MAY 2018	DRAWING NUMBER HY-EW-SK01
DRAWN JL / No IN SET	
DESIGNED SJ	REVISION 1

PRELIMINARY ISSUE

7 APPENDIX C CORRESPONDENCE.

Stuart Johnstone

From: Stuart Johnstone
Sent: Monday, 21 May 2018 8:51 AM
To: 'Alex Ross'
Cc: Adrian Cassar; Tina Zheng
Subject: RE: Fee for Feasibility Study - 7951 #
Attachments: 7951 hsj 18.5.18 Feasibility Application.pdf; 7951 hsj 18.05.2018 Site Drawing with Beds.pdf; SSD-06-000[A].pdf; SSD-06-001[A].pdf; SSD-06-002[A].pdf; SSD-06-003[A].pdf; SSD-06-004[A].pdf; SSD-06-005[A].pdf; SSD-06-006[A].pdf; SSD-06-007[A].pdf; SSD-06-008[A].pdf; SSD-06-009[A].pdf; SSD-06-010[A].pdf; SSD-06-011[A].pdf; SSD-06-012[A].pdf; SSD-06-013[A].pdf

Categories: DSC:7951

Hi Alex,

Attached is the completed application for the feasibility study, site services drawings and the current architectural drawing at Campbelltown Hospital. The site currently has 460 beds which are proposed to be increased to 861 Beds. Please let me know if you require any additional information.

Regards,

Stuart Johnstone
Associate

Donnelley Simpson Cleary
Consulting Engineers Pty Ltd
59 Hill Street PO Box 40
Roseville 2069, NSW
Tel (02) 9416 1177
Fax (02) 9416 8251
www.dsc.com.au

From: Alex Ross [mailto:aross@mgp.com.au]
Sent: Wednesday, 21 March 2018 5:19 PM
To: Stuart Johnstone
Subject: Re: Fee for Feasibility Study - 7951 #

Stuart,

Please find attached feasibility Section 73 fee proposal for your review.

To make the feasibility application we would need any proposed architectural plans, number of proposed new beds and any details of proposed connection points to sewer and water.

Thanks,

Alex Ross

Stuart Johnstone

From: Stuart Johnstone
Sent: Monday, 4 June 2018 12:14 PM
To: 'Aaron Greaves'
Subject: RE: Campbelltown Hospital - 7951 #

Categories: DSC:7951

Hi Aaron,

Thanks for the response when the design has progressed sufficiently and more accurate information is available an application will be lodged with Origin for a meter upgrade.

Regards,

Stuart Johnstone
Associate

Donnelley Simpson Cleary
Consulting Engineers Pty Ltd
59 Hill Street PO Box 40
Roseville 2069, NSW
Tel (02) 9416 1177
Fax (02) 9416 8251
www.dsc.com.au

From: Aaron Greaves [mailto:Aaron.Greaves@jemena.com.au]
Sent: Monday, 4 June 2018 10:42 AM
To: Stuart Johnstone
Subject: RE: Campbelltown Hospital - 7951

Hi Stuart

Based on the supplied information, my network engineers can confirm that the network has sufficient capacity to supply to proposed loads. Once you have more accurate information, the customer can arrange for their retailer to submit a meter upgrade request through the Jemena gas portal.

Cheers

Aaron Greaves
Network Development Manager I & C
Customer & Markets
Jemena
Level 12, 99 Walker Street, North Sydney, NSW 2060
+61 419 230 600
Aaron.Greaves@jemena.com.au | www.jemena.com.au

From: Stuart Johnstone <stuart.johnstone@dsc.com.au>
Sent: Tuesday, 22 May 2018 11:28 AM

To: Aaron Greaves <Aaron.Greaves@jemena.com.au>
Subject: FW: Campbelltown Hospital - 7951

Hi Aaron,

Further to our conversation as discussed we are engaged in the Stage 2 upgrade of Campbelltown Hospital which is currently in a planning phase. The planning is being completed under a state significant application, as part of this we need to engage with the service utilities supply authorities to ensure capacity of the surrounding infrastructure. While we understand that an application for upgrade of supply will need to be completed through the Hospital Retailer (Origin Energy) when the detailed design and actual loadings are available. We understand the current bed numbers are 460 which will increase to 861 when the development for this stage is completed which is an increase of approximately 47% in the capacity of the site.

The information below reflects our current understanding and is arranged based on existing and new the new development This information does not reflect contain any diversity for usage as the capacities have been obtained from the equipment capacities.

Existing HVAC site gas usage

total required heating capacity Bld A and CTC	1628	kW
total required steam capacity Bld A	750	kW
total required heating capacity Bld D	1200	kW
domestic water usage Bld A	N/A	kW
total required heating capacity Bld B	2000	kW
total required capacity - output	5578	kW
kW to MJ/hr conversion	3.6	MJ/hr
Heat input	20080.8	MJ/hr
Natural Gas Calorific Value	37.5	MJ/m3
Total Gas usage	**535.5**	**m3/hr**

The above figures are based on existing equipment label capacities assuming all HHW and steam units on site are running.

New HVAC site gas usage

total required heating capacity Bld A, CTC and Bld 1	10203	kW
total required steam capacity Bld 1	3805	kW
total required heating capacity Bld D	1200	kW
domestic water usage Bld A	347	kW
total required heating capacity Bld B	2000	kW
total required capacity - output	17554	kW
kW to MJ/hr conversion	3.6	MJ/hr
Heat input	63195.7	MJ/hr
Natural Gas Calorific Value	37.5	MJ/m3
Total Gas usage	**1685.2**	**m3/hr**

In addition to the above mechanical loads there will also be gas hot water heater used for the new building approximately 3000mj/hr

As discussed this is preliminary and will be fine-tuned over the course of the design and when the design evolves a formal application will be completed through the energy retailer. We have also attached an Authority to discuss the upgrade with the Energy retailer. Please let me know if you require any further information.

Regards,

Stuart Johnstone
Associate

Donnelley Simpson Cleary
Consulting Engineers Pty Ltd
59 Hill Street PO Box 40
Roseville 2069, NSW
Tel (02) 9416 1177
Fax (02) 9416 8251
www.dsc.com.au

Statement of Available Pressure and Flow

Sydney WATER

Kaveh Soleimani
59 Hill
Roseville, 2069

Attention: Kaveh Soleimani Date: 15/02/2018

Pressure & Flow Application Number: 388520
Your Pressure Inquiry Dated: 2018-02-01
Property Address: LOT 8 Hyde Pde, Campbelltown 2560

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

ASSUMED CONNECTION DETAILS

Street Name: Narellan Road	Side of Street: Middle
Distance & Direction from Nearest Cross Street	50 metres West from The Parkway
Approximate Ground Level (AHD):	85 metres
Nominal Size of Water Main (DN):	250 mm

EXPECTED WATER MAIN PRESSURES AT CONNECTION POINT

Normal Supply Conditions	
Maximum Pressure	80 metre head
Minimum Pressure	66 metre head

WITH PROPERTY FIRE PREVENTION SYSTEM DEMANDS	Flow l/s	Pressure head m
Fire Hose Reel Installations (Two hose reels simultaneously)	0.66	66
Fire Hydrant / Sprinkler Installations (Pressure expected to be maintained for 95% of the time)	5 10 15 20 26 30 40 50	67 67 67 67 66 66 65 65
Fire Installations based on peak demand (Pressure expected to be maintained with flows combined with peak demand in the water main) Maximum Permissible Flow	5 10 15 20 26 30 40 50 120	66 65 65 65 65 64 64 63 54

(Please refer to reverse side for Notes)

For any further inquiries regarding this application please email :

swtapin@sydneywater.com.au

Statement of Available Pressure and Flow

Sydney WATER

Kaveh Soleimani
59 Hill
Roseville, 2069

Attention: Kaveh Soleimani Date: 29/01/2018

Pressure & Flow Application Number: 365677
Your Pressure Inquiry Dated: 2017-12-07
Property Address: 42 Parkside Cres, Campbelltown 2560

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

ASSUMED CONNECTION DETAILS

Street Name: Hyde Parade	Side of Street: South
Distance & Direction from Nearest Cross Street	33 metres North-East from Parkside Crescent
Approximate Ground Level (AHD):	75 metres
Nominal Size of Water Main (DN):	150 mm (Nominated Asset Number – 8527775)

EXPECTED WATER MAIN PRESSURES AT CONNECTION POINT

Normal Supply Conditions	
Maximum Pressure	90 metre head
Minimum Pressure	77 metre head

WITH PROPERTY FIRE PREVENTION SYSTEM DEMANDS	Flow l/s	Pressure head m
Fire Hose Reel Installations (Two hose reels simultaneously)	0.66	76
Fire Hydrant / Sprinkler Installations (Pressure expected to be maintained for 95% of the time)	5 10 15 20 26 30 40 50	78 77 77 77 76 76 75 74
Fire Installations based on peak demand (Pressure expected to be maintained with flows combined with peak demand in the water main) Maximum Permissible Flow	5 10 15 20 26 30 40 50 67	76 76 76 75 75 74 73 72 69

(Please refer to reverse side for Notes)

For any further inquiries regarding this application please email :

swtapin@sydneywater.com.au

Case Number: 172062

12 June 2018

HEALTH INFRASTRUCTURE CORPORATION
c/- MGP BUILDING & INFRASTRUCTURE SERVICE PL

FEASIBILITY LETTER

Developer:	**HEALTH INFRASTRUCTURE CORPORATION**
Your reference:	**2018-0249**
Development:	**Lot 5 DP38545 19 APPIN RD, Bradbury**
Development Description:	**Developement to extend existing hospital from 460 beds to 861 beds.**
Your application date:	**25 May 2018**

Dear Applicant

This Feasibility Letter (Letter) is a guide only. It provides general information about what Sydney Water's 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 (Coordinator).

Sydney Water will then send you either a:

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

These documents will be the definitive statement of Sydney Water's requirements.

There may be changes in Sydney Water's 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; and

- 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 Sydney Water and to the extent that it is able, Sydney Water limits 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 www.sydneywater.com.au > Plumbing, building & developing > Developing > Land development.

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

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

   You must engage your current or another authorised Coordinator 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 Coordinator (at any point in this process) you must write and tell Sydney Water.

   For a list of authorised Coordinators, either visit www.sydneywater.com.au > Plumbing, building & developing > Developing > Providers > Lists or call **13 20 92.**

   The Coordinator will be your point of contact with Sydney Water. 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 Sydney Water costs).

3. **Developer Works Deed**

   It would appear that your feasibility application is served from existing mains and does not require any works to be constructed at this time. Sydney Water will confirm this with you after you have received Development Approval from Council and your Coordinator has submitted a new Development application and Sydney Water has issued you with a formal Notice of Requirements.

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.

   Sydney Water has assessed your application and found that:

   - Based on the information supplied by the WSC there is capacity in the existing watermain network surrounding the hospital to provide drinking water to the proposed expansion.
   - Details required below will be required to perform a detailed capability assessment of the drinking water network as part of the Section 73 phase.
     - You will need to provided details of the basis of the quoted water usage figure. Does it represent the additional water usage for the additional beds or a total figure for existing and planned?

- An average day usage figure is not suitable for use in assessing the impact.
- It is recommended that a hydraulic consultant or plumbing consultant be engaged to calculate the water needs of the entire hospital precinct.
- You will need to provide details as to whether the private loop main within the precinct has been designed to cater for the ultimate usage on the site. Additionally, has the loop main has been designed to provide a dual feed creating a reliable supply. What peak flow rate will need to be supplied during any watermain outage? It could be in the order of 20 Litres per second. This will be needed to assess the impact on Sydney Water's network and if the network is capable of providing the complete needs of the hospital including emergency supply. You will need to address if this flow rate been assessed previously?

- Depending on the outcome of the resultant assessment, amplifications of the network may be required.

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.

Sydney Water has assessed your application and found that:

- Multiple wastewater mains are available within the hospital site.
- In principle, there is no objection to the use of the nominated locations to drain the new building/s. Being the 300PVC and 225PVC located within the site.
- The consultant working on the project needs to analyse the internal plumbing and assess the suitability of the existing connections. The current Sewerage Service Diagram for the hospital appears to be out of date. Each of the proposed connection points may already have buildings connected to them.
- To fully assess the impact that the expansion of Campbelltown Hospital will have on Sydney Water's wastewater network, further information will be required from the WSC. As a minimum, the total number of existing, planned and ultimate beds will be required that are/will connect to each proposed discharge point.
- If there are sewage re-use measures incorporated into the design these should be documented.
- The additional information will need to be provided at Section 73 stage to enable a full assessment.

5. Ancillary Matters

5.1 Asset adjustments

After Sydney Water issues this Notice (and more detailed designs are available), Sydney Water may require that the water main/sewer main/stormwater located in the footway/your property needs to be adjusted/deviated. If this happens, you will 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**. Sydney Water will need to see the completed designs for the work and we will 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 Sydney Water's **Permission to Enter** form(s) for this. You can get copies of these forms from your Coordinator or the Sydney Water website. Your Coordinator 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.

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 of Sydney Water in the future because of the impact of your development on our assets. You must read them before you go any further.

Approval of your building plans

Please note that your building plans must be approved. This can be done at Sydney Water Tap in™. Visit www.sydneywater.com.au > Plumbing, building & developing > Building > Sydney Water Tap in™ or call 13 20 92.

This is not a requirement of the Certificate but the approval is needed because construction/ building works may impact on existing Sydney Water assets (e.g. water and sewer mains). In any case, these works MUST NOT commence until Sydney Water has granted approval.

Your Coordinator can tell you about the approval process including:

- Possible requirements;
- Costs; and
- Timeframes.

Note: You must obtain our written approval before you do any work on Sydney Water's systems. Sydney Water will 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.*

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 a Sydney Water sewer main. This work must meet Sydney Water's 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 Sydney Water's soffit requirements for property connection and drainage.

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 Sydney Water's system to provide that flow in an emergency. Sydney Water's Operating Licence directs that Sydney Water's 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 are available 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 Sydney Water;
- A pump application form (if a pump is required);
- All pump details (if a pump is required).

You will have to pay an application fee.

Sydney Water does not consider whether a water main is adequate for fire fighting purposes for your development. We cannot 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 a Sydney Water water main. This work must meet Sydney Water's 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.

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 can be made on Sydney Water's web page through Sydney Water Tap in.

http://www.sydneywater.com.au/tapin/index.htm

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

Other fees and requirements

The requirements in this Notice relate to your Certificate application only. Sydney Water 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 Sydney Water and to the extent that it is able, Sydney Water limits 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