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HYDRAULIC SERVICES
UILITY SERVICES REPORT
THE NEW GABLES PRIMARY SCHOOL

20th September 2024

DOCUMENT CONTROL

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APPROVALS

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PREPARED BY:	PREPARED FOR:
WSCE **ABN** 36 300 430 126 Level 20, 66 Goulburn Street Sydney 2000 NSW Australia **T** 02 9299 1312	**SCHOOL INFRASTRUCTURE NSW** 8/259 George St Sydney 2000 NSW Australia **T** 1300 482 651

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1 INTRODUCTION

This Hydraulic Services Utility Report has been prepared by WSce on behalf of School Infrastructure NSW (SINSW) (the **Applicant**) to assess the potential environmental impacts that could arise from the development of The Gables New Primary School at Lot 301 DP 1287967 on Fontana Drive, Gables (the **site**).

This report has been prepared to describe the existing utility mains that surround the site and proposed servicing strategies as well as preliminary load assessments based on the proposed project scope for the Review of Environmental Factors (REF) assessment.

This report accompanies a Review of Environment Factors that seeks approval for the construction and operation of a new primary school at the site, which involves the following works:

- Construction of school buildings, including learning hubs, a school hall and an administration and library building.
- Construction and operation of a public preschool.
- Delivery of a sports court and fields.
- Construction of car parking, waste storage and loading area.
- Associated site landscaping and open space improvements.
- Associated off-site infrastructure works to support the school, including (but not limited to) services, driveways and pedestrian crossings.
- For a detailed project description, refer to the Review of Environmental Factors prepared by Ethos Urban.

1.1 SITE DESCRIPTION

The site is located on Cataract Road, Gables, within The Hills Local Government Area (LGA), approximately 50km northwest of the Sydney CBD and 10km north of the Rouse Hill Town Centre. It comprises one lot, legally described as Lot 301 DP 1287967, that measures approximately 2.2ha in area. The site is bound by Pennant Way to the north, Cataract Road to the east, Fontana Drive to the west and a vacant lot to the south.

An aerial image of the site is shown at **Figure 1**.

Figure 1 *Site Aerial (Source: Nearmap, edits by Ethos Urban)*

1.2 STATEMENT OF SIGNIFICANCE

Based on the identification of potential issues, and an assessment of the nature and extent of the impacts of the proposed development, it is determined that:

- The extent and nature of potential impacts are low and will not have significant adverse effects on the locality, community and the environment.
- Potential impacts can be appropriately mitigated or managed to ensure that there is minimal effect on the locality, community.

1.3 REF REQUIREMENTS

Item	REF Requirement	Relevant Section of Report
13	Services report -Hydraulics	Current Document - Hydraulic Services – Utility Services Report
27	Infrastructure Requirements Delivery and Staging Management Plan	Section 3 & 4
43	On-site Waste Water Management Plan or On-site Sewer Management Plan (Where on site waste treatment/sewer is required)	Section 6.2

2 DEMOLITION

There are no existing buildings on the site that are required to be demolished.

3 HYDRAULIC SERVCES DEMAND CALCULATIONS

There is currently no existing demand on the Sydney Water, Jemena network and/or Altogether Group utility mains as there are no existing buildings on the site. Therefore, the additional demands incurred on the network mains have been based on the school's design parameters for student/staff population. The site consists of the main primary school and pre school. The population of students and staff is as follows:

- Primary School
  - Students: 1000
  - Staff: 68
- Pre-School
  - Students: 60
  - Staff: 6
- Total
  - Students: 1060
  - Staff: 74

3.1 WATER SUPPLY DEMAND CALCULATIONS

The assumption used in determining the average daily potable water demands for the proposed student population was sourced from the Sydney Water table, "Average Daily Water Use by Property Type" and is presented in ***Table 1*** below. Please refer to APPENDIX A – for the Sydney Water table.

Where possible, potable water usage will be reduced by using low flow taps and sanitary fixtures (specified by the architect).

Table 1: Average Daily Water Demand

Classification	Metric Unit	Average Demand (L/Metric Unit/Day)
Special Use - School	Student	20

Please refer to

Table 2 below for the average daily water demand calculation.

Table 2: Average Daily Water Demand Calculation

Total Units	Average Demand (L/Metric Unit/Day)	Total Average Daily Water Demand (kL)
1060	20	21.2

The following flows for the entire site have also been calculated:

- for hydrants – 20 L/sec
- Fire flow for hose reels – 0.66 L/sec
- Fire flow for sprinklers and drenchers – TBC – BCA Certifier and Fire Safety Engineer required to determine requirement

3.2 SEWER DISCHARGE CALCULATIONS

The assumption used in determining the average daily sewer demands for the proposed student population was sourced from Altogether Group's "Developer Guide – Commercial and Multi-dwelling residential (water)." and is presented in ***Table 3*** below. Please refer to Appendix B for the developer guide.

Table 3: Average Daily Sewer Demand

Property Type	Unit Adopted	Average Demand (ET/Unit)
School - Primary	Pupil/Staff Member	0.04

Please refer to ***Table 4*** below for the average daily sewer demand calculation.

Table 4: Average Daily Sewer Demand Calculation

Total Units	Average Demand (ET/Unit)	Equivalent Tenement (ET) (L/day)	Total Average Sewer Demand (kL)
1140	0.04	400	18.24 kL

3.3 NATURAL GAS DEMAND CALCULATIONS

The natural gas demands have not been calculated at the time of writing this report as there are no available details on the appliances requiring natural gas.

As the mechanical and hydraulic systems will rely on electrical supply for energy generation in water heating, etc. it is assumed that the natural gas demand from the site will be quite low, mainly suppling science laboratories and kitchen facilities.

4 UTILITY SERVICE CONNECTIONS

4.1 DRINKING WATER

The site has access to two Sydney Water drinking water mains which are identified below and in Figure 2:

- 300mm diameter water main in Fontana Drive,
- 200mm diameter water main in Cataract Road.
-

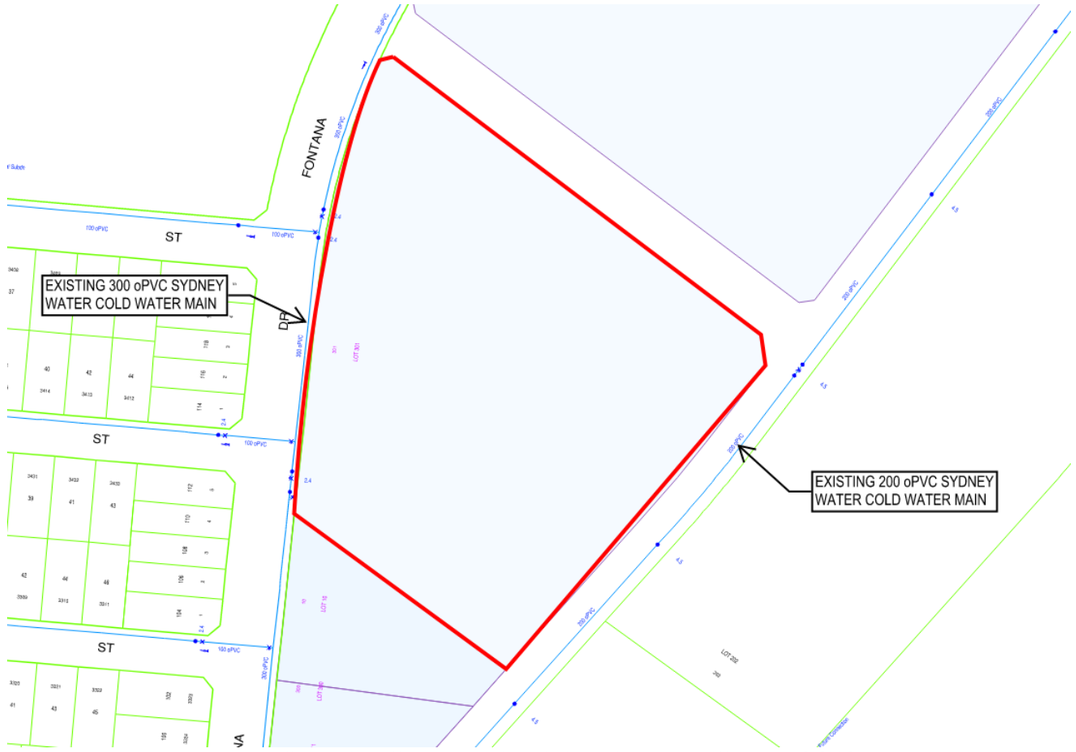

Figure 2: Existing Sydney Water utility water mains (Source: DBYD)

The Sydney Water Section 73 Notice of Requirements states that amplifications are not required.

There is no requirement for any water main diversions as there are no mains that reticulate within the site boundary.

It is proposed to connect to the 300mm diameter water main in Fontana Drive.

A Pressure and flow application of this water main was previously lodged and has been referenced in APPENDIX C – NETWORK UTILITY OPERATOR CORRESPONDENCE

It was identified that this main is sufficient to supply the proposed development from a hydraulic and fire services perspective.

4.2 SEWER

The existing site has access to an Altogether Group pressure sewer mains as identified in Figure 3: The branch connection that leads into the site is located approximately 150m south from the intersection of Fontana Drive and Pennant Way (new road), with the size of this branch currently unknown.

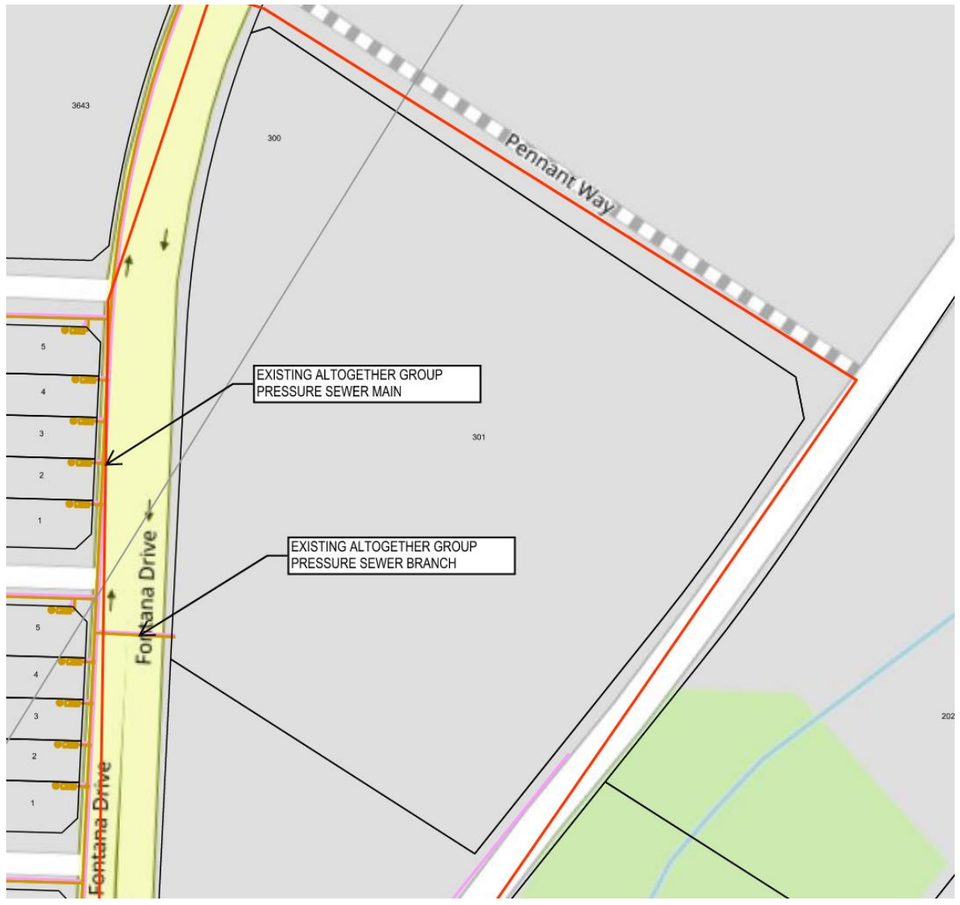

Figure 3: Existing Altogether Group utility sewer mains (Source: DBYD)

It is currently unknown as to whether the existing pressure rising main has available capacity to receive the proposed discharges from the site, although it is assumed that the NUO has factored this into consideration when providing the branch lead in that is proposed to be utilised by this site,

A Notice of Requirements from Altogether Group will be required to determine if any additional works or upgrades are required for the main.

There is no requirement for any sewer main diversions as there are no proposed buildings located above or adjacent to the Sydney Water asset that reticulates through the site.

The proposed connection for the sewer main is at the existing sewer main branch located on Fontana Drive.

4.3 NATURAL GAS MAINS (UTILITY)

The site has access to a Jemena natural gas main that reticulates within Fontana Drive at a pressure fo 210kPa. This main ranges in size from 100mm to 225mm diameter as shown in Figure 4.

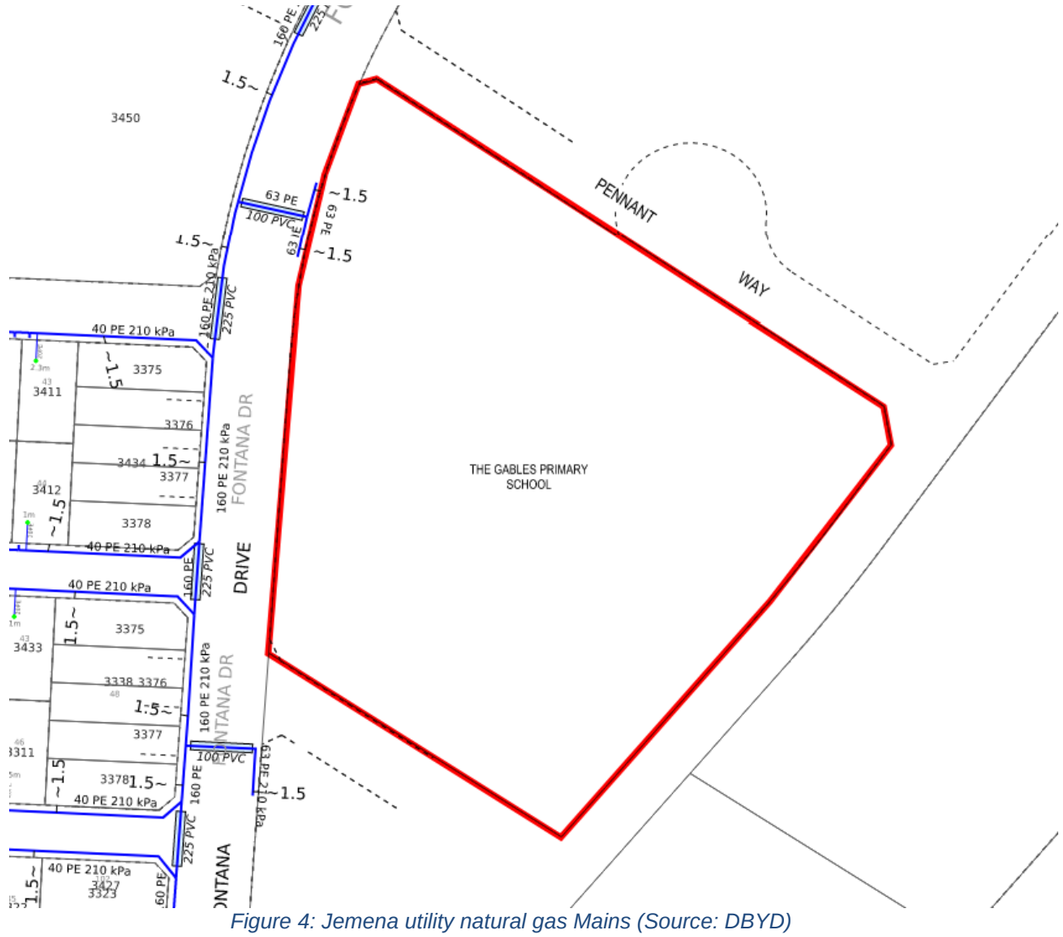

Figure 4: Jemena utility natural gas Mains (Source: DBYD)

There has been no formal correspondence with Jemena regarding the capacity of their natural gas assets at the time of writing this report. Connection applications on the Jemena portal generally require details of all the appliances on the site, and the details of the contractor who will be carrying out the associated works, neither of which are available at this stage in the design.

There appears to be no requirement for any natural gas main diversions as there are no mains that reticulate within the site boundary.

There are currently no requirements for natural gas for the site.

5 UTILITY AND NETWORK UTILITY OPERATOR APPLICATIONS

5.1 SYDNEY WATER – SECTION 73

A Section 73 feasibility application has been completed by an approved Water Servicing Coordinator (WSC), and a Sydney Water Notice of Requirements has been returned. This has been referenced in APPENDIX C – NETWORK UTILITY OPERATOR CORRESPONDENCE along with the pressure and flow enquiry for the 200mm drinking water main in Fontana Drive.

5.2 ALTOGETHER GROUP – CONNECTION APPLICATION

A Development Assessment Application has been submitted and an Altogether Group Notice of Requirements has been returned and approved. This has been referenced in APPENDIX C – NETWORK UTILITY OPERATOR CORRESPONDENCE.

5.3 JEMENA

There has been no correspondence with Jemena to date as there is no requirement for any natural gas services across the site.

6 SANITARY DRAINAGE SYSTEMS

6.1 PROPOSED SANITARY DRAINAGE SYSTEMS

The design of the sanitary drainage systems will be following the conventional drainage systems as prescribed in AS/NZS3500.2-2021.

A sewer pump station is required in order to convey wastewater collected on site into the utility main. This pump station will be owned and operated by Altogether Group who have specified in their “Developer Guide – Commercial & Multi-Dwelling Residential (Water)” document the sewer requirements for commercial buildings and Primary Schools. These requirements that make up the Sewer Pump Station include:

- Aquatec Pressured Sewer system,
- Triplex Submersible Pump. Max duty of 2 L/sec,
- Three-phase OGP pumps,
- Inlet Muncher Machine,
- One day of emergency sewer storage.

It shall be noted that the pump station design is subject to final design/approval from Altogether Group.

There sewer rising main from the sewer pump station is to connect to the branch provided by Altogether group as described in Section 4.2.

6.2 ON-SITE SEWER MANAGEMENT PLAN

The site has access to a network utility operator sewer main and does not require an on-site sewer treatment. Refer to Section 4.2 regarding Utility Service Connection to the sewer main.

7 STORMWATER DRAINAGE SYSTEMS

7.1 PROPOSED GRAVITY STORMATER DRAINAGE SYSTEM

The metal deck roof areas of the buildings will be drained by a gravity system primarily consisting of eaves gutters and downpipes.

The rainwater will be piped external to the building against the facade and connect to the civil stormwater system where it is capable of receiving a 1% AEP storm event. This connection will be as per the EFSG where the downpipe is to discharge over a grated outlet.

8 NON-DRINKING WATER SERVICES

8.1 PROPOSED NON-DRINKING WATER SERVICES

It is proposed that the site connects to a recycled water rising main by Altogether Group along Fontana Drive. There is an existing recycle water main branch extending to the site. The recycled water main is to be pumped duplex variable speed drive pump-set and filtered by dual 30-micron filters and dual Ultraviolet (UV) filters.

Recycled water services are to be provided to all WC’s and supply the site’s irrigation system.

The required capacity of the irrigation system is to be confirmed in the next stage by the landscape engineer.

9 MITIGATION MEASURES TABLE

Project Stage ***Design (D)*** ***Construction (C)*** ***Operation (O)***	**Mitigation Measures**	**Relevant Section of Report**
D/C	Obtain a Notice of Requirements (NOR) from Altogether Group to ensure that no additional diversions and upgrades are required for the sewer main.	Section 4.2 Sewer

10 APPENDICES

10.1 APPENDIX A – SYDNEY WATER AVERAGE DAILY WATER USE TABLE

"AVERAGE DAILY WATER USE BY PROPERTY TYPE"

Development Type	Development Sub-Type	Key Metric	Metric Unit	Average Demand (L/Metric Unit / Day)
Residential	Single Lot Torrens	Dwelling	Each dwelling	623.00
	Flats Torrens	Net Floor Area	Square Meter	2.36
	High Rise Units	Net Floor Area	Square Meter	3.34
	Single Lot Community	Dwelling	Each dwelling	623.00
Mixed	Residential / Commercial	Combined Floor Area	Each dwelling / Square Meter	Use separate rates for each component
	Commercial / Industrial	Combined Floor Area	Square Meter	Use separate rates for each component
Commercial	Aged Accom - Self Care	Net Floor Area	Square Meter	2.50
	Aged Accom - Hostel	Bed	Each bed	271.00
	Aged Accom - Full Care	Bed	Each bed	271.00
	Childcare	Net Floor Area	Square Meter	3.60
	Hotel / motel / serviced apartments	Room	Each room	359.94
	Office	Net Floor Area	Square Meter	2.27
	Shopping Centre	Net Floor Area	Square Meter	3.00
	Laundry / Dry Cleaner	Net Floor Area	Square Meter	10.50
	Café / Fast Food / Butcher / Deli	Net Floor Area	Square Meter	2.48
	Retail Units	Net Floor Area	Square Meter	2.48
	Medical / Veterinary	Net Floor Area	Square Meter	2.48
	Mechanical Repair	Net Floor Areas	Square Meter	2.48
	Car / Boat Sales	Net Floor Area	Square Meter	2.48
	Car Wash	Net Floor Area	Square Meter	9.40
	Club	Net Floor Area	Square Meter	3.77
Industrial	Heavy Process		As required	
	Chemical Manufacturing		As required	
	Printing Manufacturing		As required	
	Beverage Manufacturing		As required	
	Light Factory Unit	Developed floor area	Square Meter	2.82
	Warehousing	Developed floor area	Square Meter	2.82
	Transport / Bus Depot	Site area	Square Meter	0.91
Special Uses	University	Student	Each student	20.00
	School	Student	Each student	20.00
	Hospital	Bed	Each bed	271.00
	Religious assembles	Developed floor area	Square Meter	1.30
	Government Depot	Site area	Square Meter	0.91
	Community Centre / Library	Floor area	Square Meter	1.84
	Sport Fields with Amenities		As required	
	Park & Reserves		As required	
	Services - Police / Ambulance etc.	Floor area	Square Meter	1.40

10.2 APPENDIX B – ALTOGETHER GROUP – DEVELOPER GUIDE (COMMERICAL & MULTI-DWELLING RESIDENTIAL (WATER)

altogether.

developer guide

commercial & multi-dwelling residential (water)

Altogether Group Pty Ltd
ABN 28 136 272 298

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1 introduction

1.1 purpose

The purpose of this document is to provide guidance for developers of lots for the purpose of residential subdivisions and/or commercial use, within Altogether's areas of operation. This includes design, construction, inspection, testing and certification of on-lot infrastructure to enable connection to Altogether's reticulation networks ('Utility').

1.2 scope

This procedure shall be used by the Developer who is responsible for the construction of drinking water, recycled water and/or wastewater infrastructure (On-lot Infrastructure Works) prior to its connection to the Utility.

Examples of multi-dwelling residential developments include:

- Apartment buildings (units, flats etc.)
- Duplex housing
- Secondary dwellings ('dwelling' means a self-contained unit of accommodation used by one or more households as a home)
- Townhouses
- Villas
- Lifestyle and retirement villages (excluding catering)

Examples of Commercial developments include:

- Commercial centres
- Industrial sites
- Service stations
- Retail outlets and complexes
- Hospitality facilities (hotels, clubs, motels, restaurants etc.)
- Recreational facilities (fitness centres, community parks, swimming centres etc.)
- Entertainment facilities
- Nursing homes
- Lifestyle and retirement villages which include catering

1.3 responsibilities

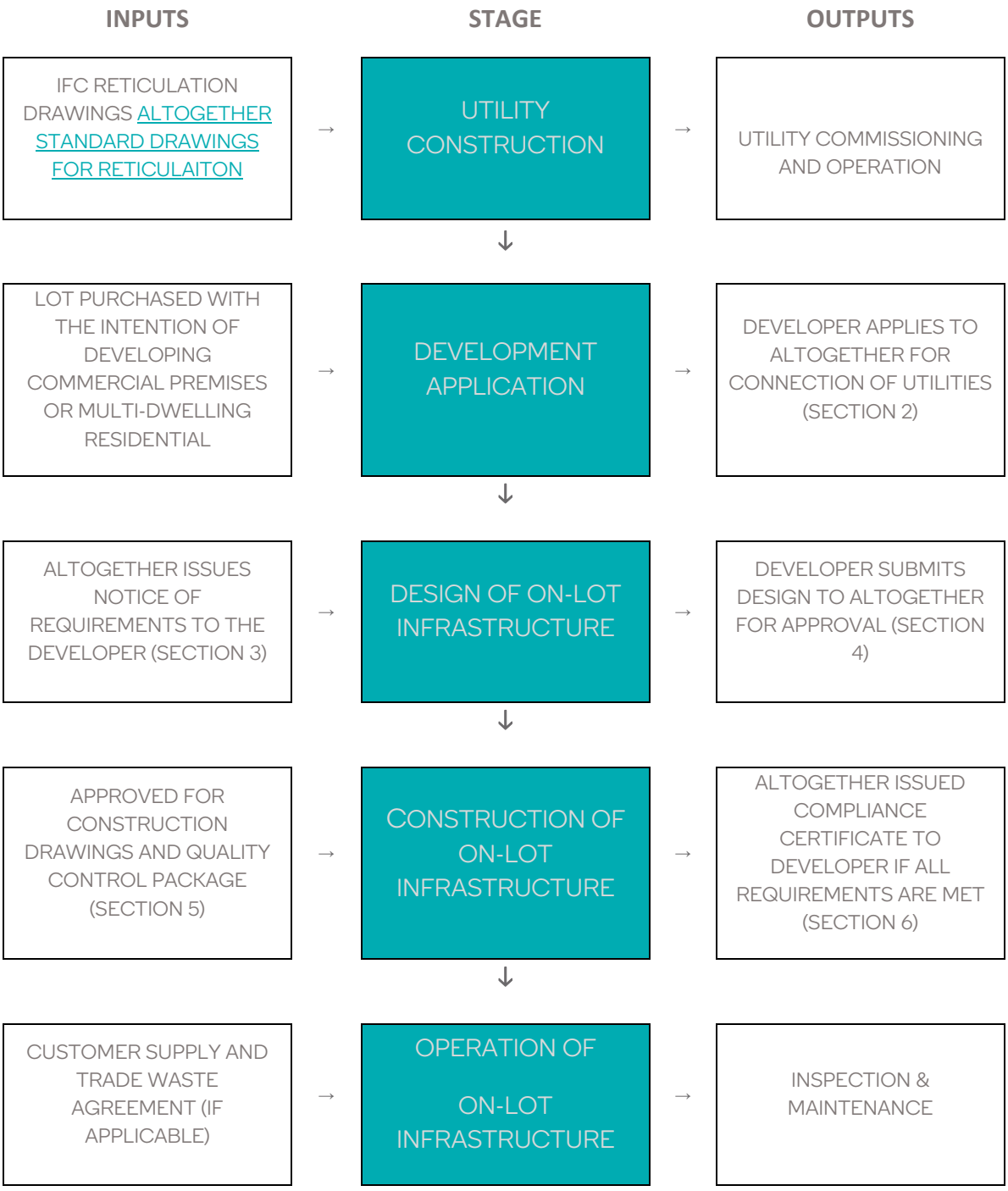
The parties responsible for the implementation of the requirements of this procedure are:

- The Developer (which for the purpose of this procedure) includes all parties engaged by or affiliated with the Developer that have a responsibility to design, supply, construct/install, test or commission the On-lot Infrastructure Works.
- Altogether (which for the purpose of this procedure) includes Altogether Group Pty Ltd, its licensed network operator (a wholly owned subsidiary), quality control inspector (QC Inspector), nominee, contractor or consultant as the party responsible for all or part of Altogether's responsibilities in this document.

1.4 development process

The diagram below provides an overview of the development process. Each stage requires key inputs to achieve the desired outputs and to progress to the next stage.

Refer to Section 7 for Responsibilities Matrix.



2 application to connect

Developers of multi-residential or commercial lots within Altogether's area of operation must apply to Altogether to connect to services. To apply for a connection to water, recycled water and/or wastewater services provided by Altogether, click here.

Altogether review the application once it is lodged and if the development can be serviced, a Notice of Requirements (NOR) will be issued to the applicant which details the prerequisites that must be met to connect to Altogether services (refer Section 3).

Applicants should allow up to 4 weeks from the application lodgment date for Altogether to confirm servicing options and issue a Notice of Requirements.

3 notice of requirements

The Developer must obtain a Notice of Requirements (NOR) from Altogether to confirm servicing requirements. This NOR will outline the requirements that must be fulfilled by the Developer to obtain approval to connect to Altogether services. This approval will be in the form of a Compliance Certificate issued under Part 3A of the Water Industry Competition Act 2006. The requirements will generally include, but not limited to:

1. Technical Requirements, being the provision of:
    - Design loading/demand calculations and wastewater quality;
    - Detailed design drawings (subject to approval by Altogether);
    - Construction and quality assurance (QA) records (as defined in section 4.4);
2. Administrative Requirements, being the provision of:
    - Lot registration details;
    - Customer registration;
    - Site Inspections by the Developer and Altogether; and
    - Costs payable by the Developer to the Altogether; including:
        - Design review fees
        - Trade waste approval fees
        - Inspections during construction
        - Developer Services Plan (DSP) contributions as applicable relating to the additional demand created on Altogether's wastewater infrastructure facilities
3. Any miscellaneous requirements specific to development.

Altogether will issue a NOR to the Developer following submission of the connection application (refer Section 2) by the Developer and after confirming that the development can be serviced by Altogether.

Developers proceeding with design and/or construction of the development prior to obtaining a NOR and design approval from Altogether risk not receiving services from Altogether or having to modify the design and/or construction works to enable servicing.

4 on-lot infrastructure design

4.1 point of connection

Altogether requires a single point of connection for each lot, irrespective of the property title. Standard residential lots are provided with:

- 1 x DN40 (32mm internal diameter) pressure sewer connection, including an isolation valve within the property boundary (boundary kit); and
- 1 x DN32 (25mm internal diameter) recycled water connection, with a minimum 15m head pressure; and
- 1 x DN25 (20mm internal diameter) drinking water connection, with a minimum 15m head pressure, in communities where Altogether provide this service.

Lots that are zoned for multi-dwelling development or commercial use are usually provided with:

- 1 x DN50 pressure sewer connection, including an isolation valve within the property boundary (boundary kit).
- Drinking water and recycled water connections are usually not provided, as the sizes are determined by the development type.

4.2 design of commercial and multi-dwelling residential on-lot infrastructure

4.2.1 drinking water & recycled water

Where drinking water and/or recycled water connections are not already available to the site, or where existing connections are insufficiently sized to meet the demands of the development, the developer must apply to make new connection(s) to the reticulation network once their design has been reviewed and approved by Altogether.

All meters installed must be Elster models V100 for services up to 40mm and H4000 for 50mm services and above and must be fitted with M-bus Relay PadPulse device (Pulse input counter) units for data logging. The developer will be responsible for all other aspects of the design and installation of any new connections, as per the Notice of Requirements issued by the Utility.

Fire services must be fed from the drinking water system and be metered.

All permissible uses for recycled water for the relevant scheme must be connected to Altogether Group' reticulated recycled water network. Permissible uses are scheme-specific. Refer to relevant community page here.

Fees may apply for the review of technical information and/or designs relating new connections. Refer to Altogether's pricing for developers here.

4.2.2 wastewater

Design of on-lot wastewater infrastructure is based on the total wastewater load imposed on the wastewater reticulation network by the development, at the ultimate capacity. Wastewater loading and Altogether calculations must be reviewed and approved by Altogether. Additional requirements may apply to commercial developments, based on wastewater quality/characteristics, including trade waste systems and/or in-line muncher machines, which are outlined in Section 4.2.4.

As a minimum, On-Lot infrastructure shall be designed to:

- accommodate emergency storage equivalent to the average daily volume of sewage discharge from the development under dry weather flows; and
- have sufficient pumping capacity for the calculated incoming flow rate.

Table 1 is provided as a high-level, early stage forecast of wastewater loadings and as such, is indicative only. It can be used along with the guidance below to calculate the wastewater loading for a specified end use and then to determine the likely servicing option from Table 2. Potential developer and property owners should engage suitably qualified professional hydraulic consultants, during the feasibility and detailed design phases of their project, to confirm wastewater hydraulic loadings, emergency storage requirements and suitable wastewater infrastructure servicing options. Where 'real world' benchmarking data existings, that will take precedence over 'desktop' loadings calculated using Table 1.

Table 1: Indicative wastewater loadings by land use

Ref	Property Type	Unit Adopted	ET/Unit	Additional requirements	Storm Allowance (LPS)
1	Aged Care Facility (Nursing Home/Special Needs)	Bed	1.0 (incl. staff)	Three-phase OGP pumps Inlet Muncher Machine	0.58
2	Bulky Goods Showroom	per 100m^2 GFA	0.2		0.058
3	Car Wash Facility	Lane	1.0		0.058
4	Caravan Park	Site	0.5	Three-phase OGP pumps Inlet Muncher Machine	0.58
5	Child Care Centre	Pupil	0.05		0.058

6	Church	Amenity & Floor Area	0.6ET/public amenity & if kitchen, 0.008ET/m^2 of function room area		0.058
7.1 7.2	Commercial Office – single Commercial Office – multi level	- per 100m^2 GFA - Special Design	0.6	Special Design	0.058
8	Community/Welfare Facility	per 100m^2 GFA	0.6ET/public amenity & if kitchen, 0.008ET/m^2 of function room area	Three-phase OGP pumps	
9	Conference/Meeting Venue	per 100m^2 GFA	1.6	Three-phase OGP pumps	0.058
10	Entertainment/Cinemas	Visitor	0.17	Three-phase OGP pumps	0.058
11	Gym	Amenity	0.6	Three-phase OGP pumps	0.058
12	Hairdresser/Beauty Salon	Basin	0.79		0.058
13	Hospital	Bed	1.0	Special Design	0.58
14	Hotel / Club	GFA (m^2) & Accommodation	0.01/m^2 & 0.45/room	Three-phase OGP pumps Inlet Muncher Machine	0.058
15.1 15.2	Industrial Estates (including dirty trades with showers) < 2000m^2 2000m^2 – 10000m^2	per 100m^2 GFA	0.12	Three-phase OGP pumps	0.058
16	Laundromat	Machine	0.4	Three-phase OGP pumps	0.058
17	Marina	Berth	0.4	Three-phase OGP pumps	0.058
18	Medical Centre	Consultation Room	0.3	Three-phase OGP pumps	0.058
19	Motel	Bedroom	0.45	Three-phase OGP pumps Inlet Muncher Machine	0.058

20	Restaurant/Café/Fast Food	Seat	0.05	Three-phase OGP pumps	0.058
21	Retail Shop (single)	per 100m^2 GFA	0.6		0.058
22	Retirement Home	1 bedroom 2 bedrooms 3 bedrooms	0.5 0.75 0.85	Three-phase OGP Inlet Muncher Machine	0.58
23.1 23.2 23.3 23.4	School – Primary – Secondary – Tertiary – Tertiary with accom	Pupil/Staff Member Pupil/Staff Member Pupil/Staff Member Pupil/Staff Member	0.04 0.04 0.01 0.1	Additional pump (triplex) Three-phase OGP pumps Inlet Muncher Machine	0.58
24	Service Station	per 100m^2 GFA	0.4		0.058
25.1 25.2	Shopping Centre: > 6000m^2 < 6000m^2	per 100m2 GFA per 100m2 GFA	0.57 0.4	Additional pump (triplex) Three-phase OGP pumps Inlet Muncher Machine Three-phase OGP pumps	0.058
26	Supermarket	per 100m^2 GFA	0.3	Three-phase OGP pumps	0.058
27	Vehicle Repair Premises	per 100m^2 GFA	0.12		0.058
28	Veterinary Surgery	Lot	0.4		0.058
29.1 29.2	Warehouse – general storage – freight	per 100m^2 GFA per 100m^2 GFA	0.01 0.4		0.058

Glossary

- ET = Equivalent Tenement = 400 Litres per day
- LPS = Litres Per Second
- GFA = Gross Floor Area
- PSU = Pressure Sewer Unit
- SPS = Sewage Pumping Station

Example Loading Calculation – Primary School (ref. 21.1)

- Calculate flow from a 1,200 pupil + 50 staff primary school
- Primary school = 0.04ET per pupil/staff member = 1,250 x 0.04 = 50ET

- Average Daily Flow = 50ET x 400L per ET per day = 20,000 L/day
- Peaking Factor for Commercial Properties = 1.5
- Peak Dry Weather Flow = 20,000 x 1.5 = 30,000 L/day
- Usage Period = 8hrs
- Instantaneous Flow = 30,000/8 = 3,750 L/hr = 1.04 LPS
- Storm Allowance = 0.58 LPS
- Peak Wet Weather Flow = 1.04 + 0.58 = 1.62 LPS

Servicing Options

The Table 2 provides a list of approved servicing options. Note: Where space permits, Altogether requires a separate tank (Option A) per dwelling.

Table 2: Wastewater servicing options

OPTIONS	DESCRIPTION	Power requirements	Maximum incoming flow rate	AVERAGE DAILY FLOW
Option A	Aquatec 1,100L duplex OGP	415 V (three phase)	1,5 LPS	<650L
Option B	Aquatec 1,500L duplex OGP	415 V (three phase)	1,5LPS	650L- 1,100L
Option C1	Aquatec 3,000L duplex OGP	415 V (three phase)	1.5 LPS	1,100L - 1,800L
Option C2	Aquatec 3,000L triplex OGP	415 V (three phase)	2.0 LPS	1,100L - 1,800L
Option D1	Aquatec 5,000L duplex OGP	415 V (three phase)	1.5 LPS	1,800L-3,800L
Option D2	Aquatec 5,000L triplex OGP	415 V (three phase)	2.0 LPS	1,800L-3,800L
Option E1	Aquatec 7,500L duplex OGP	415 V (three phase)	1.5 LPS	3,800L – 5,700L
Option E2	Aquatec 7,500L triplex OGP	415 V (three phase)	2.0 LPS	3,800L – 5,700L
Option F1	Aquatec 10,000L duplex OGP	415 V (three phase)	1.5 LPS	5,700L-7,600L
Option F2	Aquatec 10,000L triplex OGP	415 V (three phase)	2.0 LPS	5,700L-7,600L
Option G	Aquatec duplex/triplex OGP with custom storage tank	415 V (three phase)	2.0 LPS	7,600L +
Extra	Inlet Muncher Machine*, Magnetic Sewer Flowmeter (Proline Promag W 400 electromagnetic flowmeter)	415 V (three phase)		

#Supply cost includes tank, pumps, controls and internal pipework/valves, and are subject to additional project specific requirements as directed by Altogether Group.

*Altogether's recommended Muncher Machine (macerator) suppliers include NOV Muncher or JWC Muffin Monster

* Altogether's recommended Magnetic Sewer Flowmeter supplier include Endress+Hauser

For more details on Options C-F contact Aquatec (1300 088 555)

The above listed costs exclude at least the following site-specific civil costs for consideration by the developer / installer:

- Earthworks for tank
- Depth to rock
- Lifting and setting into place
- Concrete ballast at the base of the tank to anchor in place
- Connection of vent line to tank by plumber
- Conduit between control panel location and tank
- Backfilling, restoration, trafficable access hatch (if required)

As well as standard costs for any connection such as:

- Connection of sanitary draining to tank by plumber
- Connection of 40mm PE discharge line between the tank and property connection point (boundary kit)

Using Table 2, the appropriate servicing option for the school example above would be Option F – Aquatech triplex OGP with 30,000L emergency storage capacity, with an additional requirement for an Inlet Muncher Machine.

Equipment and Infrastructure Requirements

Altogether operates a pressure sewerage network. Connection to this network will be via a pump system. To ensure the effective operation of this network, specific requirements must be met. These include:

- The infrastructure must be designed to ensure the holding capacity is suitable for the property usage
- Hydraulic operation must not exceed 2.0 litres per second @ 60 metres total head
- Pump maximum 'no discharge head' to be 80 metres or less
- The pump control system must be Aquatech model 6000B (servicing options C - F). Altogether supply the pump control panel for Options A and B, which is covered in the Phase 2 infrastructure connection fees for these options.
- Emergency storage must be incorporated to enable enough storage for maintenance operations and repairs in a system failure situation. Altogether Group require the minimum emergency storage volume (between alarm level and overflow level) to be at least equal to the average daily property discharge volume. Emergency storage may be achieved in the main pump station wet well or combined with an offset storage tank.

Other aspects that must be considered in the design include:

- Confirm maximum depth to invert of sewer tank connection (inlet)
- Stormwater drainage locations (to ensure no ponding and/or flooding of wastewater assets)
- Venting and odour control requirements
- Zone of influence (ZOI) issues (assets, structures, retaining walls etc.)
- Access to assets for repair and maintenance
- Conduit must be installed between the sewer control panel and water meter(s)
- Ability to isolate tank from incoming sewer flows
- Emergency overflow
- Foundation checks
- Bypass line for muncher machine where installed
- Vegetation / landscaping

fees & charges

Refer to Altogether's pricing for developers here.

Fees may be charged for the following:

- Review of technical information and/or designs relating new connections;
- Quality Assurance inspections during installation;
- Phase 2 Infrastructure connection fee for servicing options A and B.
- Trade waste review and inspections (if applicable)

4.2.3 design review

The design of the on-lot water and wastewater infrastructure to service the site must meet the criteria set out in Section 4.2 and be reviewed and approved by Altogether prior to construction of the water and wastewater infrastructure.

Plumbing drawings and BASIX / Greenstar / NABERS certificates will also be checked by Altogether Group to confirm that all permissible uses for recycled water are plumbed to receive Altogether Group' reticulated recycled water.

4.2.4 trade waste

The primary differentiator between residential and commercial developments is the propensity to introduce trade waste to the wastewater system. Trade waste is all liquid waste generated on commercial premises and discharged to Altogether's reticulation network, that is not human waste.

Design of wastewater infrastructure on commercial lots must include the treatment and management of trade waste streams, upstream of the wastewater collection

tank connection. This may include the need for the inclusion of grease traps, arrestors and other infrastructure.

Refer to Altogether's trade waste policy and requirements here.

4.2.5 wastewater collection tank locations

Altogether's preferred wastewater collection tank location is on the boundary of the lot closest to the main (usually the front) to enable easy access for service/maintenance and to minimise on lot the infrastructure. It must be located so that the invert of the inlet to the pressure sewer tank can allow servicing of as much of the land area (lot) as practically possible. The developer must provide a plan that shows the areas of the lot that are serviceable and/or not serviceable. Sewer connection depths for Options A& B may be increased using tank extensions – contact Enviro One Australia for details.

- Preferable location: front, lower section of lot.
- Alternative location: rear, lower section of lot – with clear service / maintenance access provided.

Altogether's preference is to locate the wastewater collection tanks in non-trafficable, garden areas. Where this is not possible and the tanks are required to be located in driveways or other hardstand areas then special design requirements apply – contact Altogether for approved options and requirements prior to installation.

NOTE: Non-serviceable areas on lots must be clearly identified on the detailed design drawings.

5 infrastructure construction and quality control

5.1 installer qualification

The Developer shall ensure that Altogether is notified of the proposed infrastructure installer prior to the commencement of works. The Developer must demonstrate the proposed installer has demonstrated relevant industry experience as necessary for proceeding with the installation works. This may be demonstrated through capability statements, reference checks, documentary evidence and/or equivalent qualification with other water authorities. Installation works must not commence until the Developer demonstrates, to The Utility's satisfaction, that the installer is qualified for the works. The utilities satisfaction of an installer's experience and qualifications is not a guarantee of future performance and the Developer remains responsible for satisfactory installation of infrastructure at all times.

5.2 inspection and test plans

The Developer is responsible for preparation of its own inspection and test plans (ITPs) and check sheets in accordance with its own Quality Management System.

5.3 inspections

The Developer is responsible for ensuring that all works are constructed and tested in accordance with the relevant NOR, Standards and Altogether Group - approved drawings.

Altogether will inspect the construction of the On-Lot Infrastructure Works to monitor compliance with the relevant NOR and the Standards and may notify the Developer of an area of those works that do not comply. This inspection regime shall not be construed as a proxy for the Developer's own quality inspection checks and any non-compliance in the Developer's works may be identified and communicated to the Developer at any time.

The Developer will ensure that Altogether is given adequate notification (minimum 48 hours) and access to carry out inspections and be available for witness points identified by the ITPs.

Failure by the Developer to ensure access to Altogether may result in Altogether issuing a requirement for the Developer to re-excavate and expose On-Lot Infrastructure Works to allow inspection. This will be at the cost of the Developer.

Pressure Sewer Tank Inspection

The Developer must:

- Ensure backfill and compaction as per Pressure Sewer Tank Supplier's Installation Manual, drawings or recommendations.
- Gain site specific geotechnical engineer's direction that the proposed backfill detailed on the Tank Supplier's drawing is appropriate for existing site/soil conditions prior to commencing construction. Engage a qualified geotechnical engineer to be on site during compaction for supervision and certification in accordance with requirements and recommendations specified by the Tank Supplier
- Carry out tests and inspections in accordance with the minimum field density testing frequency/extent specified by site specific geotechnical engineers, prior to the commencement of construction.
- Provide written, signed off evidence that the tests and inspections of the works have been undertaken.

Inspection of the civil contractor site works, and method of installation must be performed by a qualified geotechnical engineer to verify the standards requirements have been met.

Plumbing Works Inspections

It is the responsibility of the Developer/contracted, licensed plumber to contact NSW Fair Trading (or its delegate), to audit each stage of the installation of the pipe work. All works must be installed, tested and commissioned in accordance with the NSW State Code of Practice and AS/NZS 3500.

· Main to meter:

The Developer is responsible for connecting the on-lot infrastructure to Altogether reticulation mains.

The Developer must obtain written approval from Altogether by submitting an application on the website, prior to connecting to reticulation mains. Please refer to this link for submitting enquiries for connection: Apply for property Connection.

The Developer is responsible for preparation of its own inspection and test plans (ITPs). However, as minimum The Developer's ITPs must include the mandatory hold points outlined in Altogether's Mandatory Hold Points (Item 5.2 of Developer Guide - Infrastructure Works)

If the lot is already connected to Altogether's reticulation main as part of Land Development (Infrastructure) works then no inspection is needed.

As outlined above, The Developer must ensure their plumber complies with NSW Fair Trading's requirements for the various plumbing and drainage inspections required. Depending on the area, NSW Fair Trading may delegate these inspections to be carried out by the local council.

5.4 quality control & records

Prior to Practical Completion or the Developer's request for a Certificate of Compliance associated with the completion of the Developer's works, the Developer must provide the following "Records" to Altogether:

- Completed and signed off Inspection and Testing Plans (ITPs) for plumbing works,
- As-built water and sewer services plans including Altogether assets,
- Evidence of testing to ensure that tanks and upstream sewer draining pipework are completely sealed from stormwater/groundwater infiltration,
- Evidence that sufficient concrete ballast has been poured at the base of the wastewater collection tank,
- Evidence of hydraulic pressure testing of the section of discharge pipe between the wastewater collection tank and the boundary kit (min. 1000kPa);
- Plumber's certification (requirement under AS3500)
- Evidence of cross connection checks between drinking and recycled water plumbing,
- Evidence of Recycled Water – Do Not Drink signage in all public spaces including accessible irrigation areas, toilets, water features and outlets. Signage should make reference to AS1319.
- Council / Fair Trading inspection certification
- Certificate of Compliance Electrical Work (known as a Compliance Certificate or CCEW)
- Photographic record of labelling identifying dedicated circuit for wastewater control panel in building electrical distribution panel
- Copy of Aquatec Pressure Sewer Commissioning Report
- Pump and panel model numbers and serial numbers
- Testable backflow device model and serial numbers
- Provide initial testing records for testable backflow devices

- Photos of pressure sewer assets (pump station, pipework, connections) prior to backfilling
- Photos of tank and ground conditions prior to backfilling
- Geotech reports or certification that ground conditions and backfill material and methods are adequate and in line with Tank Supplier's recommendations

5.5 relevant water supply authority

Altogether may issue a Certificate of Compliance for the Developer Infrastructure Works for which it is licensed under the *Water Industry Competition Act 2006* (NSW), in accordance with the requirements of the:

1. Water Industry Competition (General) Regulation 2008 (NSW); and
2. The Developer's compliance with the Utility's requirements; and
3. NOR for the relevant lot.

And, in New South Wales, in order to satisfy section 157(2)(g) of the Environmental Planning and Assessment Regulation 2000 (NSW) for the purposes of enabling certification of subdivision.

5.6 issue of certificate of compliance

The Utility may issue a Certificate of Compliance when Developer Infrastructure Works Practical Completion is achieved and all requirements set out in the NOR are satisfied.

6 asset responsibility

Altogether's policy regarding who is responsible for the initial provision, ongoing ownership, operation and maintenance of 'on-property' infrastructure on commercial and multi-residential lots is summarised in the table below:

RESPONSIBILITY MATRIX				
ASSET	DESIGN	SUPPLY & INSTALL	OWNERSHIP*	MAINTENANCE
Phase 1 Sewer Infrastructure (all servicing options): Wastewater collection tank, property discharge line, boundary kit, conduits, connections	DEVELOPER	DEVELOPER	ALTOGETHER	ALTOGETHER
Phase 2 Sewer Infrastructure Grinder pump, control panel & level sensor	DEVELOPER	DEVELOPER	ALTOGETHER	ALTOGETHER
Phase 1 Water Infrastructure: Meter assembly (excluding meter), backflow prevention devices etc., conduits on-site reticulation/plumbing, connections	DEVELOPER	DEVELOPER	PROPERTY OWNER/ MANAGER	PROPERTY OWNER/ MANAGER
Phase 2 Water Infrastructure: Recycled Water meter only & Drinking Water meter only (where Drinking Water is provided by Altogether)	DEVELOPER #	DEVELOPER	ALTOGETHER	ALTOGETHER
Sewer Pre-treatment systems: As determined by trade waste design and permit Including but not limited Grease traps, oil separator, sewer muncher machine etc.	DEVELOPER	DEVELOPER	PROPERTY OWNER/ MANAGER	PROPERTY OWNER/ MANAGER

#Refer to Section 4.2.1 for metering specifications. The Developer to specify meter size and configuration.

*the Lot Owner will be responsible for the electricity costs to operate the on-lot pressure sewer equipment

Contact Altogether on 1300 803 803 for further information or visit our Help Centre here

10.3 APPENDIX C – NETWORK UTILITY OPERATOR CORRESPONDENCE

Case number 217442

August 27, 2024

School Infrastructure NSW

c/ - WSCE Pty Ltd

Notice of anticipated requirements

SECTION 73 SUBDIVIDER COMPLIANCE CERTIFICATE (Sydney Water ACT 1994, part 6 Division 9) PENDING DEVELOPMENT CONSENT

Developer:	**School Infrastructure NSW**
Your reference:	**7956000**
Development:	**Lot 301 DP 1287967 FONTANA DR, Gables**
Development Description:	**Gables new Primary School.**
Consent Authority:	**Anticipated Requirements**
Your application date:	**August 15, 2024**

Dear Applicant

We've assessed your application for the anticipated requirements of a Section 73 Compliance Certificate (the Certificate) pending development consent for the development shown above. Detailed information on your anticipated requirements are outlined below.

You have until August 27, 2025 to meet those requirements and receive the Certificate. If you have not received the Certificate by then you will have to reapply (and pay another application fee) and we'll issue you with a new notice. We may have extra requirements and charges may change in the new notice.

The Water Servicing Coordinator (WSC) will be your point of contact with us. They can answer questions you might have on our developer process and charges.

This is not a final notice and we're not liable for any actions you take as a result of this Notice. You don't have the authority to start construction of works.

Once you receive final development consent you should submit a copy to us. Provided that there have been no significant changes to the development, we'll send you a Confirmation email.

If the development application has been subject to significant change then this anticipated requirement application will be terminated, and you'll have to submit a formal Section 73 application.

We also have a Developer application progress so you can see the status of your application, just enter your case number and your email address, you'll receive a response right away.

What you must do to get a Section 73 Certificate?

This is a summary of our requirements. These requirements explained in detail on the following pages.

You must do the following things:

1. Pay a total of $44,793.02 in charges.

   Please note:
   - You have to pay these charges directly to us and you must have an invoice. Your WSC can arrange the invoice.
   - This amount is subject to change. Refer to Infrastructure Section in this Notice for details.

2. Complete any special requirements from Section 2.

Detailed requirements

1. Infrastructure contributions

You must pay an infrastructure contribution towards the cost of each Sydney Water system that will serve your development. Infrastructure contributions are payable regardless of whether you physically connect to our system.

The infrastructure contributions are calculated in accordance with the Development Servicing Plans registered with the Independent Pricing and Regulatory Tribunal (IPART) under the *Independent Pricing and Regulatory Tribunal Act*.

Your infrastructure contributions become payable once your WSC has submitted all Project Completion Packages under each Developer Works Deed to us confirming that the works required under this Notice are complete.

Your applicable charge for each infrastructure contribution is shown in the table below. These amounts have the NSW Government-directed 25% cap applied, and are valid if your payment is made this financial year. **These amounts will change if your payment is made after 1 July** – see Section 1.1 Price Changes for full details.

Development Servicing Plan (DSP)	**Basis of Calculation**	**Charge ($) for Applicable Period (8/27/24-6/30/25)**	**Charge ($) for Applicable Period (7/1/25-8/26/25)**
Greater Sydney Drinking Water	Other Flow 52.698 @ $850 per ET = $44793.02 based on Flow rates in paragraph below less Credit of $0.0 for previous payment/use	$44,793.02	TBA
DEVELOPER CHARGES TOTAL:		**$44,793.02**	**TBA**

- The charges in the table are based on your development needing an average day water demand of 22.66 kl.
- **If the** development **generates a greater demand, you may have to pay more in charges. If you are going to sell the** development**, you have to explain the situation to prospective buyers as part of the requirements of Vendor Disclosure.**

1.1 Price changes

If you pay after 1 July, your infrastructure contributions charges will be adjusted for:

1. Changes to the Consumer Price Index (CPI). Our prices increase by CPI each financial year. CPI is the weighted average of the capital cities CPI for the 12 months to the end of the previous March.

2. The NSW Government-directed transition pathway for infrastructure contributions for drinking water and wastewater infrastructure:

Financial Year payment is made	**Percentage of infrastructure contribution payable**
1 July 2023 to 30 June 2024	Infrastructure contribution capped at 0% of the full price
1 July 2024 to 30 June 2025	Infrastructure contribution capped at 25% of the full price
1 July 2025 to 30 June 2026	Infrastructure contribution capped at 50% of the full price
1 July 2026 onwards	Full price payable

3. Any updates to our Development Servicing Plans (including prices). Our Development Servicing Plans must be updated every five years. The next updates will be introduced by 31 December 2028.

1.2 How to pay your infrastructure contribution

Once you have met our requirements and your development can connect to our system, and you are ready to pay the infrastructure contribution, you are to request Sydney Water, via your WSC to issue you an invoice for payment.

You must pay your infrastructure contribution directly to us in accordance with the invoice.

You must pay these infrastructure contributions before we will grant your Section 73 Compliance Certificate.

Your WSC is your point of contact with us. They can answer questions you might have on our developer process and charges, or you can visit our websites Plumbing, building and developing page.

2. Special Requirements

The Final Development Consent

This application is based on the development and consent shown on Page 1. You must give us the **final** Development Consent before we issue the Certificate so we can make sure that the development is the same.

If the development is the same and all the requirements of this Notice have been met, we will issue the Certificate. If the development is NOT the same you must reapply (and pay another application fee) and we will issue another Notice. The requirements and charges may change in that Notice.

Other things you need to (that are not a requirement for the Certificate)

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

Water and Sewer Works information

a) 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:

- The existing 300 mm oPVC water main in Fontana Drive will serve your development.
- Your development must have its own connection to that water main and a water service and meter.
    - You must have a fitted Sydney Water Meter, that feeds the construction needs of the development throughout the construction of the project.
    - See additional notes in "Other Things you Need to do" for information around Large Water Connections/Fire Services and fees.

- No assessment of Firefighting has been undertaken for this site, you are required to investigate and manage this as part of your due diligence.

b) Sewer

We've assessed your application and found that:

- The waste water service is beyond the limit of supply.

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:

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. Visit www.sydneywater.com.au > Plumbing, building & developing > Plumbing > Backflow prevention to find a plumber.

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. Visit www.waterrating.gov.au/ to take you to the WELS (Water Efficiency Labelling and Standards (WELS) Scheme
- Consider installing rainwater tanks to capture rainwater runoff, and reusing it, where cost effective. Visit www.sydneywater.com.au > Plumbing, building & developing > Plumbing > Rainwater *tanks*
- 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.

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 is 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 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
- large water connections and

- council firefighting requirements (It will help you to know what the firefighting requirements are for your development as soon as possible. Your hydraulic consultant can help you here).

END OF ADVICE

04 October 2024

Sumit Kusare
Project Lead
NSW Department of Education *(Developer)*
105 Phillip Street
Parramatta 2150

Dear Sumit

Re: NOTICE OF REQUIREMENTS FOR CONNECTION TO SERVICES - ON LOT DEVELOPMENT

Relevant Lot

Scheme Location:	Box Hill
Precinct:	Precinct B (Lot 301)
Building Name or Identifier:	Gables Public School
Lot No. / Address:	Lot 301, Fontana Drive Gables
Services:	Sewerage and Recycled Water

Terms used in this Notice of Requirements have the meaning given to them in the Project Delivery Agreement and Deed of Novation between Stockland Development Pty Ltd, Altogether Operations and us (PDA).

In order for the Services to be provided to the Relevant Lot and as a condition to the granting by us of a Certificate of Compliance to you for the purposes of occupying of the Relevant Lot, you are required to design, construct, commission and hand over the on-lot infrastructure as described in this Notice of Requirements (NOR). The Utility commits to issuing you with a Certificate of Compliance for the Relevant Lot upon your satisfaction of the requirements outlined in this NOR.

Regards,

Carmen Wong
Head of Assets, Planning & Delivery

For and on behalf of:

Altogether Operations Pty Ltd *(The Utility)*
Network Operator's Licence No.: 16_037
Retail Supplier's Licence No.: 13_001R

t 1300 803 803
e contact@altogethergroup.com.ai
w altogethergroup.com.au
a Level 1, 73 Miller Street, North Sydney NSW 2060
acn 603 106 305

Schedule 1: Technical Requirements
Schedule 2: Administrative Requirements

Schedule 1: Technical Requirements

Refer to Altogether's Developer Guide for Commercial & Multi-Residential Lots (The Guide) for more info:
https://information.altogethergroup.com.au/governance/Developer%20Guideline%20-%20Commercial%20%26%20Multi-Dwelling.pdf

No.	Item	Requirement	Comment
T1	**On Lot Hydraulic Services Design drawings (Hold Point)**	Provide **hydraulic design drawings** and details for The Utility's services applicable to the lot for comment and approval	The Developer to only construct off drawings which have been reviewed and approved by The Utility and/or Independent Certifier (when one is appointed). The Utility will stamp the approved hydraulic plans for Developer as a proof record of completion of this phase. Refer to Section 4 of The Guide
T2	**Installer Accreditation (Hold Point)**	Nominate the proposed installation contractor and provide details of the contractor's prior experience on pump station installations	The installer must be approved by The Utility and provide evidence of relevant industry experience on request.
T3	**Metering**	Supply and install separate meters on each and all drinking water including fire services (where applicable) and recycled water services and dedicate to The Utility Supply and install an Electrical Magnetic Flow meter to be installed at sewer discharge line - upstream of connection to boundary kit - allow for conduit to Control Panel)	Meters to be installed in a location accessible to The Utility personnel at all times. A conduit must be installed from the location of the meter(s) to the location of sewer pump station control panel. Refer to Section 4.2.1 of The Guide.
T4	**Trade Waste**	Comply with The Utility's trade waste requirements	https://askus.altogethergroup.com.au/hc/en-us/articles/4403700514329
T5	**Backflow Prevention**	Ensure the Relevant Lot has the correct backflow prevention device on the Utility's Services	The cross-connection hazard rating of the Relevant Lot must be assessed by an accredited backflow plumber. If the Relevant Lot is not or cannot be assessed the default cross-connection hazard rating we will be 'high hazard'. Backflow prevention devices installed that are not part of our water meter must be maintained and tested by the owner in accordance with AS/NZS 3500.

T6	**Quality Assurance (Hold Point)**	Provide a Quality Assurance handover package as per Altogether's requirements. Refer to Section 5 of The Guide for details.	Specific handover documents required for the Relevant Lot include: * Plumber's certification * Hydraulic ITPs and checklists * Evidence of cross connection checks * Evidence of Recycled Water – Do Not Drink signage in all public spaces including accessible irrigation areas, toilets, water features and outlets. Signage should make reference to AS1319. * Council / Fair Trading certification * As-built hydraulic services drawings (including pump station) * As-built electrical services drawings (showing dedicated circuit has been provided at Main Switchboard for pressure sewer system's contorl Panel) * Muncher and pump models and serial numbers * Testable backflow device model and serial numbers * Provide inital testing records for testable backflow devices * Photos of pressure sewer assets (pump station, pipework, connections) prior to backfilling Provide * Provide Pressure Sewer Comissioning Report signed off by Aquatec representative
T7	**Bill of Quantities**	Provide quantities and costing in the form of a **Bill of Quantities (BOQ) for The Utility's Services** for Relevant Lot	The BOQ must include all contract and subcontract works as per work as constructed (WAC) drawings and updated with any variations
T8	**Connection to The Utility's Mains (Hold Point)**	The Developer is responsible for connecting the on-lot infrastructure to **The Utility's Services reticulation mains**. If The Utility's Services reticulation mains are not available at the point of connection to the Relevant Lot, a **separate Notice of Requirements** must be obtained from The Utility for the construction of reticulation mains and connection to The Utility's operational reticulation network. The Developer must obtain written approval from The Utility prior to connecting to reticulation mains.	Any works causing disturbance in public reserves and/or road reserves must be restored to the relevant council and/or authority's standards prior to The Utility issuing a Certificate of Compliance. The Devloper must notify The Utility prior to underatke any works for connection to The Utility's Main thorugh Altogether's website on the link below: https://altogethergroup.com.au/forms/request-water-network-outage-isolation-connection-to-a-newly-constructed-development-stage-or-property-service-connection-s/

T9	**Connection to Third Party Utility Mains**	The Developer must comply to **Third Party Utility** requirements and provide evidence of this where applicable.	Where connection to a Third Party Utility (e.g. Sydney Water) is required, the Developer must obtain and provide copies of Third Party documentation (e.g. NORs, plans and approvals issued by the applicable utility to the Developer). Where The Utility is a customer of a Third Party Utility, The Developer must comply with those requirements set out by that utility, which will be provided by The Utility as an attachment to this NOR. The Developer must obtain written approval from The Utility prior to connecting to Third Party Utility reticulation mains.	
T11	**Rainwater Systems**	The Developer must inform **The Utility** if the planned development includes a rainwater **collection and reuse** system.	Rainwater systems are not permitted. Recycled Water must be used for all approved uses including; irrigation, toilet flushing, clothes washing, wash down of hard surfaces and car washing.	
T12	**Fire Services**	The Developer must ensure that the performance of firefighting system drawing water from the supply satisfies the firefighting requirements of the development.	The Utility is not required to supply water specifically for firefighting.	
T13	**Pressure Sewer System Comissioning**	The develper must provide a Pressure Sewer Comissioning Report signed off by Aquatec representative as part of Quality Assurance Package.		
No.	**Item**	**Requirement**	**Comment**	
A1	**Administration Documents**	Provide a copy of the development consent and plans confirming DP and Lot No's and the Basix Certificate	Details are required to be referenced on the Compliance Certificate for the relevant lot to enable the development to achieve its Occupation Certificate	
A2	**Payment for Design Review**	Provide payment to The Utility for its review of the design loadings and proposed servicing solution for The Utility's services, unless other agreements between The Utility and The Developer have been made under a separate Project Delivery Agreement or similar.	Design Review Fee = (per review)	Non-residential price fact sheet (refer to connection fees)

A3	**Payment for QA Inspector**	Provide payment to The Utility for all site inspections required including; connection to mains, inspection of The Utility's assets prior to backfilling and inspection of trade waste systems.	QA Inspection Fee = (per inspection)	Non-residential price fact sheet (refer to connection fees)
A4	**Phase 2 Sewer Infrastructure Fee**	Provide **payment to The Utility** as per the rate provided in this NOR, unless other agreements between The Utility and The Developer have been made under a separate Project Delivery Agreement or similar. This fee is only applicable to sewer service options A and B of The Guide.	Phase 2 Sewer Infrastructure Fee =	Non-residential price fact sheet (refer to connection fees)
A5	**Review of trade waste design fee**	Provide payment to The Utility as per the rate provided in this NOR, unless other agreements between The Utility and The Developer have been made under a separate Project Delivery Agreement or similar.	Review of trade waste design Fee =	Non-residential price fact sheet (refer to connection fees)
A6	**Customer Registration**	The Developer must ensure that the owner of the Relevant Lot is registered as a customer of Altogether	https://altogethergroup.com.au/forms/move-in/postcode/	
A7	**Pre-Contruction Notice**	Provide 1 week's notice to the Utility before construction works starts.		
A8	**Site Inspection**	Provide **1 week's notice in writing** to The Utility to carry out a site inspection of the completed On Lot Infrastructure Works	This is to allow The Utility time to confirm that the installed infrastructure can be accepted and connected.	

Statement of Available Pressure and Flow

Michael Cahalane
233 Castlereagh Street
Sydney, 2000

Attention: Michael Cahalane Date: 27/04/2023

Pressure & Flow Application Number: 1630811
Your Pressure Inquiry Dated: 2023-04-18
Property Address: Fontana Drive, Gables 2765

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: Cataract Road	Side of Street: East
Distance & Direction from Nearest Cross Street	141 metres North from Fontana Drive
Approximate Ground Level (AHD):	38 metres
Nominal Size of Water Main (DN):	200 mm – Location 2

EXPECTED WATER MAIN PRESSURES AT CONNECTION POINT

Normal Supply Conditions	
Maximum Pressure	50 metre head
Minimum Pressure	42 metre head

WITH PROPERTY FIRE PREVENTION SYSTEM DEMANDS	Flow l/s	Pressure head m
Fire Hose Reel Installations (Two hose reels simultaneously)	0.66	42
Fire Hydrant / Sprinkler Installations (Pressure expected to be maintained for 95% of the time)	10 15 20 25 30 40 50 60	42 42 42 42 41 41 40 39
Fire Installations based on peak demand (Pressure expected to be maintained with flows combined with peak demand in the water main) Maximum Permissible Flow	10 15 20 25 30 40 50 60 118	41 41 41 40 40 39 38 37 28

(Please refer to reverse side for Notes)

For any further inquiries regarding this application please email :

swtapin@sydneywater.com.au

General Notes

This report is provided on the understanding that (i) the applicant has fully and correctly supplied the information necessary to produce and deliver the report and (ii) the following information is to be read and understood in conjunction with the results provided.

1. Under its Act and Operating Licence, Sydney Water is not required to design the water supply specifically for fire fighting. The applicant is therefore required to ensure that the actual performance of a fire fighting system, drawing water from the supply, satisfies the fire fighting requirements.

2. Due to short-term unavoidable operational incidents, such as main breaks, the regular supply and pressure may not be available all of the time.

3. To improve supply and/or water quality in the water supply system, limited areas are occasionally removed from the primary water supply zone and put onto another zone for short periods or even indefinitely. This could affect the supply pressures and flows given in this letter. This ongoing possibility of supply zone changes etc, means that the validity of this report is limited to one (1) year from the date of issue. It is the property owner's responsibility to periodically reassess the capability of the hydraulic systems of the building to determine whether they continue to meet their original design requirements.

4. Sydney Water will provide a pressure report to applicants regardless of whether there is or will be an approved connection. Apparent suitable pressures are not in any way an indication that a connection would be approved without developer funded improvements to the water supply system. These improvements are implemented under the Sydney Water 'Urban Development Process'.

5. Pumps that are to be directly connected to the water supply require approval of both the pump and the connection. Applications are to be lodged online via Sydney Water Tap in™ system -
Sydney Water Website – www.sydneywater.com.au/tapin/index.htm. Where possible, on-site recycling tanks are recommended for pump testing to reduce water waste and allow higher pump test rates.

6. Periodic testing of boosted fire fighting installations is a requirement of the Australian Standards. To avoid the risk of a possible 'breach' of the Operating Licence, flows generated during testing of fire fighting installations are to be limited so that the pressure in Sydney Water's System is not reduced below 15 metres. Pumps that can cause a breach of the Operating Licence anywhere in the supply zone during testing will not be approved. This requirement should be carefully considered for installed pumps that can be tested to 150% of rated flow.

Notes on Models

1. Calibrated computer models are used to simulate maximum demand conditions experienced in each supply zone. Results have not been determined by customised field measurement and testing at the particular location of the application.

2. Regular updates of the models are conducted to account for issues such a urban consolidation, demand management or zone change.

3. Demand factors are selected to suit the type of fire-fighting installation. Factor 1 indicates pressures due to system demands as required under Australian Standards for fire hydrant installations. Factor 2 indicates pressures due to peak system demands.

4. When fire-fighting flows are included in the report, they are added to the applicable demand factor at the nominated location during a customised model run for a single fire. If adjacent properties become involved with a coincident fire, the pressures quoted may be substantially reduced.

5. Modelling of the requested fire fighting flows may indicate that local system capacity is exceeded and that negative pressures may occur in the supply system. Due to the risk of water contamination and the endangering of public health, Sydney Water reserves the right to refuse or limit the amount of flow requested in the report and, as a consequence, limit the size of connection and/or pump.

6. The pressures indicated by the modelling, at the specified location, are provided without consideration of pressure losses due to the connection method to Sydney Water's mains.

Statement of Available Pressure and Flow

Michael Cahalane
233 Castlereagh Street
Sydney, 2000

Attention: Michael Cahalane Date: 27/04/2023

Pressure & Flow Application Number: 1630803
Your Pressure Inquiry Dated: 2023-04-18
Property Address: Fontana Drive, Gables 2765

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: Fontana Drive	Side of Street: East
Distance & Direction from Nearest Cross Street	50 metres North from Lacunar Street
Approximate Ground Level (AHD):	38 metres
Nominal Size of Water Main (DN):	300 mm - Location 1

EXPECTED WATER MAIN PRESSURES AT CONNECTION POINT

Normal Supply Conditions	
Maximum Pressure	50 metre head
Minimum Pressure	42 metre head

WITH PROPERTY FIRE PREVENTION SYSTEM DEMANDS	Flow l/s	Pressure head m
Fire Hose Reel Installations (Two hose reels simultaneously)	0.66	42
Fire Hydrant / Sprinkler Installations (Pressure expected to be maintained for 95% of the time)	10 15 20 25 30 40 50 60	43 42 42 42 42 41 41 40
Fire Installations based on peak demand (Pressure expected to be maintained with flows combined with peak demand in the water main) Maximum Permissible Flow	10 15 20 25 30 40 50 60 120	41 41 41 41 40 40 39 38 31

(Please refer to reverse side for Notes)

For any further inquiries regarding this application please email :

swtapin@sydneywater.com.au

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6. The pressures indicated by the modelling, at the specified location, are provided without consideration of pressure losses due to the connection method to Sydney Water's mains.

Date: 19th June 2023

To:
Jeremy Chung (Hydraulic Engineer)
Company: Warren Smith Consulting Engineers
Phone: 0450976534

STATEMENT OF AVAILABLE PRESSURE AND FLOW: RECYCLED WATER BOX HILL NORTH

Att: J Chung

Pressure & Flow Application Number: RW003
Your Pressure Inquiry Dated: 22nd My 2023
Property Address: Lot 301 Fontana

The expected maximum and minimum pressures available in the recycled water main given below relate to modelled demand conditions, and are not to be construed as availability for normal domestic supply for any proposed development.

CONNECTION DETAILS

Street Name: Fontana Drive	**Side of Street:** East
Distance & Direction from Nearest Cross Street	10m South of Annear Street
Approximate Ground Level (AHD):	37.7 metres
Nominal Size of Recycled Water Main (DN):	100 mm

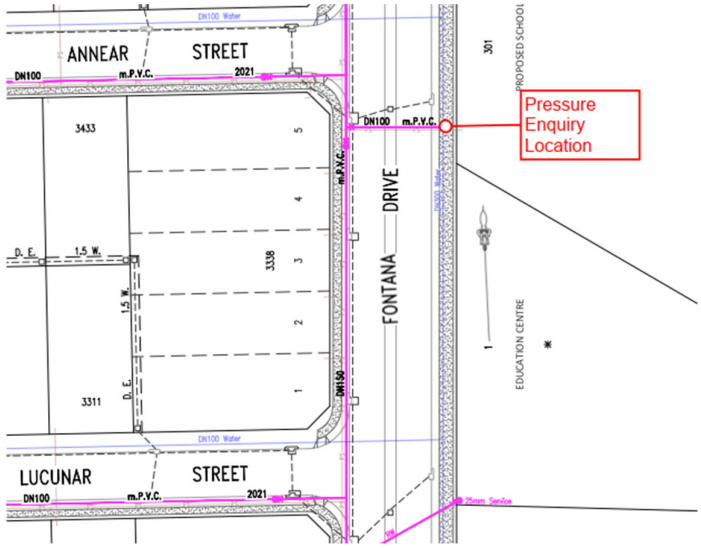
EXPECTED RECYCLED WATER MAIN PRESSURES AT CONNECTION POINT NORMAL SUPPLY CONDITIONS

Maximum Pressure	46 m (Absolute Maximum = 92 m Head. {Delivery Pump controller failure})
Minimum Pressure *	15 m

System Design Flows. Flows and pressures for 95 percentiles.	**Flow L/s ***	**Pressure Head m ***
Average flow allowance (1000 Student School)	0.065 L/s	40.5m
Design diurnal peak flow	1.0 L/s	40.5m
Design maximum flow allowance	2.0 L/s	40.5m

* Flows and pressures are based on hydraulic model design criteria - 'Recycled Water System - Masterplan Report' Issue I : Layout - 'Box Hill_SK301 Recycled Water Masterplan-[N]-SK301-[N]' : Delivery systems - RL38.7 - main MPC-E 4 CRE90-2-1 - booster MPC-E 4 CRE10-6 U2 A-A-G-A.

Location Map



General Notes

This report is provided on the understanding that (i) the applicant has fully and correctly supplied the information necessary to produce and deliver the report and (ii) the following information is to be read and understood in conjunction with the results provided.

1. This pressure inquiry is valid for 12 months from date of issue
2. Due to short-term unavoidable operational incidents, such as main breaks, the regular supply and pressure may not be available all the time.
3. Box Hill Water will provide a pressure report to applicants regardless of whether there is or will be an approved connection. Apparent suitable pressures are not in any way an indication that a connection would be approved without developer funded improvements to the water supply system. These improvements are implemented under the Box Hill Water's standard development Process.
4. Pumps that are to be directly connected to the water supply require approval of both the pump and the connection. Applications are to be lodged directly with Box Hill Water. Where possible, on-site recycling tanks are recommended for pump testing to reduce water waste and allow higher pump test rates.

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Notes on Models

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3. Modelling of the requested design flows may indicate that local system capacity is exceeded and that negative pressures may occur in the supply system. Due to the risk of water contamination and the endangering of public health, Box Hill Water reserves the right to refuse or limit the amount of flow requested and, as a consequence, limit the size of connection and/or pump.
4. The pressures indicated by the modelling, at the specified location, are provided without consideration of pressure losses due to the connection method to Box Hill Water mains.