

Health Infrastructure NSW

New Bankstown Hospital

Hydraulic and Fire Services - Infrastructure and Water Management Report

Reference: NBH-ARU-1GN-REP-HY-00-00001

Rev E | 23 March 2026

This report takes into account the particular instructions and requirements of our client. It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 285758

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Document Verification

Project title New Bankstown Hospital
Document title Hydraulic and Fire Services - Infrastructure and Water Management Report
Job number 285758
Document ref NBH-ARU-1GN-REP-HY-00-00001
File reference NBH-ARU-1GN-REP-HY-00-00001 - Hydraulic and Fire Services - Infrastructure and Water Management Report

Revision	Date	Filename			
			NBH-ARU-1GN-REP-HY-00-00001 - Hydraulic and Fire Services - Infrastructure and Water Management Report		

Rev A	28/11/2025	Description	First Draft for coordination		
			Prepared by	Checked by	Approved by
		Name	CP	EL	EL
		Signature			

Revision	Date	Filename			
			NBH-ARU-1GN-REP-HY-00-00001 - Hydraulic and Fire Services - Infrastructure and Water Management Report		

Rev B	30/01/2026	Description	Re-issued to incorporate CI comments		
			Prepared by	Checked by	Approved by
		Name	CP	EL	EL

Revision	Date	Filename			
			NBH-ARU-1GN-REP-HY-00-00001 - Hydraulic and Fire Services - Infrastructure and Water Management Report		

Rev C	16/02/2026	Description	Re-issued to incorporate CI comments		
			Prepared by	Checked by	Approved by
		Name	CP	EL	EL

Revision	Date	Filename			
			NBH-ARU-1GN-REP-HY-00-00001 - Hydraulic and Fire Services - Infrastructure and Water Management Report		

Rev D	23/02/2026	Description	Re-issued to incorporate CI comments		
			Prepared by	Checked by	Approved by
		Name	CP	EL	EL

Revision	Date	Filename	NBH-ARU-1GN-REP-HY-00-00001 - Hydraulic and Fire Services - Infrastructure and Water Management Report	
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Rev E	23/03/2026	Description	Re-issued to incorporate CI comments	
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	Prepared by	Checked by	Approved by
Name	CP	EL	EL

Issue Document Verification with Document

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CONSULTANT DECLARATION

PROJECT DETAILS	
PROJECT NAME	New Bankstown Hospital
Application number	SSD-105396208
Address of subject land	490 Chapel Road, Bankstown
Lot / DP	Lot 1 DP 853675, Lot 10 DP 6880 and Raw Avenue
APPLICANT DETAILS	
Applicant name	Health Administration Corporation
Applicant address	1 Reserve Road, St Leonards, NSW 2065
REPORT DETAILS	
Name of report this declaration relates	Hydraulic and Fire Services – Infrastructure and Water Management Report
Report reference no.	NBH-ARU-1GN-REP-HY-00-00001
Report date	16/02/2026
Company name (inc. ABN / ACN)	Arup
Author name	Elena Longo
Author qualifications	Associate
Author address	Barrack Place, 151 Clarence St, Sydney, NSW 2000
DECLARATION BY CONSULTANT	
Name	Elena Longo
Registration no.	N/A
Organisation registered with	N/A
Declaration	<p>We (Arup) are providing hydraulic and fire services Engineering design advice to Health Infrastructure and CI in relation to the above project pursuant to our Appointment under the Conditions of Agreement. Notwithstanding anything to the contrary contained in this statement we are obliged to exercise reasonable skill and care in the performance of our Services under the Appointment and we shall not be liable except to the extent that we have failed to exercise reasonable skill and care and this statement shall be read and construed accordingly, and in particular shall be subject to the terms and conditions of the Appointment.</p> <p>The undersigned declares that the Hydraulic and Fire Services – Infrastructure and Water Management Report has been prepared in accordance with the following:</p> <ul style="list-style-type: none">• National Construction Code (NCC) 2022 Amendment 1• AS 3500 all parts.• AS 1670.1:2018• AS1670.4:2018• AS 2118.1:2017• AS 2118.6:2012• AS 2419.1-2021• AS 2441- 2005 <p>•It is noted that a Fire Engineering Brief Questionnaire (FEBQ) / Fire Engineering Report (FER) is not yet available for the project.</p> <p>contains all available information relevant to the environmental assessment of the development, activity or infrastructure to which the Hydraulic and Fire Services – Infrastructure and Water Management Report relates;</p>

does not contain information that is false or misleading;
identifies and addresses the relevant Planning Secretary's environmental assessment requirements (SEARs) for the project;
identifies and addresses the relevant statutory requirements for the project, including any relevant matters for consideration in environmental planning instruments to which the Hydraulic and Fire Services – Infrastructure and Water Management Report relates;
contains a consolidated summary of the proposed or necessary mitigation measures.

Signature



Date

23/02/2026

1. Introduction

1.1 Introduction

This Hydraulic and Fire Services - Infrastructure and Water Management Report has been prepared by Arup on behalf of the Health Administrative Corporation to assess the potential environmental impacts that could arise from the construction and operation related to the New Bankstown Hospital project (the development) at 490 Chapel Road, Bankstown (the site). This report supports the assessment of the proposed Activity under Part 4 of the Environmental Planning and Assessment Act 1979.

Industry specific SEARs were issued on the 5th February 2026 for the New Bankstown Hospital. Development for the purposes of a hospital with an Estimated Development Cost (EDC) of more than \$30 million is state significant development under Clause 14 of Schedule 1 of the State Environmental Planning Policy (Planning Systems) 2021 (Planning Systems SEPP). The proposed works will have an EDC exceeding \$30 million, and therefore the development is considered State Significant Development. Additionally, under Section 2.60 of State Environmental Planning Policy (Transport and Infrastructure) 2021 (the TI SEPP), development for the purpose of health services facility can be carried out by any person with consent on land in a prescribed zone. A prescribed zone includes the SP2 Infrastructure and MU1 Mixed Use zones within which the site is located. Therefore, development for a 'health services facility' is permitted with consent on the site.

This report has been prepared to cover the "Main Works" scope for the Hydraulic and Fire Services for the New Bankstown Hospital project, Chapel Road, Bankstown, NSW.

1.2 Summary of Activity

The proposed development includes the construction and operation of a new health services facility (hospital) including the following works:

- A 14 storey hospital building plus roof plant
- A 10 storey building for logistics and multi-storey car parking
- Site preparation including earthworks, cut and fill and tree removal
- Construction of new vehicular access points, internal roads and on-grade car parking spaces
- Inground building services works and utility adjustments, including service diversions
- Building foundation works
- Signage, including wayfinding, and
- Landscaping.

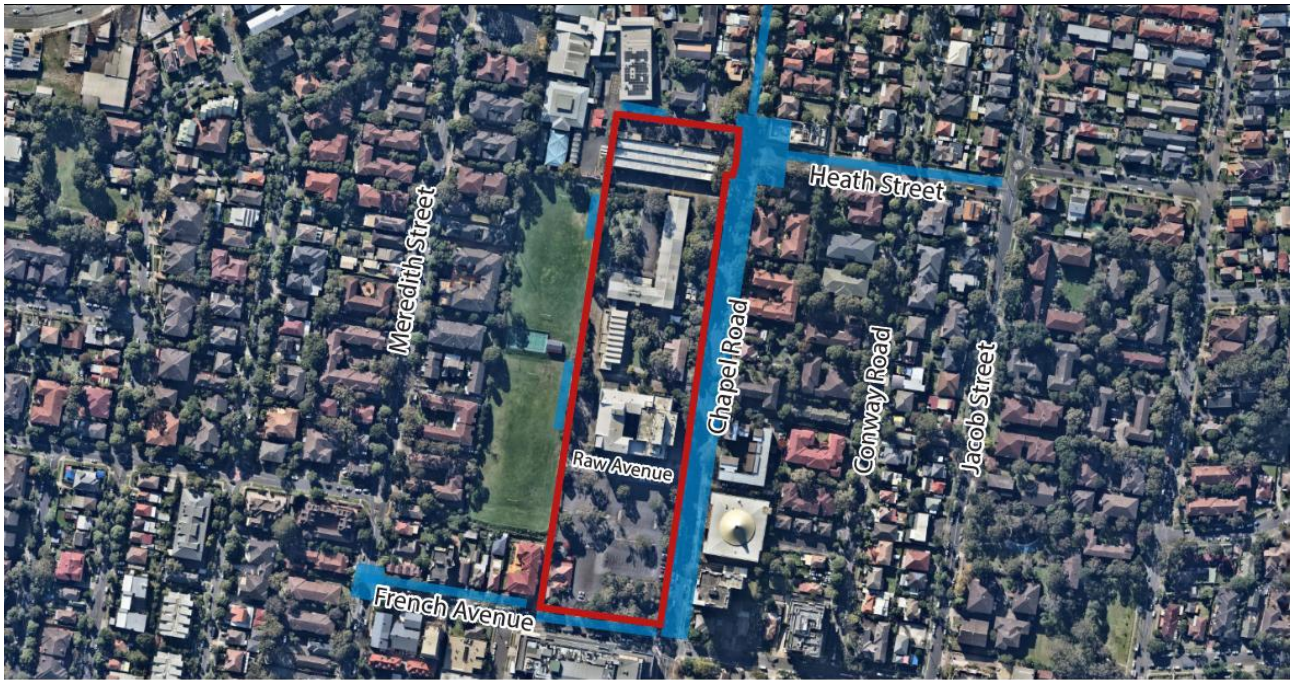
The EIS prepared by Colliers provides a full description of the proposed works.

1.3 Site Description

The site is located at 490 Chapel Road, Bankstown, within the Canterbury Bankstown LGA. The site is legally described as Lot 1 DP853675, Lot 10 DP6880 and Raw Avenue. The site has an approximate area of 38,170m² and is generally rectangular in shape. The site currently cleared and comprises in-ground services and limited vegetation.

Tree removal will also be undertaken at the adjacent LaSalle Catholic College at 347A Hume Highway, Bankstown, legally described as Lot 2 in DP 109612 to the west and Lot 202 in DP 1231757 to the north, while infrastructure works will be undertaken on French Avenue, Chapel Road, Meredith Street and Heath Street.

Refer to **Figure 1** for a site aerial.



The Site Indicative Location of Infrastructure Works



Figure 1 - Site aerial of the proposed development (Source: Nearmap, Colliers)

1.4 SEARs Requirements

SEARs requirements anticipated to be required for the preparation of an Environmental Impact Statement (EIS) for the SSDA submission that are applicable for Hydraulic and Fire services are summarised in Table 1 below:

Item	SEARS Requirement	Relevant Section of Report
14	<p>Water Management</p> <p>Provide and Integrated Water Management Plan for the development that:</p> <ul style="list-style-type: none"> - outlines the water-related servicing infrastructure required by the development (informed by the anticipated annual and ultimate increase in servicing demand) and evaluates opportunities to reduce water demand (such as recycled water provision). 	Section 4, Section 5 and Section 6
14	<ul style="list-style-type: none"> - details the proposed drainage design (stormwater and wastewater) for the site including any on-site treatment, reuse and detention facilities, water quality management measures, and nominated discharge points. 	Section 3 and Section 5
14	<ul style="list-style-type: none"> - Where water and drainage infrastructure works are required that would be handed over to the local council, or other drainage or water authority, provide full hydraulic details and detailed plans and specification of proposed works that have been prepared in consultation with, and comply with the relevant standards of, the local council or other drainage or water authority. 	Section 4, Section 5 and Section 6

22	Infrastructure Requirements and Utilities	Section 3
	In consultation with relevant service providers:	
	- assess the impacts of the development on existing infrastructure and service provider assets surrounding the site.	
22	- identify any infrastructure required on-site and off-site to facilitate the development and any arrangements to ensure that the upgrades will be implemented on time and be maintained.	Section 3
22	- provide an infrastructure delivery and staging plan, including a description of how infrastructure requirements would be co-ordinated, funded and delivered to facilitate the development.	Section 3 and Section 4

2. Standards and Design Guides

The Work shall meet all requirements of national and local Statutory Authorities and shall be in accordance with the following:

- Australian Standards
- BCA / National Construction Code (NCC) 2022 Amendment 2
- Plumbing Code of Australia
- EPA regulations
- Worksafe
- BCA/Building Surveyor requirements
- Manufacturer's Guidelines
- Sydney Water Requirements
- Fire Rescue NSW regulations and Concept Fire Strategy
- Electrical Supply Authorities
- Applicable ESD Requirements
- NSW Department of Planning, Industry and Environment – Liquid Trade Waste Management Guidelines
- NSW Health Infrastructure: Standards, Policies, Procedures and Guidelines (SPPG)
- NSW Health Infrastructure: Engineering Services Guidelines
- NSW Health Infrastructure: Design Guidance Note 001 to 040 including No. 006 General Design Principles
- Australian Health Facility Guidelines Part E: Building Services and Environmental Design 2016 (AusHFG)
- International Health Facility Guidelines (iHFG)

3. Overview of Infrastructure

3.1 Domestic Cold Water Infrastructure

3.1.1 Existing Domestic Cold Water Infrastructure

Existing water mains are available running along Chapel Road as follows, shown in Figure 2:

- 150 mm CICL
- 200 mm DICL

Existing water mains are available running along Raw Avenue as follows:

- 100 mm CICL

Based on the discussion with the Water Services Coordinator (WSC) and review of existing infrastructure based on in ground utility surveys, the authority 100 mm CICL infrastructure in Raw Avenue is going to be demolished and stripped back to the main. This work is done as a part of a separate planning approval which has been obtained .

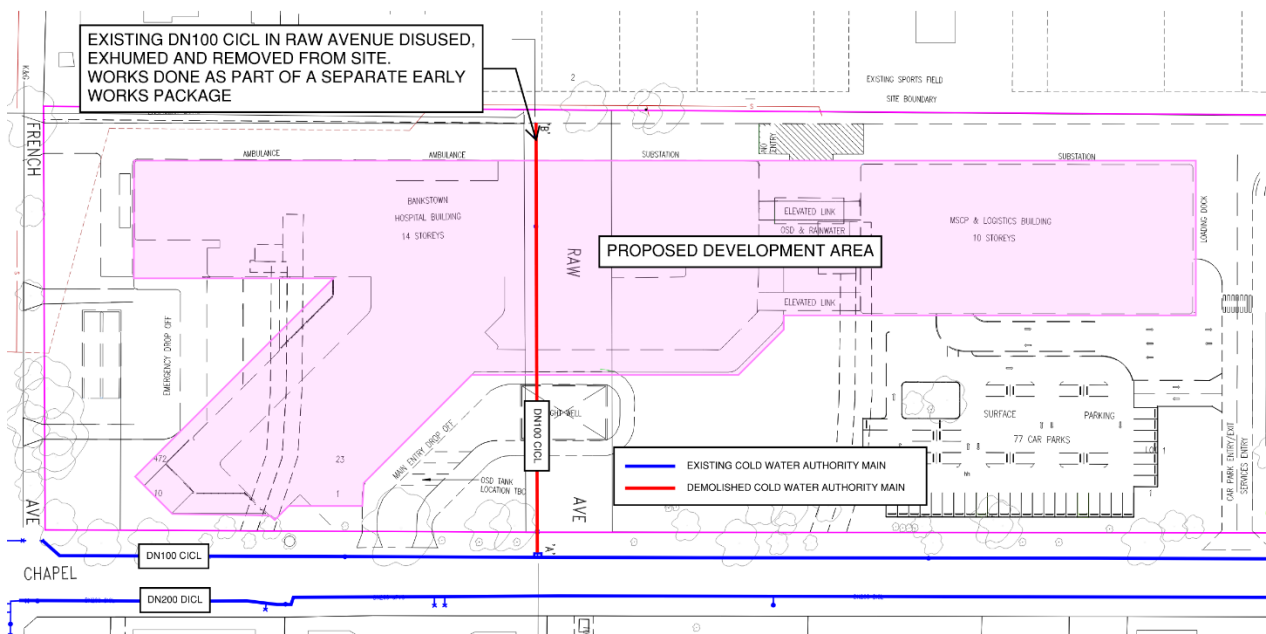


Figure 2 – Existing Cold Water Infrastructure

3.1.2 Proposed Cold Water Infrastructure

New, dual connections from the 100 mm and 200 mm water mains in Chapel Road are proposed to serve the new building, as shown in Figure 3, to provide resilience in supply in the event of failure in part of the network serving one main.

Proposed water mains connection for the hospital comprises of a primary main connection from the 200 mm water main and secondary main connection from the 100 mm water main as a back-up supply in Chapel Road. This proposal is subject to confirmation by the WSC.

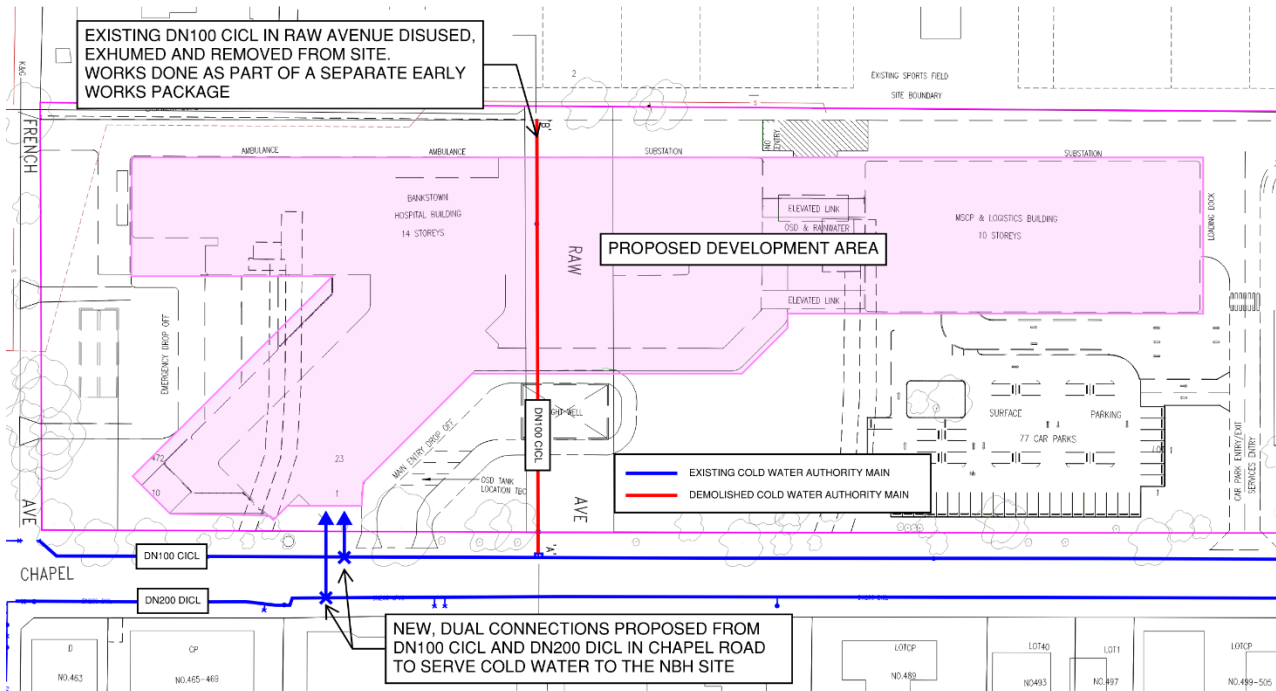


Figure 3 - Proposed Cold Water Infrastructure Connection

A feasibility application was submitted to Sydney Water on 21st October 2025 by Acor (the WSC currently engaged for the project). Sydney Water has provided the Feasibility letter for the development that confirms there is capacity within the water and sewer network, subject to further assessment as part of the S73 process.

3.2 Sewer Infrastructure

3.2.1 Existing Sewer Infrastructure

Existing sewer mains are available running along French Avenue and within the NBH site as follows, shown in Figure 4:

- 225 mm PVC in French Avenue
- 225 mm SGW across NBH site
- 150 mm SGW across NBH site

Based on the discussion with Water Services Coordinator and review of existing infrastructure, the authority sewer infrastructures across the NBH site are going to be rerouted around the footprint of the new development. This work will be completed as a part of a separate planning approval which has been obtained .

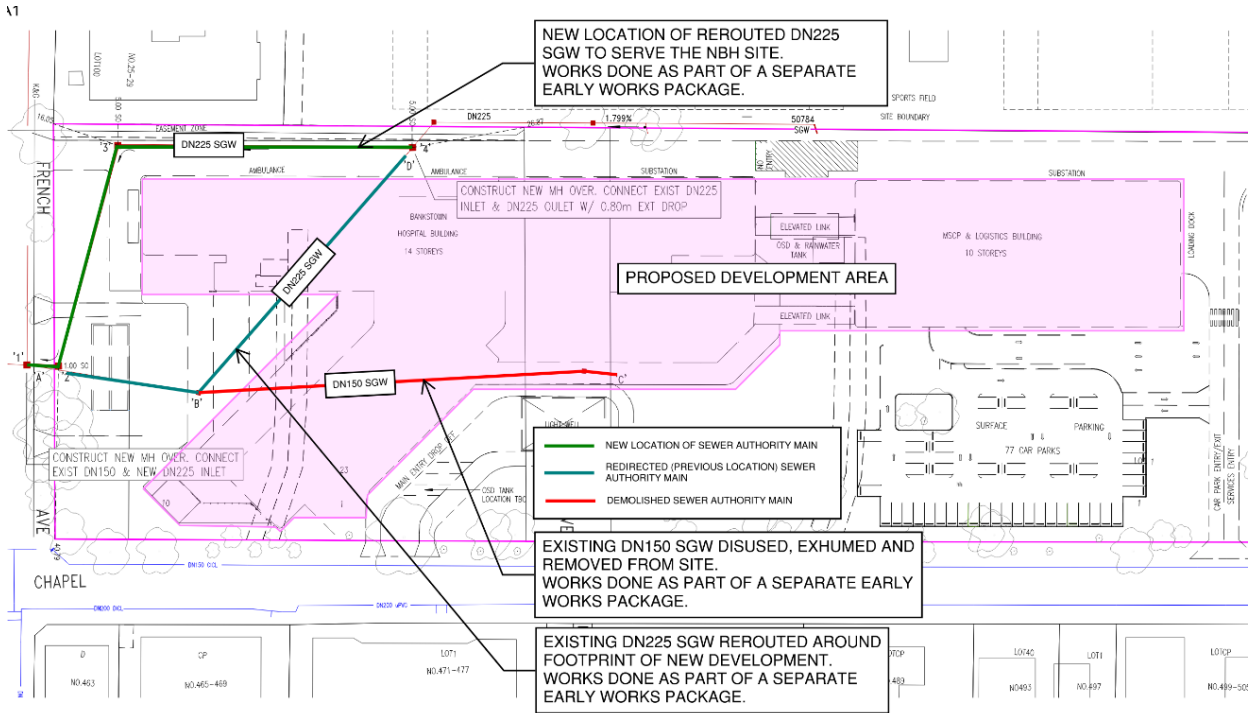


Figure 4 - Existing Sewer Infrastructure

3.2.2 Proposed Sewer Infrastructure

Two new connections to the 225 mm utility sewer main which runs along the west of the building and along French avenue are proposed to be provided (Figure 5). This proposal is subject to design development of the Sydney Water sewer diversion as part of an Early Works package, by the Water Services Coordinator (WSC).

A feasibility application was submitted to Sydney Water on 21st October 2025 by Acor (the WSC currently engaged for the project). Sydney Water has provided the Feasibility letter for the development that confirms there is capacity within the water and sewer network, subject to further assessment as part of the S73 process.

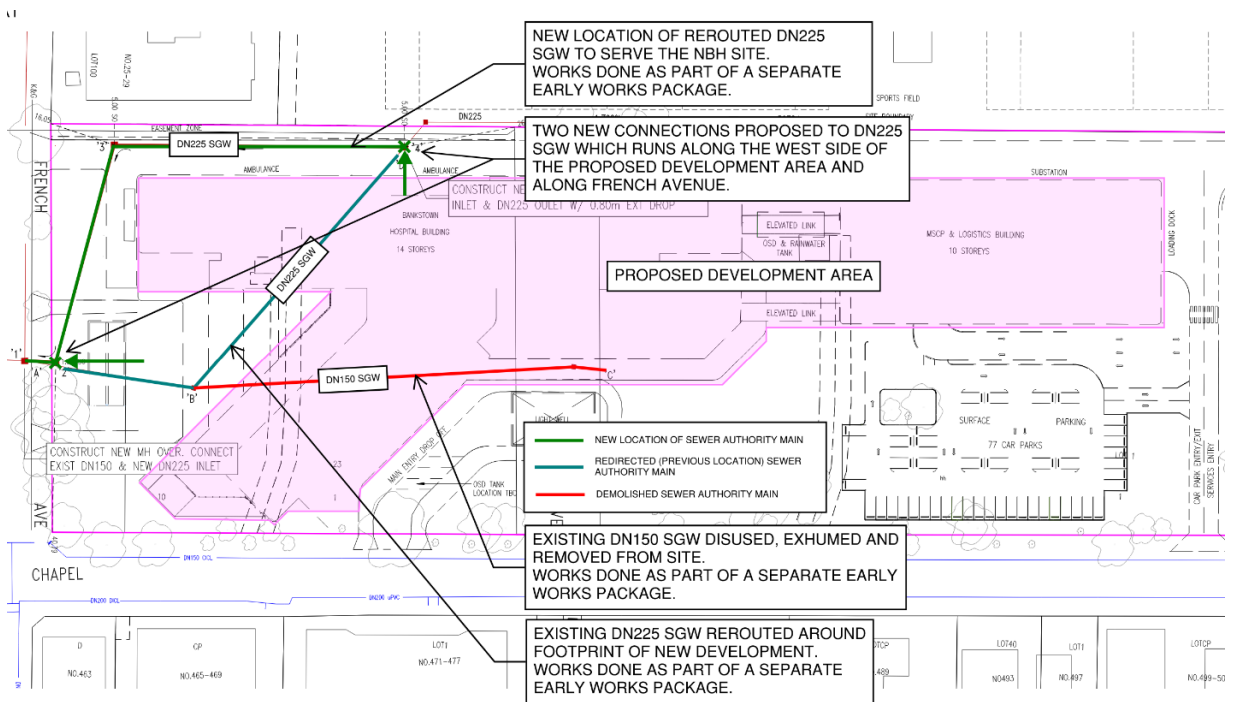


Figure 5 - Proposed Sewer Infrastructure Connection

4. Demand Calculation

4.1.1 Domestic Cold Water Demand

The demand per bed has been estimated to be 1,000 L/bed/day based on similar projects. This has considered Sydney Water guidelines based on 271 L/day/bed average use, assuming a 2.5 staff to bed ratio the average consumption x total population (patients + staff) is approximately 1,000 L/bed/day.

Table 1 - Proposed Domestic Cold Water Demand Based on Beds Number

	Number of overnight beds	Average demand (L/bed/day)	Average flow rate (L/s)	Peak flow rate (L/s)
Current Scheme	479	1,000	5.54	16.63
With L12 Future Development	575*	1,000	6.66	19.98

* estimated total beds number with L12 Future Development

Table 2 - Proposed Total Domestic Cold Water Demand for NBH

	Peak Water Demand Flow (L/s)	
	Current Scheme	With L12 Future Development
Hydraulic Service	16.63	19.98
Mechanical Demand*	4.98	4.98
Irrigation**	1	1
Total	22.61	25.96

* Preliminary cooling tower make up water demand figure provided from the Mechanical Consultant

** Irrigation peak flow has been derived from the preliminary irrigation demand figures provided from the Landscape Architect and is based on an assumed irrigation operating regime of 8 hours per day. This is subject to confirmation through detailed irrigation system design.

4.1.2 Sewer Discharge Load

The peak sewer discharge is calculated using the equivalent population (EP) method outlined in the Sewerage Code of Australia, WSA02-2002 Sydney Water Edition.

Table 3 - Estimated Sewer Loads for NBH

	Peak sewage discharge (65% of peak water demand)
Current Scheme	14.70 L/s
With L12 Future Development	16.87 L/s

5. Outline of Proposed Water Management Systems

5.1 Domestic Cold Water

It is proposed to provide dual connections from the existing 100 mm and 200 mm water mains in Chapel Road to serve the NBH site. The proposed water mains connection for the hospital comprises of a primary main connection from the 200 mm water main and secondary main connection from the 100 mm water main as a back-up supply in Chapel Road. On-site water storage tank will be provided as an additional redundancy measure.

The incoming domestic cold water (DCW) will pass through authority water meter assemblies and dual backflow prevention devices to the requirements of Sydney Water. A dedicated domestic cold water plantroom will be located at Level 00 and will house DCW water meter, reduced pressure zone device (RPZD), DCW booster pumps and filtration plant. From there the DCW will be boosted to L13 roof plantroom where the emergency water tank is located.

DCW will serve all fixtures and fittings requiring potable water including connections to the fire hose reel system. It will also provide make up water to cooling towers and to the rainwater harvesting and re-use system during times of insufficient rainfall.

DCW supplied to mechanical plantrooms, domestic hot water plant, RO water plants, rainwater re-use top-up, kitchen, retail tenancies and every major department with high water use will be individually sub-metered via pulse type water meters and monitored by the building management control system (BMCS). This will provide a detailed understanding of water consumption over time and inform any future initiatives to further reduce water consumption.

Backflow prevention will be provided as per AS3500.1-2021 and Health Infrastructure guidelines.

5.2 Domestic Hot Water

Domestic hot water (DHW) for the main hospital building will be distributed through the building via a flow and return system. Air to water heat pumps with storage cylinders with electric immersion heaters will be located in a plant room at roof level. The DHW system will be fed from the DCW supply.

Circulating hot water plant delivery temperatures will be between 60°C - 65°C. Thermostatic mixing valves and tempering valves will be provided at ablution fixtures in accordance with the statutory codes to prevent scalding.

Pressure reducing valves will be provided as required to protect against over pressure and ensure the desired pressure is available at all outlets.

Retail tenancies will be responsible for providing their own electric hot water heaters. Hot water to the main kitchen will be supplied by dedicated heavy duty electric hot water storage units with circulation pumps.

Flow control regulators will be provided, where required to limit water consumption. Pipework will be insulated against heat loss and provided with adequate allowance for expansion.

Back of House and End of Trip facilities in the multi storey car park will be supplied by dedicated heavy duty electric hot water storage units with circulation pumps.

5.3 Fire Hydrant and Sprinkler Systems

A combined fire hydrant and sprinkler system will be provided throughout the building in accordance with the requirements of the NCC, AS2419, AS2118.1, AS2118.6, Fire Engineering requirements and FRNSW requirements.

A new fire protection water supply will be obtained via new connection into the existing 200 mm water main in Chapel Road. The incoming fire water supply will be un-metered and pass through a double detector check valve with metered bypass to the requirements of Sydney Water.

A combined fire hydrant and sprinkler FRNSW booster assembly will be located on site near the main entry to the building.

The building is over 25 meters and thus a dual water supply will be required for the combined fire hydrant and sprinkler system. The proposed water supply configuration is comprised of a combined fire hydrant and sprinkler system tank as one source and 200 mm water main as the second source of water supply to the fire hydrant system.

It is proposed to minimise fire testing water consumption by reusing/recirculating fire test drain water via the fire tank.

5.4 Sanitary Drainage and Trade Waste

The sanitary drainage system will convey wastewater from sanitary fixtures, floor wastes and water appliances through a fully vented modified stack system to the authority sewer main. All sanitary stack systems will be located within dedicated risers, services voids and wet areas. Riser locations will be coordinated with acoustic requirements, with acoustic treatment being provided for all noise-sensitive spaces.

The sewer drainage system will be provided with overflow relief gullies to protect the building from mains surcharge.

CSSD and Pathology Department trade waste will be collected through a dedicated gravity waste drainage system, via a series of branch drains and stacks.

The CSSD trade waste will be connected to the cooling tank prior to discharging to the sewer system.

The Pathology Department trade waste will be connected to the dilution tank prior to discharging to the sewer system.

Wastewater from kitchens and FOH retail producing hot food will be collected via a dedicated gravity trade waste drainage system and pass through grease treatment device prior to connection to the Sydney Water infrastructure.

A decontamination holding tank and pump out facility will be provided for the decontamination shower within the ambulance bay.

5.5 Rainwater Drainage

The building will be provided with roof drainage design consisting of gravity and siphonic drainage systems and full flow emergency overflows discharging to atmosphere via the facade. Rainwater will be collected from roof gutters, balconies and terraces via gravity flow or siphonic rainwater downpipe systems. Multiple locations of rainwater downpipe risers are required to afford full coverage.

Where rainwater is collected for reuse, it will be directed to the rainwater harvesting tank, otherwise rainwater will connect directly to the external stormwater drainage network and/or directed to the OSD tank (by Civil) via stormwater pits. Refer to the stormwater management section of the civil report by TTW.

5.6 Rainwater Harvesting and Recycled Non-Potable Water

The building will be provided with a rainwater harvesting system to capture and treat rainwater landing on the building's roof areas. Rainwater will be captured from part of the roofs via a siphonic stormwater system and discharged into a rainwater tank. Water will be collected in storage tanks, treated and pumped into a dedicated non potable reticulation within the building to serve:

- Mechanical cooling tower top-up
- Landscape irrigation.

The non-potable water supply will include pre-treatment via automatic backwash filtration and UV disinfection prior to supply to cooling towers and irrigation to maintain water quality. The cooling towers are expected to utilise most of the total non-potable water harvested with the remaining supplied to irrigation.

A 100kL rainwater tank is currently proposed based on the preliminary water balancing calculation.

In the event of significant rainfall, overflow from the rainwater tank will discharge into the external stormwater infrastructure to ensure safe management of this water to downstream areas.

5.7 Sanitary Fixtures and Taps

Sanitary fixtures throughout the new building will be prepared by the Architect in line with NSW Health Guidelines and User Group requirements. Where possible, they will be water efficient to minimise potable water usage.

6. ESD Initiatives

This section provides a brief description of the environmental aspirations proposed for the hydraulic and fire systems. Refer to the overall ESD and sustainability strategy for the building.

The hydraulic and fire systems design will embrace water conservation measures and sustainable initiatives which include:

- Reducing town main water supply by:
 - Reuse / recirculation of fire test drain water.
 - Harvest and reuse building rainwater for irrigation and/or cooling tower supply.
- Reducing water usage at fixtures and fittings where possible, including consideration of low flow fixtures and fitting.
- Reducing water usage across the site by using:
 - Smart metering and monitoring of water use throughout the building
 - Pressure reducing devices on system reticulation.
- Using sustainable materials where appropriate to the project.
- Considerations for applying climate-change factors to rainfall calculations to increase drainage capacity and reduce flooding of roofs and hard surfaces.
- Electric heat pump for domestic hot water generation as part of the electrification strategy and move away from use of fossil fuels (gas).

Appendix A

Sydney Water Pressure and Flow Results

Statement of Available Pressure and Flow

Elena Longo
201 Kent Street
Sydney, 2000

Attention: Elena Longo

Date: 10/04/2024

Pressure & Flow Application Number: 1854835
Your Pressure Inquiry Dated: 2024-03-25
Property Address: Chapel Road, Bankstown 2200

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: Chapel Road	Side of Street: West
Distance & Direction from Nearest Cross Street	20 metres North from Raw Avenue
Approximate Ground Level (AHD):	39 metres
Nominal Size of Water Main (DN):	100 mm

EXPECTED WATER MAIN PRESSURES AT CONNECTION POINT

Normal Supply Conditions	
Maximum Pressure	68 metre head
Minimum Pressure	36 metre head

WITH PROPERTY FIRE PREVENTION SYSTEM DEMANDS	Flow l/s	Pressure head m
Fire Hose Reel Installations (Two hose reels simultaneously)	0.66	36
Fire Hydrant / Sprinkler Installations (Pressure expected to be maintained for 95% of the time)	10 15 17	26 15 8
Fire Installations based on peak demand (Pressure expected to be maintained with flows combined with peak demand in the water main)	10 15	24 11
Maximum Permissible Flow	17	4

(Please refer to reverse side for Notes)

For any further inquiries regarding this application please email :

hydraulicassessment@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 as 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

Elena Longo
201 Kent Street
Sydney, 2000

Attention: Elena Longo

Date: 11/04/2024

Pressure & Flow Application Number: 1854840
Your Pressure Inquiry Dated: 2024-03-25
Property Address: 23 French Avenue, Bankstown 2200

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: French Avenue	Side of Street: South
Distance & Direction from Nearest Cross Street	50 metres West from Chapel Road
Approximate Ground Level (AHD):	31 metres
Nominal Size of Water Main (DN):	150 mm

EXPECTED WATER MAIN PRESSURES AT CONNECTION POINT

Normal Supply Conditions	
Maximum Pressure	76 metre head
Minimum Pressure	44 metre head

WITH PROPERTY FIRE PREVENTION SYSTEM DEMANDS	Flow l/s	Pressure head m
Fire Hose Reel Installations (Two hose reels simultaneously)	0.66	43
Fire Hydrant / Sprinkler Installations (Pressure expected to be maintained for 95% of the time)	10	45
	15	45
	20	44
	25	44
	30	43
	40	42
Fire Installations based on peak demand (Pressure expected to be maintained with flows combined with peak demand in the water main)	10	42
	15	42
	20	41
	25	41
	30	40
	40	39
Maximum Permissible Flow	43	38

(Please refer to reverse side for Notes)

For any further inquiries regarding this application please email :

hydraulicassessment@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 as 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

Elena Longo
201 Kent Street
Sydney, 2000

Attention: Elena Longo

Date: 11/04/2024

Pressure & Flow Application Number: 1854839
Your Pressure Inquiry Dated: 2024-03-25
Property Address: Chapel Road, Bankstown 2200

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: Chapel Road	Side of Street: East
Distance & Direction from Nearest Cross Street	15 metres North from Raw Avenue
Approximate Ground Level (AHD):	40 metres
Nominal Size of Water Main (DN):	200 mm

EXPECTED WATER MAIN PRESSURES AT CONNECTION POINT

Normal Supply Conditions	
Maximum Pressure	67 metre head
Minimum Pressure	37 metre head

WITH PROPERTY FIRE PREVENTION SYSTEM DEMANDS	Flow l/s	Pressure head m
Fire Hose Reel Installations (Two hose reels simultaneously)	0.66	37
Fire Hydrant / Sprinkler Installations (Pressure expected to be maintained for 95% of the time)	10	38
	15	37
	20	37
	25	37
	30	36
	40	36
	50	35
Fire Installations based on peak demand (Pressure expected to be maintained with flows combined with peak demand in the water main)	60	34
	10	36
	15	35
	20	35
	25	35
Maximum Permissible Flow	30	34
	40	33
	50	32
	60	31
	118	25

(Please refer to reverse side for Notes)

For any further inquiries regarding this application please email :

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