Bankstown North Public School Upgrade

Infrastructure Services Masterplan Report

Contents

Rev	Date	Description of Release	Prepared By	Reviewed By
P1	29/08/18	For Comment	MA, YS, JW	MA
P2	26/11/18	Revised	MA,YS,JW	MA
P3	27/03/19	Revised	JW, AS	MA
P4	09/04/19	Revised	JW, AS	MA
P5	23/04/19	Revised	JW, AS	MA
P6	24/04/19	Revised	JW, AS	MA
P7	28/10/19	Revised	JW, AS	MA

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1.introduction

1.1 introduction

Erbas has been engaged by JDH Architects to investigate site wide infrastructure at the Bankstown North Public School

Contained within this report are the findings of the site inspection as well as subsequent investigations with authorities.

Infrastructure services covered in this report include the following:

- Power
- Comms
- Potable water
- Sewer drainage
- Gas
- Fire hydrants

Storm water drainage falls under Civil works and is outside the scope of this document.

1.2 limitations

The site inspections were of a non-destructive nature and limited to the readily visible aspects of the building services installation.

1.3 sources of information

This report is based upon the following information:

- Ausgrid service offer (refer to Appendix A).
- NBN Co. service offer (refer to Appendix A).
- Visual inspection.
- Verbal advice from current occupants and building maintenance personnel.
- Dial Before You Dig plans.
- Hydraulic report prepared by Jones Nicholson dated 12/03/2018 revision A.
- BCA assessment report prepared by Blackett, Maguire & Goldsmith dated 04/04/19.

1.4 disclaimer

Any assumption or recommendation herein is considerate to the information available at the time of writing and is subject to change should additional or conflicting information be supplied retrospective to the date of issue.

Items relating to hazard and health risk do not form part of this assessment and erbas™ are not suitably qualified to provide detailed information on any risk that may be present. Due diligence remains with any attending Contractors and Visitors to the site to establish independent risk assessment of any identified risks.

2. executive summary

2.1 mechanical services

A new HVAC system will be proposed at schematic design stage utilising full air conditioning and mechanically assisted ventilation complete with CO_2 control and/or ERV (energy recovery ventilators).
Mechanical systems shall comply with the Draft DG55 Thermal Comfort and indoor Air Quality Policy.
Refer to the Mechanical Service Return Brief for proposed air-conditioning and ventilation solutions.

2.2 electrical services

The existing substation will be decommissioned and removed; and a new 1000kVA kiosk substation will be provided.

The DBs around site (including the MSB) will need to be replaced due to compliance shortfalls, with the exception of the Hall DB which is relatively new and in good condition, and has adequate spare capacity to cater for the future building expansion. New switchboards will be provided in the new building.

2.3 communications and security services

NBN services will be provided along with new communications rooms in the new building.

Existing buildings (apart from the hall) will be provided with new security infrastructure. The new buildings will contain a new security installation with the head-end equipment located in the communications rooms.

2.4 hydraulic services

The current 50 mm domestic cold water connection will be adequate for the proposed development although RPZ valves will need to be added for compliance with current standards.

Rainwater reuse with mains water switch over is being utilised for irrigation and sanitary flushing of all toilets. (to be determined moving into detailed design.

The existing DN150 sewer connections are adequate however pipework reticulation within school premises should be investigated via CCTV to ensure current pipework is of satisfactory condition. Due to the nature of the new works, the majority of the existing pipework is likely to be replaced. The extent of pipework to be inspected via CCTV shall be detailed during design development.

The current 50 mm natural gas connection appears adequate however, if an upgrade is required stemming from design development and confirmation of new loads, this should be feasible due to the gas infrastructure adjacent the site boundary.

There is a Sydney Water, Steel cement lined trunk main 813 mm in diameter and easement running through the southern side of the site, all necessary precautions are being undertaken in order to preserve this asset and maintain the current trunk main alignment. The exact location and depth of the pipework has been ascertained from Sydney Water WAC plans.

2.5 fire services

The existing hydrant system will need to be upgraded due to coverage and pressure/flow shortfalls, as well as current code non-compliances.

3.mechanical services

3.1 Description of Existing Service

Building A

Building A is air conditioned via a combination of wall mounted split units on ground level and a ducted VRV (Variable Refrigerant Volume) system for level 1. On ground level, as the windows facing the Hume Highway are not operable, presumably due to acoustic reasons, wall/window mounted fans are installed to "borrow fresh air from other naturally ventilated spaces facing the playground/carpark. Ceiling sweep fans are also installed to assist with air movement.

Photo 3.1.1 - Ground level wall mounted split

Photo 3.1.2 - Wall mounted fan to assist with "borrowed" ventilation

Building B

Building B is air conditioned via a combination of wall mounted splits and window mounted units. Natural ventilation requirements are met via operable north facing windows.

Photo 3.1.3 – Split and window mounted A/C units

Building I

Building I is air conditioned via wall mounted splits units. Ceiling sweep fans are installed to assist with air movement.

Photo 3.1.4 – Split A/C unit and sweep fan

Building N

2 radiant gas heaters are provided to the hall at high level for heating purposes. Natural ventilation is assisted via 4 "whirly birds" on the roof with motorised dampers to close off roof openings in winter.

The gas heaters and motorised dampers on the whirly birds can be manually controlled via a wall mounted switch panel in the hall.

The adjacent canteen is provided with air-conditioning via wall mounted split.

Photo 3.1.5 – Wall mounted control panel

Remaining Buildings

Remaining building where not inspected internally as they are earmarked for demolition.

3.2 Services Shortfalls and Proposed Remediation

Generally the HVAC provisions to existing buildings are nearing the end of their service life. Refurbishment of existing buildings is currently outside the scope of works.

4. electrical services

4.1 Description of Existing Service

Electrical Supply

There is an existing point of connection from the supply authority substation (shown on the photo below).

Based on preliminary calculations, the total new maximum demand is estimated at 1554A. The existing substation will need to be moved and upgraded. As per the latest offer from Ausgrid, the existing substation will be decommissioned and removed; and a new 1000kVA kiosk substation will be provided further away from current location due to the new pedestrian bridge location.

Electrical main switchboard

Electrical main switchboard is located externally to building A. The main switchboard has 2 separate sections. The "main switchboard" (400Amp rating) which feeds school and the "main switchboard extension" (630Amp Rating) feeds the NSW Department of Health Dental Clinic and NSW Sports Unit. The main switchboard incoming cables appear to be 8x1c 95mm rated to approximately 488Amp and the switchboard extension incoming cables appear to be 8x1c 95mm rated to approximately 488A.

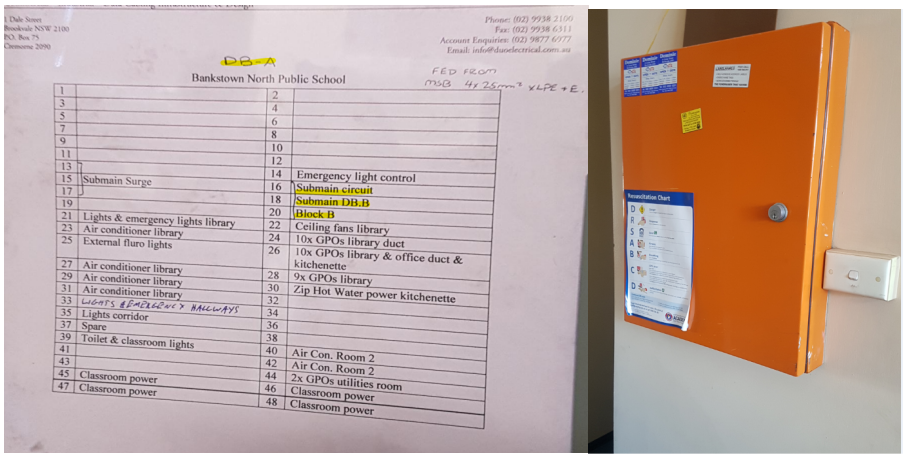
Main switchboard with 400A supply to school side configuration

The main switchboard supplies 4 existing circuit breakers (DB-A, DB-LB1, DB-HL and Link Box 1). There are 4 spare slots for future works.

Main Switchboard Extension with 630A supply to school side configuration

Separate meters are provided for the “Main Switchboard” and the “Main Switchboard Extension”

We assume Block A distribution board supplies power to DB-B on block B (45Amp). This DB located on Block B is not labelled and information with regards of the incoming supply is missing on the switchboard as well.



DB-A

Bankstown North Public School

FED FROM MSB 4y 25mm² XLPE + E

1		2	
3		4	
5		6	
7		8	
9		10	
11		12	
13		14	Emergency light control
15	Submain Surge	16	Submain circuit
17		18	Submain DB.B
19		20	Block B
21	Lights & emergency lights library	22	Ceiling fans library
23	Air conditioner library	24	10x GPOs library duct
25	External fluro lights	26	10x GPOs library & office duct & kitchenette
27	Air conditioner library	28	9x GPOs library
29	Air conditioner library	30	Zip Hot Water power kitchenette
31	Air conditioner library	32	
33	LIGHTS & EMERGENCY HALLWAYS	34	
35	Lights corridor	36	
37	Spare	38	
39	Toilet & classroom lights	40	Air Con. Room 2
41		42	Air Con. Room 2
43		44	2x GPOs utilities room
45	Classroom power	46	Classroom power
47	Classroom power	48	Classroom power

Block B switchboard

Block B switchboard

DB-4 (100Amp-rating) is located on second floor on Block A and the incoming cable size is unknown.

DB-4 located on Block A - second floor

DB-I is located in building I. It is noted that the switchboards' circuit breaker schedule in DB-I mistakenly refers to MSB as the incoming feed.

DB-I Located on Block I

DB- 11 which is fed from Link box 1 which is located externally in the open area. We were unable to open the switchboard DB-11 as the padlock was broken.

DB-11

There is a switch room externally located at Block N. This room accommodates the DB-HL which has an incoming supply from main switchboard. This switchboard supplies the incoming power to the Canteen as well. There is solar panel supply integrated to this switchboard.

DB-HL Located on Block H

DB-CT Located on Canteen

There is an external switch board near building N which is not labelled. This switchboard (225Amp) is supplied from the Main switchboard.
This switchboard is supply power to DB-Admin (50Amp) & DB Block E (50Amp). Also this board contains 3 phase circuit breaker temporary supply to new site/canteen.

DB Located externally

DB-6 (Admin) located on admin Block

4.2 Services Shortfalls and Proposed Remediation

An upgrade is required for the existing substation (it will be replaced with a new bigger substation) and relocated away from pedestrian bridge.

Assuming that all buildings will be fully air conditioned, the AS 3000 maximum demand estimate is 1554A 400V (3 phase). The mains cables are rated at approximately 970Amp for the premises. New mains cables will be required from the new substation.

A new main switchboard will be required in the new main switchroom (located on the ground floor of the new building), as the existing does not have sufficient capacity for the new works. An additional distribution board will be provided on the ground floor of the new building. Adjacent electricals services, on the ground floor, will be reticulated to these locations.

Additional distribution boards will be provided on the each floor of the new building.

The existing distribution board located in Block N has recently been installed and complies with current standards. This switchboard appears to have sufficient capacity for the hall expansion and can probably remain in use. The existing distribution boards in Blocks B and I are out of date, do not comply with new standards, and are required to be replaced with new boards. All other switchboards will not be required and will be removed.

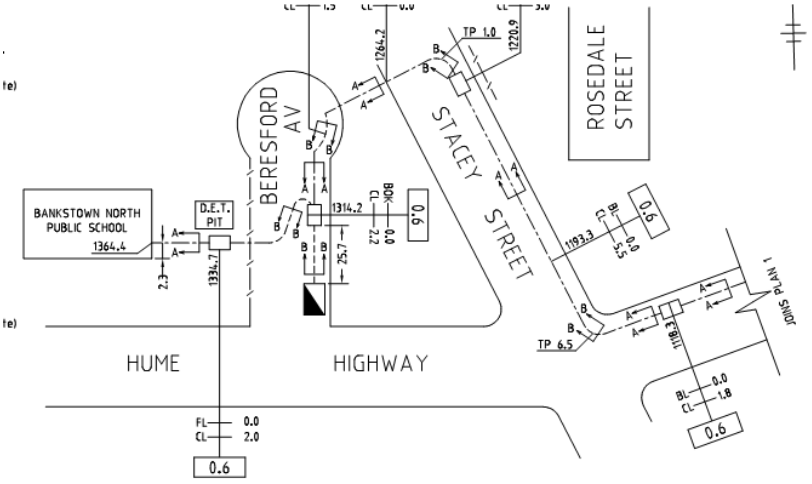
All new distribution boards (and existing ones to remain) will require new submain cables from the new main switchboard (reticulated via underground conduits and/or cable trays).

5.communications and security services

5.1 Description of Existing Service

Communication Infrastructure:

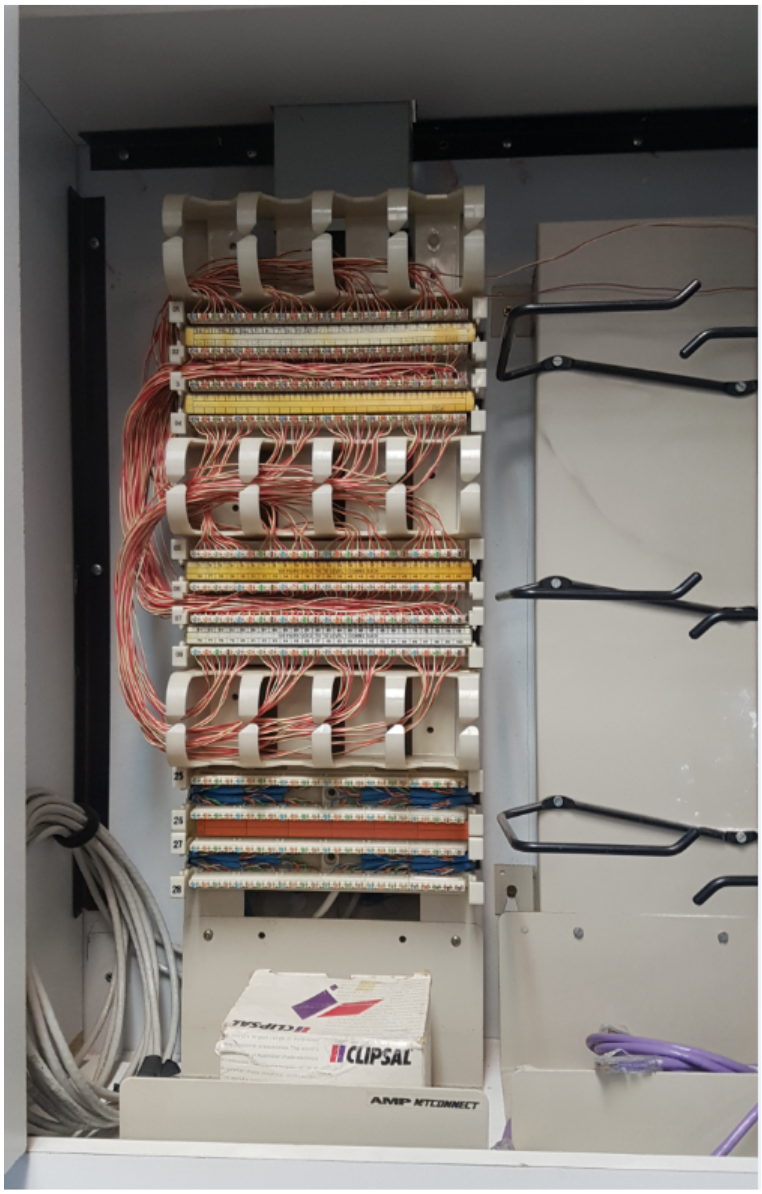
We noted communication pits around site. The size of incoming was unknown at the time of the inspection. Our initial investigation indicates the presence of incoming fibre to the site.



TREVOR SMITH PH: (02) 8226 3244	Uecomm	DRAWN MK 06.06.03	DRG No. OFN5-SYD-2441-2
UEC-DE&TS-445		DESIGN CHECKED MW 06.06.03	EXTERNAL ROUTE (2 OF 2) BANKSTOWN NORTH PUBLIC SCHOOL HUME HIGHWAY (1124) BANKSTOWN 2200
252-A11	UECOMM MEL/SYD/QLD	APPROVED 06.06.03	

Dial before you dig drawings

The existing main distribution frame is located in Block A (as shown on the photo below).



The existing Telstra lead-in cables are terminated in Block A (as shown on the photo below).

The main communications rack is located in Block A (as shown on the photo below).

There are also additional communications cabinets in the school as shown on the photos below.

Block A Comms cabinet

Camms distribution board located inside switch room on Block H

5.2 Services Shortfalls and Proposed Remediation

NBN Co. infrastructure will be required for telephone and Internet services. New underground conduits will be provided, from the designated NBN Co. pits on the street, to the new main communications room on the ground floor of the new building. NBN Co. will then run fiber optic services from the street to the main communications room. These will interface to the school Category 6A structured cabling system.

Two additional (smaller) communications room will be provided on the ground floor of the new building. Adjacent communications services, on the ground floor, will be reticulated to these locations.

Two additional (one main - one smaller) communications room will be provided on the first floor of the new building. Adjacent communications services, on the first floor, will be reticulated to these locations.

A new security main control panel will be required. This will be located in the main communications room. The new buildings will contain a new security installation. Security head-end equipment will be located in the communications rooms.

The existing security (expander) panel located in Block N has recently been installed and complies with current standards. This installation can remain in use. The existing security installations in Blocks B and I are out of date, do not comply with new standards, and are required to be replaced.

All new security panels (and existing one to remain) will require new security backbone cabling from the new main control panel (reticulated via underground conduits and/or cable trays).

6.1 Description of Existing Service

Potable Cold Water

The current water meter is located in the garden at the front of the property on the Hume Hwy. The water meter is currently 50mm and is without backflow. The connect point is assumed to be within the Hume Hwy where a 500 CICL & 100 CICL Sydney Water main is shown on the HydraMap (Figure 5.1.1).
Tests have confirmed pressures at approximately 140kPa at 15 L/s (refer to appendix B application number 554588) from a main on Beresford Avenue. A second pressure and flow test to ascertain capacity from the incoming main on the Hume Highway returned results of 120kPa at 15 L/s (refer to appendix B application number 554588).

The 50mm potable cold water pipe runs under ground before rising to serve the individual buildings within the school. From this point, without intrusive works, the location of this pipe and its branches are unknown except for where fixtures are located.

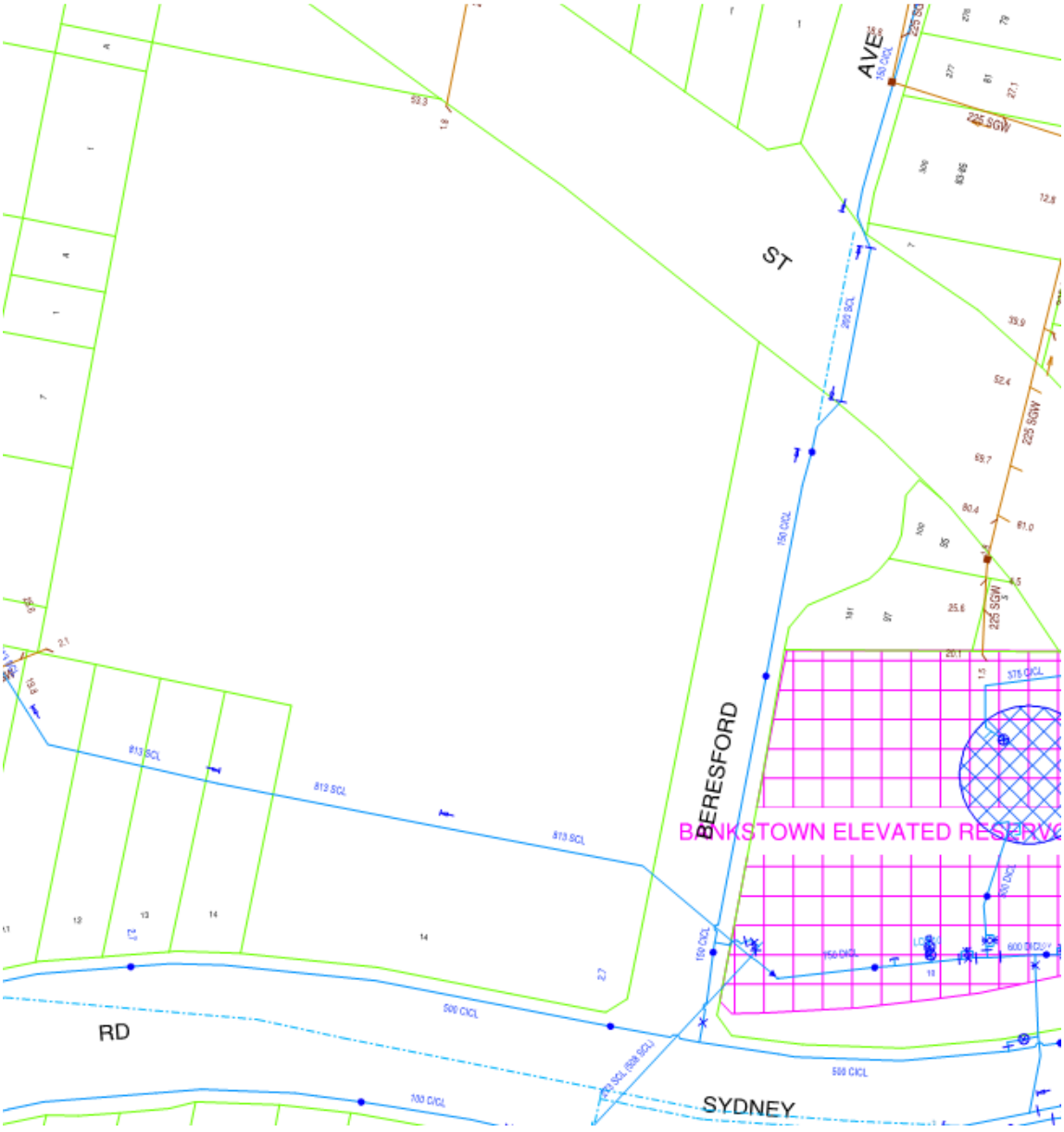


Figure 6.1.1 HydraMap

Rain Water reuse

It is proposed to utilise rainwater reuse for the purpose of irrigation and sanitary flushing, with rainwater reuse capacity yet to be determined.
in-ground tanks shall be utilised.
Captured rainwater will pass through an in-ground first flush diverter that will filter the initial rain water from the roof catchment which will then discharge to the civil stormwater system.
Captured rain water will be further filtered and UV treated at the pressure boosting pump. The system will be fitted with a mains water switch over device for times that insufficient rainwater is captured, the system will automatically switch to mains water to continue to supply sufficient water for sanitary flushing and irrigation.

Hot Water

The hot water reticulation is via individual point of use hot water plant, where hot water is required. Without intrusive works, the location of these pipes and their branches are unknown except for where fixtures are located.

There are multiple zip boiling water units located above the sinks in the teacher's lunch areas, additional units shall be provided to future staff areas in accordance with EFSG PS602.03.

Sewer Drainage

The site slopes slightly from the Hume Hwy towards Stacey St at the rear of the property. The site sewer drainage follows this slope and appears to connect to the 225 mm Salt Glasedware (SGW) Sydney Water, Sewer main shown on the HydroMap (Figure 6.1.2). The connection size ascertained from existing Authority sewer service diagram is 150 mm. There is also a second 150mm connection on the Western corner of the site adjacent to Davis Lane.

The connection point to the North adjacent to Stacey street drains blocks M, N, J & the Eastern end of Block I
The connection point to the West adjacent to Davis lane drains blocks A, B, C, D, K & the Western end of block I
The Sydney Water Sewer Services Diagram also shows additional connections to the existing sewer that are no longer relevant.

Within the site there are currently multiple fixtures with sewer drainage connections. The material differs from building to building with the majority of in-ground pipework at the top of the site being Vitreous clay which is in line with the age of the site, the in-ground drainage to the rear of the site appears to have been replaced as a majority of new classrooms are in this area as well as a number of PVC inspection shaft risers within the grassed area to the rear of the site. The majority of above ground drainage appears to be PVC.

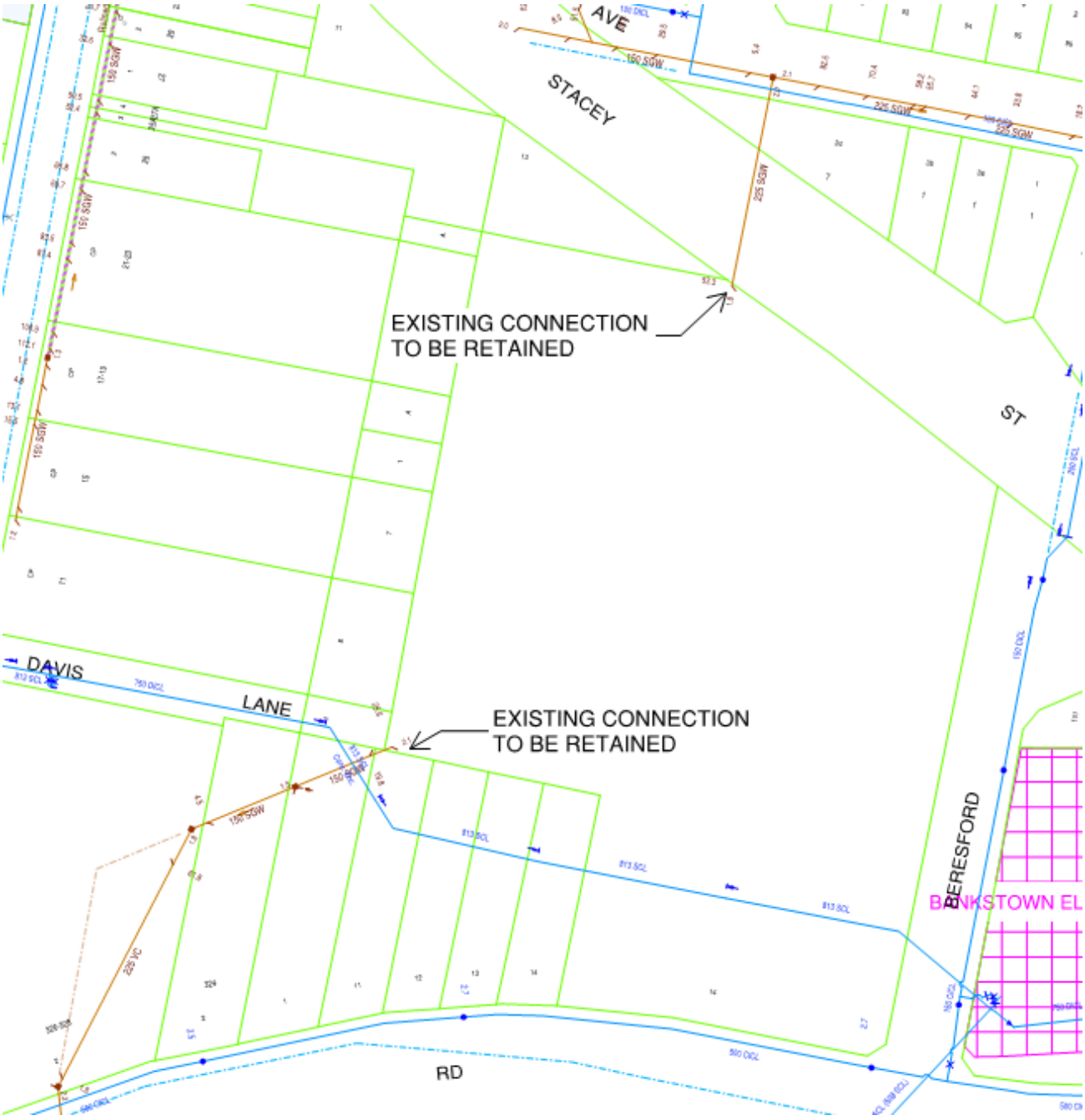


Figure 6.1.2 HydraMap

Gas

There is a 50mm gas connection at the front of the site contained within a brick enclosure, connection is assumed to be from the Hume Hwy where the Jemena asset plan shows a 160mm 7kPa network main being the closest connection point there is also a 75mm nylon 7kPa main on the opposite side of the Hume Hwy as shown on the Jemena Asset map (figure 5.1.3) the gas is currently serving heating in the gym only

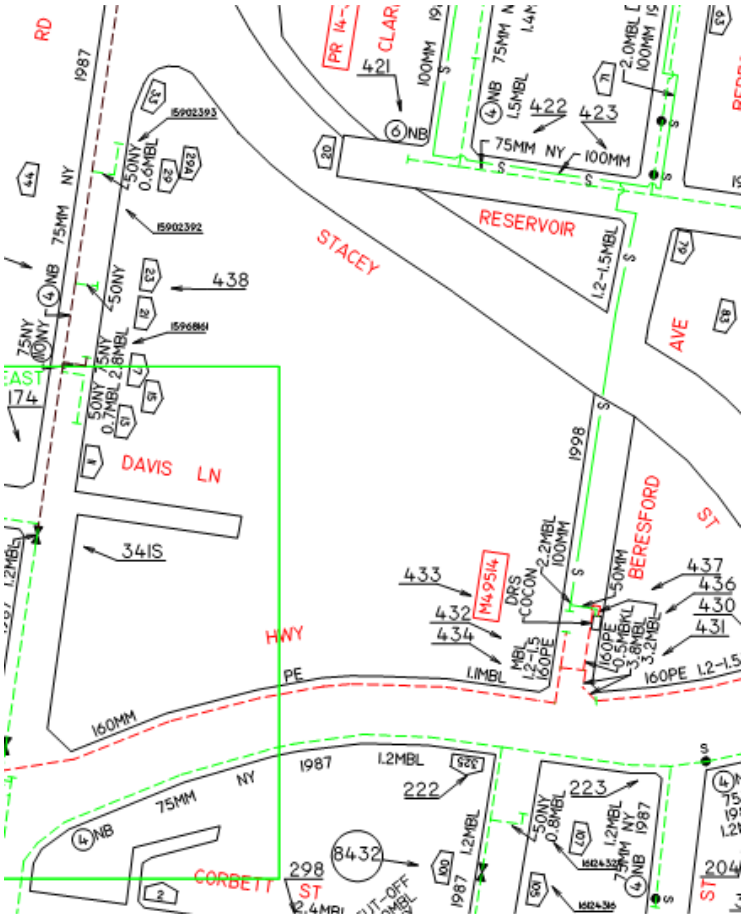


Figure 6.1.3 Jemena Asset Map

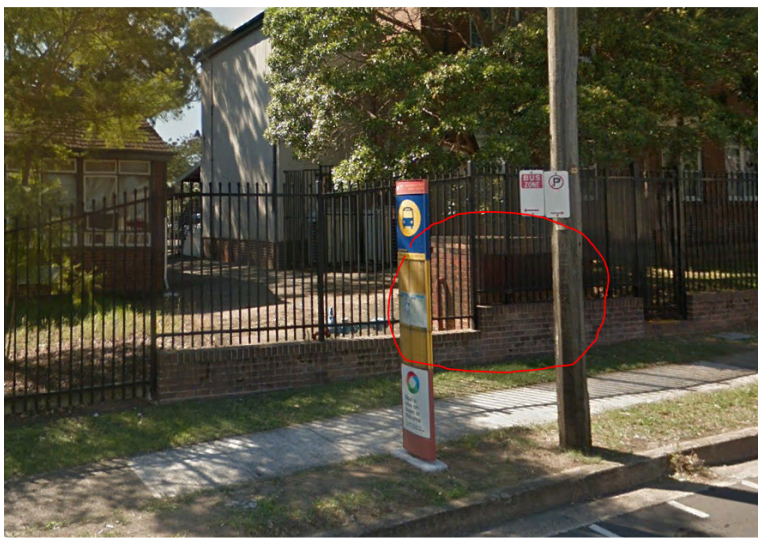


Figure 6.1.4 Gas Regulator Photo (near block B)

6.2 Services Shortfalls and Proposed Remediation

Potable Cold Water

The current main connection and 50 mm meter can be can be retained to cater for Future facilities as expected demand will not dramatically increase water requirement.

An upgrade to the current arrangement will not be required.

Backflow protection will be required in the form of a Dual Check Valve (DCV).

Pressure tests of the potable system have been undertaken for the incoming main on the Hume Highway. With receipt of the pressure and flow details form Sydney Water, it can then be determined a potable cold water pump-set may be required to serve the site. Further investigation and testing should be undertaken to determine the on-site pressure and flow.

The existing site is not currently served by a pressure set; we can therefore reasonably assume the requirement for a pressure boosting pump set will not be required unless determined by client preference.

There is a Sydney Water 813 mm Steel Cement lined trunk main serving the Bankstown reservoir transitioning across the Southern end of the site under the ball court adjacent to existing building A (Figure 5.1.2)

Hot Water

The existing hot water provisions consisted of localised electric storage units and above bench boiling water units. Any additional hot water requirements will be advised based on the requirements of new development on the site and in accordance with EFSG protocol.

As gas is connected to the site there is the option of gas instantaneous or storage units as opposed to the usual electric storage. Based on current rates gas heating is typically more economical to run and considered a greener alternative to electrical storage units (assuming electricity is sourced from coal power generation). It's also noted that high efficiency instantaneous gas heating is also endorsed by the EFSG as one of the preferred methods of hot water generation.

Sewer Drainage

The current 150 mm connection to the main from Stacey St will be adequate to cater for the existing site and shall be retained, see Figure 6.1.2.

The second connection point near the Western corner of the site will also be retained to assist with achieving gravity falls.

Within the development the layout of the fixtures and equipment will determine the pipe runs. It is currently assumed that the old clay pipe will be removed due to the age and replaced with PVC.

A section 73 will need to be lodged with Sydney water during design development to ascertain if infrastructure upgrades are required outside side the premises and what contributions may be required by the developer.

Gas

Upgrade or relocation of the current gas connection will not be required based on proposed future gas usage and load the current gas connection will satisfy demand.

7.fire services

7.1 Description of Existing Service

Fire Hydrant

Current Fire Hydrant protection is provided by a 150mm booster assembly assumed connection is from Beresford Lane shown in figure 4.1.1 and two (2) external hydrants. Pressure and flow tests (refer to appendix B) indicate the need for upgrade of the current system with additional hydrants to provide protection to existing and any new buildings within the development.

Jones Nicholson hydraulic report HRPT-18010197.01-A-BANKSTOWN Dated 12/03/18 makes reference to the shortfall of operating pressure to the current hydrant system.

Upgrade and relocation of the existing booster assembly and installation of a 25,000 litre break-tank and booster pumps will be required to provide a compliant system to serve the development.

Comments noted in BCA report prepared by Blackett, Maguire and Goldsmith dated 04/04/19 in conjunction with further amendments/updates will be considered and progressed during further design.

Fire Hose Reel

No fire hose reels were observed during the inspection. A review of the existing annual fire safety statement and existing fire engineering report could not be under taken to determine extent of existing fire protection measures. The NCC excludes fire hose reels from class rooms and associated corridors in primary and secondary schools which would account for this finding.

Comments in BCA report prepared by Blackett, Maguire and Goldsmith dated 04/04/19 note that fire hose reels are required to cover non classroom areas such as the library, hall and canteen however the class 5 administration area is not required to have hose reel coverage.

7.2 Services Shortfalls and Proposed Remediation

Fire Hydrant

A pressure and flow enquiry has been undertaken to assess the suitability of hydrant protection from the current installation, test results indicate that pressure requirements are inadequate and that upgrade of the current system is required to facilitate a compliant system. The installation of a 25,000 litres of storage and hydrant pump will be required.

Comments noted in BCA report prepared by Blackett, Maguire and Goldsmith dated 04/04/19 will be considered and progressed during further design.

Design of the new hydrant system will by aligned with the proposed architectural design, BCA report and AS2419.1 (2005) and will maintain a compliant system throughout the construction phase into occupation and any temporary school buildings.

Hydrant pumps and 25,000 litre tank will be required to provide the required pressure and flow to the installed hydrant system. The proposed location of the pumps, tanks and booster assembly is proposed near the entry to the new carpark in the North Easter Corner of the site further coordination will take place moving into detailed design.

Fire Hose Reel

The 2019 NCC excludes hose reels from class rooms and associated corridors in primary and secondary schools. fire hose reels would only be required in non-classroom areas that are over 500m², hence hose reels may be avoided in most areas.
Comments in BCA report prepared by Blackett, Maguire and Goldsmith dated 04/04/19 note that fire hose reels are required to cover non classroom areas such as the library, hall and canteen however the class 5 administration area is not required to have hose reel coverage.

8. Appendix A – Authority Applications

Address all relevant correspondence to:

Ausgrid Contestability Section
Building 1a, 33-45 Judd Street
Oatley NSW 2223

E: Contestability@ausgrid.com.au

15TH April 2019

ERBAS
Attention: Anton Smolin
Po Box 41,
St Leonards Nsw 1590

Email: anton.smolin@erbas.com.au

Reference Number: **1900091753**

Dear Anton,

Electricity Network Connection Application at: 322 HUME HIGHWAY, BANKSTOWN

We have received your Connection Application and assigned it the reference number 1900091753

We have made a preliminary assessment of your Connection Application and wish to advise the application is incomplete and we cannot proceed to a connection offer at this stage. To enable *Ausgrid* to further consider and process your request you will require a certified design and associated certification number, and you should include this on your application.

This letter provides guidance on how to obtain a certified design and associated certification number.

Scope of Network Alterations

Ausgrid's assessment has determined that the following works are likely to be required to connect your development.

- Installation of a 1000kVA L-Type kiosk customer substation on site.
- Decommission existing smaller substation on site.

These works are classified as contestable, which means that you are required to fund the design and some or all of the construction works. If you have not already done so, you will need to engage and manage suitably qualified contractors, known as Accredited Service Providers (ASPs) to undertake the design and construction.

Initially, your ASP Level 3 (ASP/3) will undertake the design, and then your ASP Level 1 (ASP/1) will undertake construction in accordance with the design and *Ausgrid's* policies and standards. The timeframe for the works will vary depending on factors such as the complexity and the way in which you manage your ASP's.

Once the works have been satisfactorily completed and electrified, the premises connection assets will be owned and maintained by *Ausgrid* as part of the electricity distribution network.

Design Stage

You or the person you represent must engage an ASP/3 to design the necessary network alterations. *Ausgrid* has classified the design information requirement for this connection as ***standard***. Therefore, for this connection, the ASP/3 must submit a Proposed Design Scope (PDS) to *Ausgrid* for assessment. This will form the basis of

Design Information – Site Specific Terms and Conditions for the project, which your ASP/3 will use to prepare and submit a design that is certifiable.

You will also need to enter into a Contract for Design Related Services with *Ausgrid* as outlined below. This Contract sets out the rights and obligations of *Ausgrid* and yourself with respect to certification of your ASP/3's design by *Ausgrid*.

Once the design has been certified by *Ausgrid*, your Connection Application will be complete and you may use the design certification number to request that your Connection Application proceed to a connection offer or expedited connection, provided you assure *Ausgrid* that the development has not materially changed since you submitted your original Connection Application.

Contract for Design Related Services

This letter is an offer to enter into a Contract for Design Related Services. It remains open for acceptance for 45 business days. A copy of the Contract for Design Related Services is available for your review on our website *http://www.Ausgrid.com.au* at the following link: https://www.ausgrid.com.au/-/media/Documents/Technical-Documentation/Contracts-and-Deeds/Contract-for-Design-Related-Services/Design-Contract-2017.pdf.

No work will be undertaken by *Ausgrid* until a Design Contract is in place.

You are encouraged to contact ASP/3's and ASP/1's to understand the likely overall costs you will incur for design and construction before you accept and commit to the Contract for Design Related Services.

IMPORTANT: The contractual arrangements provide the framework for a design to be prepared by your ASP/3, and NOT by *Ausgrid*. *Ausgrid's* fees as outlined below are for the design related network services we provide during the design phase, and are IN ADDITION to the fees charged by your ASP/3 in preparing the design.

Acceptance Fees

The acceptance fees relating to the Contract for Design Related Services are payable upon acceptance. *Ausgrid* will invoice you once we receive your signed acceptance form. The Contract will not commence until you pay the invoiced fee.

These fees are an estimate for the *Ausgrid* services required. Further fees may apply for any additional services required and these will be quoted on each occasion. *Ausgrid's* published rates for our services are amended from time to time in our Connection Policy – Connection Charges publication, and in accordance with the Contract, *Ausgrid* reserves the right to charge the rates that are applicable at the time the service is provided.

Fees for *Ausgrid's* services are in addition to the design and construction costs charged by your ASP's, and some fees may not be refundable if the service has already been provided.

The Acceptance Fee will be calculated as follows (GST inclusive). These fees and rates are set by the Australian Energy Regulator:

Design Information	$1409.84
Design Certification	$2628.99
Administration	$659.40
Facilitation	$498.70
TOTAL	**$5196.93**

General

Standard *Ausgrid* documents mentioned in this letter, including those enclosed, are available on *Ausgrid's* website *www.ausgrid.com.au*. If you do not have access to the web and would like to read any of the documents mentioned in this letter they may be obtained by contacting the phone number below.

Should you require any further information please contact me on the phone number or email address detailed below.

What to do next

- ❑ Read the Contract for Design Related Services on our website. To accept our offer to enter into a Contract for Design Related Services,
  - Complete and sign the Acceptance of Offer in the space provided below and return it to *Ausgrid*. **Note that a tax invoice will be generated based on the details provided on the form**.
  - You will also need to pay *Ausgrid's* fees as detailed above. An invoice for the above total amount will be forwarded to you on acceptance of the contract.
- ❑ Engage the services of an ASP/3 to submit a Proposed Design Scope (PDS) to *Ausgrid* for assessment. Note that *Ausgrid* will not accept the PDS for assessment until the Contract for Design Related Services is in place. Ausgrid requires the PDS to be submitted within 12 months of the contract commencement date.

Yours sincerely,

Peter Stephanou
Team Leader - Contestable Connections - Sydney South
Ausgrid

Direct Telephone Number: 02 95855809
Email: Pstephanou@ausgrid.com.au

Encl: Acceptance of Offer Form
Contestable Connection or Relocation flowchart

Acceptance of Offer

Date of Design Offer: **15th April 2019**
Design Offer Expiry Date: **26TH MAY 2019**

***Ausgrid* – MC Reference Number:** 1900091753
***Ausgrid* - AP/AE Reference Number:** 800256940
***Ausgrid* - HPRM Reference Number:** B19/1754

Premises: 322 HUME HIGHWAY, BANKSTOWN

The Connection Applicant accepts the above *Ausgrid's* offer of a Contract for Design Related Services in relation to the design of connection assets at the above premises.

Please note that a tax invoice will be generated based on the details provided on this form. Changes to this information following invoice processing will result in additional charges.

Details of Person or Company to invoice for the payment of *Ausgrid* Fees and Charges.

This is the party that will be billed and responsible for payment.

If you are signing on behalf of a third party, we require their details for invoicing

ALL FIELDS MANDATORY

_____ print name of person or company

_____ ABN / ACN

_____ postal address - line 1

_____ postal address – line 2

_____ contact name

_____ contact phone number

_____ email address

Purchase Order Number Obtained: **Yes**☐ **NA**☐
If yes, please provide Purchase Order Number:

_____ purchase order number

Signed by the Connection Applicant (as per application form details)

_____ signature

_____ print name of signatory

_____ print position of signatory

_____ date

_____ company name

_____ ABN / ACN

_____ email address

_____ contact phone number

Mark Albertella

Subject: FW: nbn: Stage Application approved for 322 Hume Highway, Bankstown NSW 2200, Australia Stage 0 - AYCA-65HDA8

From: developerliaison@nbnco.com.au [mailto:developerliaison@nbnco.com.au]
Sent: Monday, 22 April 2019 9:15 PM
To: Anton Smolin <Anton.Smolin@erbas.com.au>; saqib.salman@det.nsw.edu.au; saqib.salman@det.nsw.edu.au; saqib.salman@det.nsw.edu.au
Subject: nbn: Stage Application approved for 322 Hume Highway, Bankstown NSW 2200, Australia Stage 0 - AYCA-65HDA8

Stage Application reference: **AYCA-65HDA8**
Your development: **322 Hume Highway, Bankstown NSW 2200, Australia**
Stage: **0**

Dear Saqib Salman,

Thank you for submitting your Stage Application Form. We are pleased to confirm that your application for infrastructure in a Stage in your Development has been approved.

However, your application indicates that services are required ahead of the date that the **nbn**™ network will be live in the area. Unfortunately **nbn** will be unable to install infrastructure to meet the date services are required in your development.

To ensure your development is ready, **nbn** requires appropriate fibre ready facilities to be installed by developers. Resources to assist developers to meet the minimum **nbn** requirements can be found on our resources and guidelines page.

If residents require a telephone service prior to the **nbn**™ network being available, they may be eligible for a Universal Service Obligation (USO) phone service from the universal service provider, Telstra. To enquire or to order a USO service please contact Telstra on: 1800 283 407. For further information about the USO, please visit the Australian Communications and Media Authority's website.

Terms and Conditions

This development AYCA-65HDAP and stage application AYCA-65HDA8 are subject to the terms under the new Telecommunication Infrastructure in New Developments Policy, and as such charges will apply to deploy infrastructure within this stage of your development. The deployment of infrastructure by **nbn** is subject to you signing a new Master Developer Agreement which we will issue to you from April 1 2015.

Design Requirements

When you receive this email, you may submit your pit & pipe/pathway designs using the online upload tool. **nbn** will review your designs and contact you if any amendments are required.

To submit your designs for review you will need:

- The correct stage request ID
- The dwg file saved in CAD 2010 r18 compliant version
- File size limit 20MB per file
- A maximum of 20 files

Please ensure that you submit your designs for review prior to starting construction on site.

Technical Guidelines

Ensure your pathway design follows our technical guidelines, AutoCAD standards and symbols, and is in scaled DWG format. Please visit our website to access our AutoCAD standards and symbols, pathway installation guidelines available in the technical guidelines section.

When you install pathway infrastructure in your development, under the terms of the new Master Developer Agreement, you will need to ensure it is installed according to **nbn**'s MDU Building Design Guide (document number NBN-TE-CTO-284).

Insurance Requirements

Under **nbn**'s standard Master Developer Agreement Developer's are required to provide certificates of currency for your insurances no later than 5 business days after commencement of your pathway works.

If you have any questions, please call us on **1800 687 626** or email DeveloperLiaison@nbnco.com.au.

Thank you and regards,
nbn™ Developer Liaison Team

Visit our New Developments site: www.nbn.com.au/newdevelopments
Subscribe to our Construction Industry eNewsletter: here
View our privacy policy: www.nbn.com.au/privacy

Notice to recipient:
This e-mail is intended only to be read or used by the addressee. It is confidential and may contain information that is subject to legal professional privilege or protected by copyright. If you are not the addressee indicated in this message (or responsible for delivery of the message to that person), you may not copy or deliver this message to anyone, and you should destroy this message and kindly notify the sender by reply e-mail. Copyright, confidentiality and legal professional privilege are not waived or lost by reason of mistaken delivery to you. Emails to/from nbn co ltd. ACN 136 533 741 may undergo email filtering and virus scanning, including by third party contractors, however, nbn co ltd. does not guarantee that any email or any attachment is secure, error-free or free of viruses or other unwanted or unexpected inclusions. Any views expressed in this message are those of the individual sender, except where the sender specifically states them to be the views of nbn co ltd.

PLEASE CONSIDER OUR ENVIRONMENT BEFORE PRINTING

9.appendix B – Pressure and Flow Test

Statement of Available Pressure and Flow

Sydney WATER

Michael Slatter
15 Atchison Street
St Leonards, 2065

Attention: Michael Slatter Date: 02/01/2019

Pressure & Flow Application Number: 554588
Your Pressure Inquiry Dated: 2018-11-06
Property Address: Hume Hwy, 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: Beresford Avenue	Side of Street: East
Distance & Direction from Nearest Cross Street	105 metres North from Hume Highway
Approximate Ground Level (AHD):	63 metres
Nominal Size of Water Main (DN):	150 mm (As per sketch provided)

EXPECTED WATER MAIN PRESSURES AT CONNECTION POINT

Normal Supply Conditions	
Maximum Pressure	44 metre head
Minimum Pressure	15 metre head

WITH PROPERTY FIRE PREVENTION SYSTEM DEMANDS	Flow l/s	Pressure head m
Fire Hose Reel Installations (Two hose reels simultaneously)	0.66	15
Fire Hydrant / Sprinkler Installations (Pressure expected to be maintained for 95% of the time)	5 10 15 20 26 30 40 50	16 16 15 15 15 15 15 14
Fire Installations based on peak demand (Pressure expected to be maintained with flows combined with peak demand in the water main)	5 10 15 20 26 30 40 50	15 15 14 14 14 14 13 13
Maximum Permissible Flow	67	12

(Please refer to reverse side for Notes)

For any further inquiries regarding this application please email :

swtapin@sydneywater.com.au

Sydney Water Corporation ABN 49 776 225 038
1 Smith St Parramatta 2150 | PO Box 399 Parramatta 2124 | DX 14 Sydney | T 13 20 92 | www.sydneywater.com.au
Delivering essential and sustainable water services for the benefit of the community

Statement of Available Pressure and Flow

Sydney WATER

Michael Slatter
15 Atchison Street
St Leonards, 2065

Attention: Michael Slatter Date: 24/04/2019

Pressure & Flow Application Number: 628489
Your Pressure Inquiry Dated: 2019-03-28
Property Address: Hume Hwy, 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: Sydney Rd	Side of Street: South
Distance & Direction from Nearest Cross Street	50 metres West from Beresford Ave
Approximate Ground Level (AHD):	67 metres
Nominal Size of Water Main (DN):	100 mm

EXPECTED WATER MAIN PRESSURES AT CONNECTION POINT

Normal Supply Conditions	
Maximum Pressure	40 metre head
Minimum Pressure	12 metre head

WITH PROPERTY FIRE PREVENTION SYSTEM DEMANDS	Flow l/s	Pressure head m
Fire Hose Reel Installations (Two hose reels simultaneously)	0.66	12
Fire Hydrant / Sprinkler Installations (Pressure expected to be maintained for 95% of the time)	5 10 15 20	12 12 11 10
Fire Installations based on peak demand (Pressure expected to be maintained with flows combined with peak demand in the water main)	5 10 15 20	12 11 11 10
Maximum Permissible Flow	26	8

(Please refer to reverse side for Notes)

For any further inquiries regarding this application please email :

swtapin@sydneywater.com.au