Wollongong Hospital Elective Surgical Service, Ambulatory Care and Emergency Department

Hydraulic and Fire Services Utility Supply Report

Prepared by:
Acor Consultants Pty Limited
Level 1, 24 Falcon Street,
Crows Nest, NSW. 2065
Tel: 02 94385098
Fax: 02 9438539
Date: 9th August 2011 (Final 02)

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1.0 INTRODUCTION

Acor Consultants Pty Ltd has been engaged by Health Infrastructure to provide building hydraulic and Fire Services engineering advice for the proposed new building works within the existing Wollongong Hospital campus which include:-

- Illawarra Elective Surgery Unit
- Existing Emergency Department Upgrade
- Ambulatory Care Unit
- Existing Cancer Care Department Upgrade

This report will consider:-

- Authority main availability and capacity
- Augmentation of existing infrastructure to cater for the new development
- New connections required to Authority infrastructure to cater for the new development.

This report is based on:-

- Option N masterplan prepared by Hassell Architects
- Review of existing available site services documentation
- Review of non-intrusive services survey and topographical survey provided bt Star Electrical
- Liaison with and applications to relevant site services authorities
- Liaison with design team consultants, user groups and hospital maintenance department
- Review of Health Infrastructure requirements

The proposed option N is proposed to extend over the North Western section of the site and involves a major excavation of approximately 6 metres below the existing surface levels to the North and West of the existing ED department. The proposal will impact on the existing gas meter location and secondary water meter location and subsequent connections to Authority mains to the West of the existing Eleoura Building.

As the proposed Option N involves the relocation of the existing gas meter, an application for the relocation has been lodged with AGL on the 10.06.11 which involved a full audit of all existing gas appliances and plant within the hospital. A response is still pending from AGL regarding upgrade to the meter size to cater for the additional loads and a costing for the works (***Refer Appendix E***). The proposed location of the new gas meter is at the Northernn side of Lawson House at the corner of Darling and Loftus St with a proposed new connection to the existing Jemena secondary main within Loftus St. The new gas meter assembly will take up approximately 2 car spaces. (***Refer Appendix F***) Following a meeting on site with Jemena on the 26th July 2011, the new meter location is feasible from the Authority perspective and costing is currently being prepared for the works including incoming supply and construction of the meter enclosure. Jemena advised that a new meter assembly is a preferred option considering the downtime is likely 2 be 48 hours. Hospital executive have endorsed the location as their preferred location for the new meter assembly. Costing from Jemena and expected programming of the works is likely to be provided mid-August 2011. It was agreed that the programming of the works would be during the first quarter of 2012.

Option N also involves two new connections to Sydney Water infrastructure. A connection will be required to the existing 100mm water main in Loftus St to the West of the main entry drop off at Level 1 for Fire Hydrant supply (***Refer Appendix F***).
Another connection will be required to the existing 100mm water main in Loftus St adjacent to the Blood Bank supplying Eleoura, Lawson House and as a secondary supply to the hospital site. A Feasibility letter has been received from Sydney Water outlining the likely requirements for the development (***Refer Appendix B***).

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2.0 DESCRIPTION OF EXISTING SITE HYDRAULIC AND FIRE PROTECTION ENGINEERING SERVICES.

2.1 Sanitary / Trade Waste Plumbing and Drainage Systems

Sanitary Plumbing and Drainage

Item	Description
Existing Authority Infrastructure **Existing Connections to Authority Mains.**	**Sewer** 3-existing site connections on the main campus • A 225mm connection at the North Western corner of the site draining fixtures and faucets within Block A, Cancer Care Unit and the North Western Wing of Block C. • A 225mm connection at the Crown St frontage at the adjacent to the South Eastern corner of Block B draining fixtures and faucets within Block C. • A 150mm connection at the North Eastern portion of the site draining fixtures and faucets within Elouera, Lawson and the Blood Bank.
Capacity Issues	• Nil
Considerations	• Nil
Authority Issues	• Existing vent shaft relocation at North Western portion of the site will be incorporated into services design.

2.2 Domestic Potable Water

Domestic Cold Water

Item	Description
Existing Authority Infrastructure **Existing Connections to Authority Mains.**	**Domestic Cold Water** 2 main site connections to the Authority infrastructure • A 100NB connection to New Dapto Rd Sydney Water 150NB UPVC infrastructure • A 100NB connection to Loftus St
Available Flow and Pressures.	• Loftus St-RL 47.00 (AHD): Max-57m, Min-46m. Fire Flows: 10l/s @ 46m 20l/s @ 40m • Crown St-New Dapto Rd-RL 47.00 (AHD): Max-57m, Min-48m. Fire Flows: 10l/s @ 48m 20l/s @ 46m
Interface Issues	• Nil
Authority Issues	• Nil
Internal Infrastructure	**Domestic Cold Water**
Existing Water Meter Location	• Loftus St connection-100NB located adjacent to North West corner Elouera Building. • The New Dapto Rd connection-100NB water meter assembly located adjacent to the bulk oxygen storage facility at the South Western side of the campus • Services are interconnected at south east corner of

	Block B
Backflow Prevention Devices	• Containment devices at both water meter assemblies to AS/NZ 3500.2.
Pump	• Triplex multistage variable speed pumps within Block B basement plant room to transfer up to storage tank at Level 9 Block C
Storage	• 9,000 litres effective storage located within Block C level 9 plant room. Supplies Block B, C, A and Cancer Care.
Pipe Material & Condition	• Generally Type B copper tube to AS1432 throughout the campus
Water Treatment	• Automatic backwash filtration assemblies (20 micron) at Level 5 plant room Block A and Level 9 plant room Block C.
Maintenance Issues	• Incoming 100mm service from Loftus St has been capped at Level 0 plant room adjacent to the laundry sort room. The service is now supplied from Block C storage tank as a gravity service

2.3 Natural Gas

High pressure natural gas mains are available for connection around the perimeter of the site. The mains pressure is predominately 210 Kpa within Loftus St via Jemena secondary mains infrastructure. The maximum additional load anticipated is 5.1 Gj/hour by from the development.

Existing Natural Gas Services Description

Item	Description
Existing Connections to Authority Mains.	**Natural Gas** Single connection to the Authority infrastructure • A 50NB connection to 150NB Nylon 12 Jemena secondary mains infrastructure in Loftus St.
Available Pressures.	• 210Kpa in street main
Meter Position & Capacity	• Loftus St adjacent North West corner of Elouera Building • 20,000 Mj/hr Capacity
Energy Provider	• AGL on contract. Contact to be provided from within SESIAHS
Internal Site infrastructure Pressure	• Regulated pressure of 100Kpa site reticulation
Maintenance Issues	• Maintenance staff has indicated that after statutory monthly 4 hour test of cogeneration plant in Block C the monthly contracted gas usage is surpassed and hence creating an inflated invoice cost for the month. The contract figure is set at a daily limit (based on meter capacity) and once the daily limit is exceeded a premium is paid for the excess usage. Application with AGL ongoing, Jemena to determine meter upgrade if required based on forecast usage figures.
Considerations	• Existing single gas supply critical for major plant operation within existing hospital. Risks associated with interruptions to this supply during construction. Jemena have advised a new meter assembly in lieu of meter relocation to alleviate any necessary down time.

2.4 Automatic Fire Sprinklers

The site Fire sprinkler services is currently connects to the Sydney Water 150mm main in Crown street.
Sprinkler protection is currently installed for Building B and C only.

Automatic Fire Sprinklers

Item	Description
Existing Connections to Authority Mains.	**Fire Sprinkler System** 1 connection to the Authority infrastructure • A 150NB connection Crown St Sydney Water 150NB DICL infrastructure.
Available Flow and Pressures.	• Crown St-New Dapto Rd-RL 47.00 (AHD): Max-57m, Min-48m. Fire Flows: 10l/s @ 48m 20l/s @ 46m
NSW Fire Brigade Booster Location	• Crown St connection-100NB dual brigade booster within booster enclosure adjacent to Ambulance bay
Description of System	• Automatic fire sprinkler protection to Block B and C only • Alarm valves, manifold and pump assembly located within plant room adjacent to the ambulance bay. • 25kl fire sprinkler storage tank located Block C Level 11.

2.5 Fire Hydrant Systems

Fire Hydrant Systems

Item	Description
Existing Connections to Authority Mains.	**Fire Hydrant System** 2 connections to the Authority infrastructure • A 100NB connection Crown St Sydney Water 150NB DICL infrastructure • A 100NB connection to Loftus St
Available Flow and Pressures.	• Loftus St-RL 47.00 (AHD): Max-57m, Min-46m. Fire Flows: 10l/s @ 46m 20l/s @ 40m • Crown St-New Dapto Rd-RL 47.00 (AHD): Max-57m, Min-48m. Fire Flows: 10l/s @ 48m 20l/s @ 46m
NSW Fire Brigade Booster Location	• Loftus St connection-100NB dual brigade booster located adjacent to pump enclosure to North of Elouera Building • Crown St connection-100NB dual brigade booster within booster enclosure adjacent to Ambulance bay
Authority Issues	• NSW Fire Brigade has reluctantly accepted the location of the existing Loftus St booster although in non- compliant location.

APPENDIX A-SYDNEY WATER PRESSURE INQUIRY LOFTUS ST

5710-0456

Sydney WATER

Statement of Available Pressure and Flow

Acor Consultants
Unit 35, 7 Anella Ave
Castle Hill, 2145
Attention: Darren Neal

RECEIVED
11 OCT 2010
ACOR CONSULTANTS

WMS No: **97650**
Contact No: 8849-3531
Fax No: 8849-3111
Date: 30/09/2010

Pressure & Flow Application Number: 2983724
Your Pressure Inquiry Dated: Fri September 24 2010
Property Address: Illawarra Regional Hospital Crown St W Wollongong

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: **Loftus St**	Side of Street: **North**
Distance & Direction from Nearest Cross Street	**50 metres East from New Dapto Rd**
Approximate Ground Level (AHD):	**47 metres**
Nominal Size of Water Main (DN):	**100 mm**

EXPECTED WATER MAIN PRESSURES AT CONNECTION POINT

Normal Supply Conditions	
Maximum Pressure	**57 metre head**
Minimum Pressure	**46 metre head**

WITH PROPERTY FIRE PREVENTION SYSTEM DEMANDS	Flow l/s	Pressure head m
Fire Hose Reel Installations (Two hose reels simultaneously)	0.66	46
Fire Hydrant / Sprinkler Installations (Pressure expected to be maintained for 95% of the time)	10 15 20 25	46 43 40 36
Fire Installations based on peak demand (Pressure expected to be maintained with flows combined with peak demand in the watermain)	10 15 20 25	43 40 37 33
Maximum Permissible Flow	26	31

(Please refer to reverse side for Notes)

Robert Wickham
Team Leader
Asset Planning

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

APPENDIX B-SYDNEY WATER FEASIBILITY LETTER

Sydney WATER

Case Number: 123788

11 April 2011

HEALTH INFRASTRUCTURE - NSW HEALTH
c/- SIMPLY WATER AND SEWER PTY LTD

FEASIBILITY LETTER

Developer:	**HEALTH INFRASTRUCTURE - NSW HEALTH**
Your reference:	**202653**
Development:	**Lot 95 DP1258 CROWN ST, Wollongong**
Development Description:	**Current site is Wollongong Hospital, it is proposed to construct an additional 86 bed expansion along with an elective surgery facility including operating theatres.**
Your application date:	**25 March 2011**

Dear Applicant

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

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

Sydney Water will then send you either a:

- Notice of Requirements (Notice) and Works Agreement (Agreement); or
- Certificate.

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

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

- if you change your proposed development, e.g. the development description or the plan/ site layout, after today, the requirements in this Letter could change when you submit your new application; and
- if you decide to do your development in stages then you must submit a new application

(and pay another application fee) for each stage.

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

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

To get a Section 73 Certificate you must do the following things. You can also find out about this process by visiting www.sydneywater.com.au > Building and Developing > Developing Your Land.

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

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

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

   For a list of authorised Coordinators, either visit www.sydneywater.com.au > Building and Developing > Developing Your Land or call **13 20 92.**

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

3. **Works Agreements**

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

4. **Water and Sewer Works**

   4.1 Water

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

   Sydney Water has assessed your application and found that:

   § The drinking water main available for connection is the 100 main on the north side of Loftus Street.

   4.2 Sewer

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

Sydney Water has assessed your application and found that:

§ The wastewater main available for connection is the 225 mm main.

5. Ancillary Matters

5.1 Asset adjustments

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

5.2 Entry onto neighbouring property

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

6. Stamping and Approval of your Building Plans

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

Your Coordinator can tell you about the approval process including:

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

You can also find information about this process (including technical specifications) if you either:

- visit www.sydneywater.com.au > Building and Developing > Building and Renovating. Here you can find Sydney Water's *Guidelines for Building Over/Adjacent to Sydney*

Water Assets; or

- call 13 20 92.

Notes:

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

OTHER THINGS YOU MAY NEED TO DO

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

Disused Sewerage Service Sealing

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

Soffit Requirements

Please be aware that floor levels must be able to meet Sydney Water's soffit requirements for property connection and drainage.

Trade Waste Information

Should this development generate trade wastewater, this notice of requirements does not guarantee the applicant that Sydney Water will accept the trade wastewater to its sewerage system. In the event trade wastewater is generated, the property owner is required to submit an application for permission to discharge trade wastewater to the sewerage system before business activities commence. A boundary trap will be required where arrestors and special units are installed for trade waste pre-treatment.

If this development type is "Industrial" then the property may be part of sewerage catchment subject to a wastewater reuse scheme. This may impact the level of pollutants such as Total Dissolved Solids (TDS) that Sydney Water will accept from the property to the sewerage system.

Businesses wishing to discharge wastewater (other than domestic sewage) should first contact a Sydney Water Trade Waste Office. A boundary trap will be required where arrestors and special units are installed for trade wast pre-treatment.

Prospective Purchasers should be made aware of the above situation under the requirements of vendor disclosure.

For further information please visit the Sydney Water website at: http:// www.sydneywater.com.au/OurSystemsandOperations/TradeWaste/

To contact a Trade Waste Customer Service Representative please see below for Local Government Areas and their relevant contact number.

For the following LGA's the contact number for a Trade Waste Customer Representative is 02 9694 6500:

Ashfield, Bankstown, Botany Bay, Burwood, Camden, Campbelltown, Canada Bay, Canterbury, Fairfield, Hurstville, Kiama, Kogarah, Leichhardt, Liverpool, Marrickville, Randwick, Rockdale, Shellharbour, Strathfield, Sutherland, Wingecarribee, Wollondilly, Wollongong

For the following LGA's the contact number for a Trade Waste Customer Representative is 02 8805 5588:

Auburn, Baulkham Hills, Blacktown, Blue Mountains, Holroyd, Hornsby, Hunters Hill, Kuring-gai, Lane Cove, Manly, Mosman, North Sydney, Parramatta, Penrith, Pittwater, Ryde, Sydney, Warringah, Waverley, Willoughby, Woollahra

Backflow Prevention Information

In accordance with Sydney Water's Backflow Prevention Containment Policy, you must install a backflow prevention containment device immediately downstream of each master water meter/s servicing the property. In circumstances where there is no master meter/s the containment device shall be installed on the water supply entering the property boundary.

The device is to be installed on all water supplies entering the property, regardless of the supply type or metering arrangements. It is needed to reduce the risk of contamination by backflow from these supplies.

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

The device must be installed as a condition of continued use of the water supply. Failure to install and maintain the device may result in disconnection of the water service. A licensed plumber with backflow accreditation can advise you of the correct requirements for your property. To view a copy of Sydney Water's Backflow Prevention Policy and a list of backflow accredited plumbers visit http://www.sydneywater.com.au/Plumbing/BackflowPrevention/

Fire Fighting

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

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

Large Water Service Connection

A water main are available to provide your development with a domestic supply. The size of your development means that you will need a connection larger than the standard domestic 20 mm size.

To get approval for your connection, you will need to lodge an application with a Quick Check Agent. You, or your hydraulic consultant, may need to supply the following:

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

You will have to pay an application fee.

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

Disused Water Service Sealing

You must pay to disconnect all disused private water services and seal them at the point of connection to a Sydney Water water main. This work must meet Sydney Water's standards in the NSW Code of Practice for Plumbing and Drainage (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. Sydney Water may be involved with other aspects of your development and there may be other fees or requirements. These include:

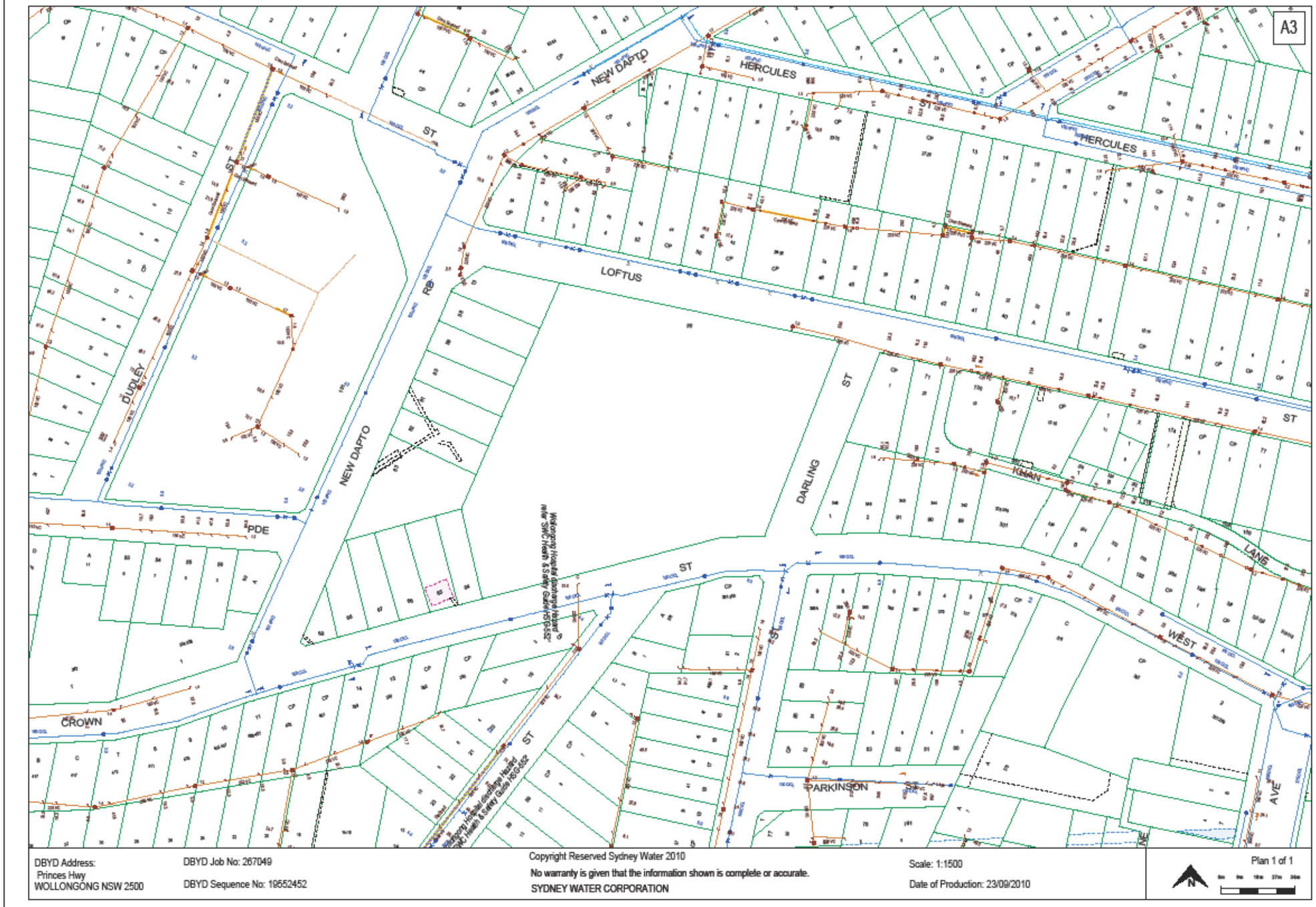
- plumbing and drainage inspection costs;

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

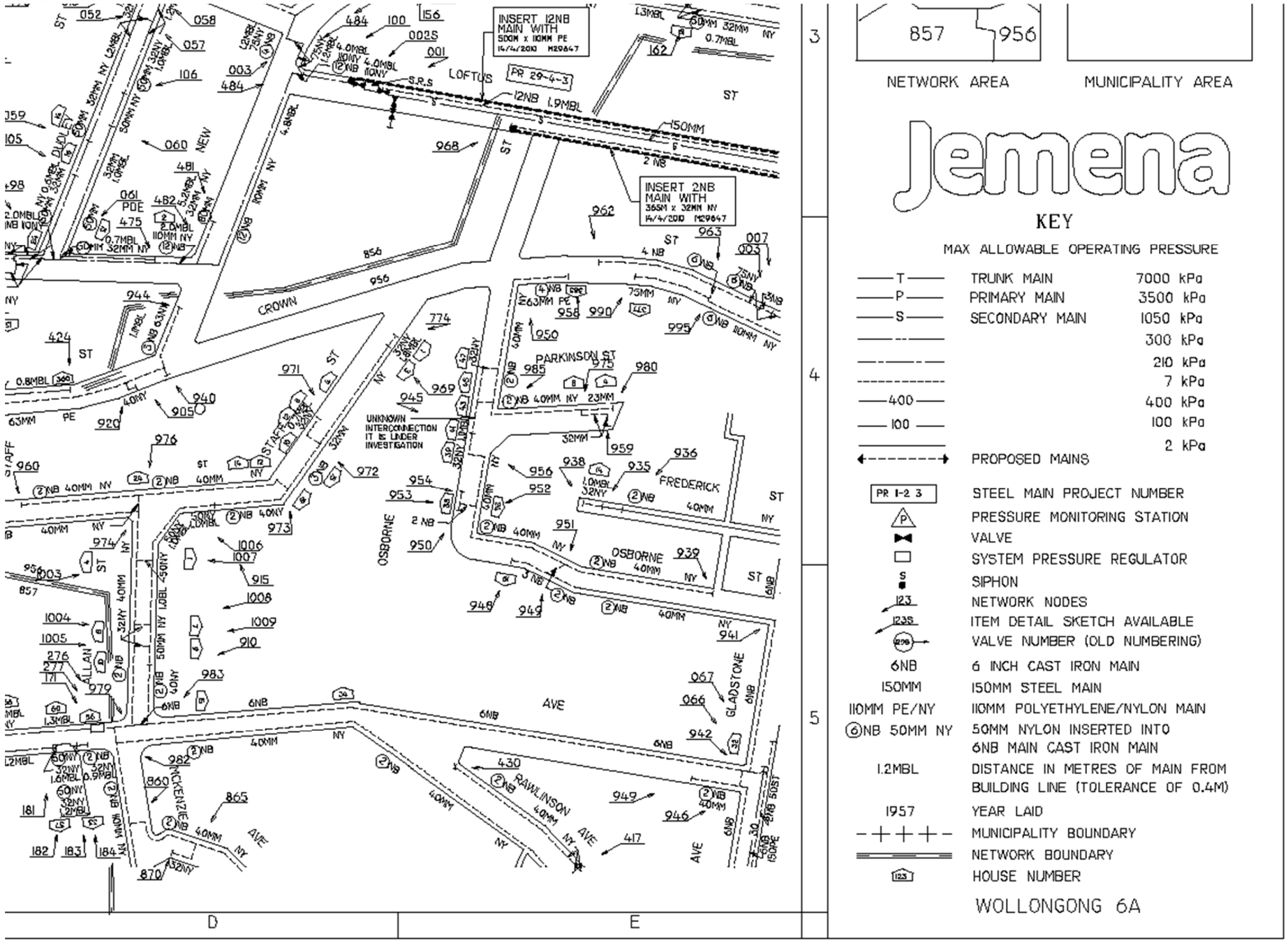
No warranties or assurances can be given about the suitability of this document or any of its provisions for any specific transaction. It does not constitute an approval from Sydney Water and to the extent that it is able, Sydney Water limits its liability to the reissue of this Letter or the return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

END

APPENDIX C-SYDNEY WATER INFRASTRUCTURE MAP



APPENDIX D-SYDNEY JEMENA INFRASTRUCTURE MAP



APPENDIX E-AGL CORRESPONDENCE

Our Reference: SY100456

4 April 2011
AGL
Locked Bag 20024
MELBOURNE
VIC, 2520

Attn: Business Sales

Dear Sir
Re:

Proposed Illawarra Elective Surgery Services Development-Request for Indicative Costs for Gas Meter Relocation and Upgrade at Loftus St Wollongong-Account Number 000133205-Supply Point Number 102904100 001

Acor Consulting is currently engaged by Health Infrastructure NSW as the Hydraulic and Fire Services consultants for the proposed redevelopment at the abovementioned location. We request AGL costs for the relocation and also upgrade to a larger meter assembly if deemed necessary.

Preliminary estimates for additional gas consumption include:

- Mechanical boiler plant is 2,700 Mj/hr (750 Kw)
- Domestic hot water 1,000 Mj/hr with solar preheat
- Kitchen and Laundry hot water 800 Mj/hr.
- Additional allowance for future 250 Mj/hr

An option being considered for the development involves a bulk excavation to adjust the existing site contours for the new building levels and would also involve the relocation of the gas meter assembly further East along Loftus Street. This work and relocation will be constructed as part of an early works package prior to the bulk excavation. Hospital maintenance staff requires 7 days notification for any proposed disruption to existing site gas supply.

We have attached a sketch indicating the proposed relocation for assistance. Any initial advice offered to the project team regards planning and would be most welcomed.

Should you require any further information or arrange a site meeting please do not hesitate to contact the undersigned during business hours or on mobile 0423 528459 or email to msmith@acor.com.au.

Yours sincerely,
ACOR Consultants Pty Ltd

Mike Smith
Senior Hydraulic Services Designer

ACOR CONSULTANTS PTY LTD
ENGINEERS
MANAGERS
INFRASTRUCTURE PLANNERS
SYDNEY – BRISBANE – NEWCASTLE
GOSFORD – ADELAIDE
ACN 079 306 248
ABN 28 522 454 721
Level 1, 24 Falcon Street
PO Box 822
Crows Nest NSW 2065
TEL 02 9438 5098
FAX 02 9438 5398
www.acor.com.au

Our Reference: SY100456

10th May 2011
AGL Energy Ltd
Locked Bag 1837
ST LEONARDS
NSW, 2065

Attn: Mr Stephen Young

Dear Stephen,
Re:
Proposed Illawarra Elective Surgery Services Development Wollongong Hospital-Signed Gas Availability Offer

Please find enclosed cheque for the amount of $1,000.00 being for investigation and liaison with Jemena Gas as described within your offer dated 4th May 2011. Could you please forward a receipt of payment for our accounts department's records.

Should you require any further information or arrange a site meeting please do not hesitate to contact the undersigned during business hours or on mobile 0423 528459 or email to msmith@acor.com.au.

Yours sincerely,
ACOR Consultants Pty Ltd

Mike Smith
Senior Hydraulic Services Designer

ACOR CONSULTANTS PTY LTD

ENGINEERS

MANAGERS

INFRASTRUCTURE PLANNERS

SYDNEY – BRISBANE – NEWCASTLE
GOSFORD – ADELAIDE

ACN 079 308 246

ABN 28 522 454 721

Level 1, 24 Falcon Street

PO Box 822

Crows Nest NSW 2065

TEL 02 9438 5098

FAX 02 9438 5398

www.acor.com.au

Wollongong Hospital AGL Application

Customer Information

Customer Name	Illawarra Shoalhaven Local Health Network
Trading Name	ISLHN
A.B.N.	13567011035
A.C.N.	
Customer Address	Crown St Wollongong
Contact Person	Mike Smith (Acor Consulting)
Position Title	Hydraulic Services Engineer
Telephone No.	042328459
Fax No.	

Service Information

Service Start Date	
Service End Date	
Delivery Point Pressure (kPa)	210

Site(s) Information

Site Name	Address	Suburb	Post Code	State	DPI	ACQ (TJ)	MDQ (GJ)				MHQ (GJ)	Receipt Point
Wollongong Hospital	Lotus St	Wollongong	2500	NSW		38.24	292.20				25.22	

Appliance Information

Appliance Type	Quantity	Hourly Rate (GJ/Hr)	Percent Capacity	Hours/Day Used	Days/Week Used	No. Weeks/Yr	Total (GJ) Week	Total (GJ) Year	Total (GJ) Max Daily	SITE NAME
Existing Appliances/Plant										
Gas co gen Block C	1	9.00	70%	5	5	52	157.50	8.19	31.50	Block C
Gas fired chillers Block A (Winter)	1	1.25	50%	10	7	33	43.75	1.40	6.25	Block A
Gas fired chillers Block A (Summer)	1	1.25	85%	20	7	20	148.75	2.98	21.25	
Steam Boilers Block A sterilizing	1	1.10	75%	14	7	52	80.85	4.20	11.55	Block A
Edwards Boilers Block B&C	1	5.50	75%	12	7	20	346.50	6.93	49.50	Block B
Kitchen Level 9 Block C	1	0.60	100%	4	7	52	16.80	0.87	2.40	Block C
HW Utility Boilers Block A	1	0.25	75%	10	7	52	13.125	0.68	1.88	Block A
HW Theatre Boilers Block A	1	0.25	75%	6	7	52	7.88	0.41	1.13	Block A
HW Process Boilers Block A	1	0.35	75%	10	7	52	13.13	0.68	1.88	Block A
HW Boiler Elouera	1	0.35	75%	6	7	52	11.03	0.57	1.58	Elouera
HW Boiler Lawson	1	0.35	75%	5	5	52	6.56	0.34	1.31	Lawson
Heating Boiler Cancer	1	0.97	75%	5	5	20	16.31	0.33	3.26	Cancer
Hot Water Boiler Cancer	1	0.35	75%	3	5	52	3.94	0.20	0.79	Cancer
Existing Total		***26.72***						***27.79***	***134.26***	
Proposed New Appliances/Plant										
Mid Level CSSD Boilers	1	1.10	75%	12	7	52	69.30	3.60	9.90	IESS
Heating Boilers Roof Plant	1	2.20	75%	20	7	20	231.00	4.62	33.00	IESS
Domestic Hot Water Plant 01	1	1.00	85%	4	7	52	23.80	1.24	3.40	IESS
Domestic Hot Water Plant 02	1	0.40	85%	4	7	52	9.52	0.50	1.36	IESS
Domestic Hot Water Plant 03	1	0.40	85%	4	7	52	9.52	0.50	1.36	IESS
New Total		***5.10***						***10.45***	***49.02***	

APPENDIX F- SITE PLAN