TABLE 4.2: WATER LEVELS AND PLANNING LEVELS (mAHD)

Section	Water Level				Planning Level (includes freeboard)			
	PMF	100 year	20 year	5 year	PMF	100 year	20 year	5 year
HASLAMS CREEK BRANCH								
1011.7	7.5	2.8	2.5	1.5	8.0	3.3	3.0	2.0
	Services Bridge							
1011.9	7.6	2.8	2.5	1.5	8.1	3.3	3.0	2.0
	7.6	2.8	2.4	1.4	8.1	3.3	3.0	2.0
1012	7.6	2.7	2.4	1.4	8.1	3.3	3.0	2.0
	M4 Motorway							
1013	7.7	2.9	2.5	1.8	8.2	3.4	3.0	2.3
1015	7.7	2.9	2.5	1.8	8.2	3.4	3.0	2.3
1018	8.2	3.0	2.6	1.9	8.7	3.5	3.1	2.4
1022	7.7	2.7	2.1	1.1	8.7	3.7	3.1	2.4
	Parramatta Road							
1023	8.1	4.7	4.1	1.3	8.7	5.2	4.6	2.4
1028	8.0	4.5	4.0	1.6	8.7	5.2	4.6	2.6
1032	7.9	4.1	3.8	2.3	8.7	5.2	4.6	3.3
	Private Access Bridge							
1033	7.9	5.1	5.0	4.9	8.7	5.6	5.5	5.4
1034	7.5	5.0	5.0	4.9	8.7	5.6	5.5	5.4
1040	8.5	5.1	5.0	4.9	9.0	5.6	5.5	5.4
(1043)	8.5	5.3	5.1	5.0	9.0	5.8	5.6	5.5
(1046)	8.5	5.3	5.1	5.0	9.0	5.8	5.6	5.5
(1049)	8.5	5.3	5.1	5.0	9.0	5.8	5.6	5.5
(1052)	8.4	5.3 #	5.1	5.0	9.4	5.8	5.6	5.5
1055	9.1	5.3 #	5.1 #	5.0 #	9.6	5.8	5.6	5.5
1060	9.7	5.3 #	5.1 #	5.0 #	10.2	6.3	5.6	5.5
1061	9.7	5.9	5.1 #	5.0 #	10.2	6.9	5.6	5.5
	Tooheys Bridge							
1062	9.9	6.1	5.5	5.1	10.4	6.9	6.6	5.6
1063	9.9	6.7	5.5	5.1	10.4	7.2	6.6	5.6
1064	10.1	6.9	6.1	5.1	10.6	7.4	6.6	5.6
1070	10.3	6.9	6.0	5.0	10.8	7.4	6.6	5.6
1081	10.2	6.8	6.0	5.0	10.8	7.4	6.6	5.6
1085	8.0	6.7	6.0	5.8	10.8	7.4	6.6	6.1
1090	10.0	6.6	6.0	5.6	11.0	7.4	6.6	6.1
(1093)	11.6	5.8	5.3	4.9	12.1	7.4	6.6	6.1
(1096)	11.9	6.1	5.6	5.2	12.4	7.4	6.6	6.2
1099	12.1	6.5	6.0	5.7	12.6	7.5	7.0	6.7
1101	12.1	7.0	6.2	5.5	12.6	8.0	7.2	6.7
1105	12.0	7.4	6.7	6.0	12.6	8.4	7.7	7.0
1106	12.0	8.0	7.3	6.4	12.6	8.5	7.8	7.0
1107	12.0	8.0	7.3	6.4	12.6	8.5	7.8	7.0
1108	12.1	8.6	7.8	6.3	12.6	9.1	8.3	7.0
(1108.66)	12.1	8.6	7.8	6.7	12.6	9.1	8.3	7.2
(1109.33)	12.1	8.6	7.7	6.9	12.6	9.1	8.3	7.4
1110	12.3	8.6	7.7	6.9	12.8	9.1	8.3	7.4
1112	12.6	8.6	8.2	7.8	13.1	9.1	8.7	8.3
	Boorea Street							
1113	13.0	9.4	9.0	8.6	13.5	9.9	9.5	9.1
1114	13.1	9.4	9.0	8.6	13.6	9.9	9.5	9.1
(1116)	13.1	9.3	8.8	8.5	13.6	9.9	9.5	9.1
(1118)	13.1	9.2	8.8	8.5	13.6	9.9	9.5	9.1
1120	13.1	9.2	8.8	8.4	13.6	9.9	9.5	9.1
1134	13.0	8.8	8.7	8.5	13.6	9.9	9.5	9.1
1150	13.2	9.1	8.8	8.5	13.7	9.9	9.5	9.1
1151	13.3	9.1	8.8	8.6	13.8	9.9	9.5	9.1
	footbridge							
1152	13.3	10.5	10.3	8.8	13.8	11.0	10.9	9.3
1153	13.2	11.1	10.3	9.1	13.8	11.6	10.9	9.6
1155	12.3	10.9	10.4	9.1	13.8	11.6	10.9	9.6
1158	13.2	10.9	10.4	9.1	14.2	11.6	10.9	9.6
1165	13.2	10.7	10.3	8.7	14.2	11.6	10.9	9.7
1169	13.8	10.9	10.2	8.8	14.3	11.6	10.9	9.7
1170	13.8	10.9	10.3	9.9	14.3	11.6	10.9	10.4
1171	13.8	11.2	10.8	10.4	14.3	11.7	11.3	10.9
1172	14.5	11.4	11.1	10.7	15.0	11.9	11.6	11.2
	Main Western Railway							
1173	15.6	13.2	12.9	12.5	16.1	13.7	13.4	13.0
1174	15.6	13.2	12.9	12.5	16.1	13.7	13.4	13.0
1182	15.6	13.2	12.9	12.5	16.1	13.7	13.4	13.0
	Railway Parade							
1183	15.7	13.2	12.9	12.5	16.2	13.7	13.4	13.0
1185	16.0	13.8	13.6	13.3	16.5	14.3	14.1	13.8
1187	16.6	13.9	13.8	13.6	17.1	14.4	14.3	14.1
1188	16.7	13.8	13.8	13.6	17.2	14.4	14.3	14.1
1189	16.6	13.8	13.7	13.6	17.2	14.4	14.3	14.1
1190	16.6	13.8	13.7	13.6	17.2	14.4	14.3	14.1
1191	17.0	13.9	13.8	13.6	17.5	14.4	14.3	14.1
1192	17.6	13.9	13.8	13.5	18.1	14.4	14.3	14.1
	Water Street							
1193	17.6	14.1	14.0	13.8	18.1	14.6	14.5	14.3

Steven Wong

From: Jeff Hunt [Jeff.Hunt@dnr.nsw.gov.au]
Sent: Tuesday, 18 August 2009 9:58 AM
To: swong@hughestrueman.com.au
Subject: RE: FW: DWE Confirmation of Riparian Zone

Hi Steven,
From our point of view, a riparian buffer can be incorporated at this location either with or without the concrete wall. The bigger issue I think is the stability of the bank during high flows. The wall should only be removed if the stability of the bank and the established riparian buffer will not be compromised.

Regards,

Jeff Hunt

Senior Planning & Assessment Co-ordinator
Major Projects and Assessments
Office of Water
Dept of Environment Climate Change and Water

Price Waterhouse Coopers Centre
Level 4, 26 Honeysuckle Drive
Newcastle NSW 2300
(PO Box 2213
Dangar NSW 2309)

Tel: 02 49 042634
Fax: 02 49 042504
Mob: 0413 482 467
E-mail: jeff.hunt@dnr.nsw.gov.au
Web: www.dwe.nsw.gov.au

>>> "Steven Wong" <swong@hughestrueman.com.au> 17/08/2009 9:27 am >>>
Jeff,

We had a meeting last week with Council and they stated that the concrete wall had to be removed as it was within the riparian zone. However, your email infers that we can keep it.

Sydney Water's concern was that flow capacity had to be maintained.

Can you confirm from DWE's point of view if the wall can be retained.

Regards
Steven

From: Jeff Hunt [mailto:Jeff.Hunt@dnr.nsw.gov.au]
Sent: Friday, 31 July 2009 9:50 AM
To: swong@hughestrueman.com.au
Subject: Re: FW: DWE Confirmation of Riparian Zone

Hi Steven,
As discussed, the 10 metre setback is measured from the "top of the river bank" which in this case is the top of the concrete channel. If the concrete retaining wall is to remain, the riparian buffer within the Costco site should be designed to integrate with a potential riparian buffer on the adjacent lands.

Regards,

Jeff Hunt

A/Manager, Major Projects, Mine Assessments and Planning
Major Projects and Assessments
Dept of Water and Energy

Price Waterhouse Coopers Centre
Level 4, 26 Honeysuckle Drive
Newcastle NSW 2300
(PO Box 2213
Dangar NSW 2309)

Tel: 02 49 042634
Fax: 02 49 042504
Mob: 0413 482 467
E-mail: Jeff.Hunt@dnr.nsw.gov.au
Web: www.dwe.nsw.gov.au

>>> "Steven Wong" <swong@hughestrueman.com.au> 31/07/2009 9:26 am >>>

Jeff,

We received the attached email from your office. We are the civil engineers for the Costco project.

We want to clarify where the 10m zone starts from, as we are currently designing the layout of the building and carpark.

Is the 10m measured from the site boundary, or is it from the top of the concrete wall (ie. a reduced impact on our site)?

Let me know if you have any queries.

Regards,

Steven Wong
BE(Hons), MEngSc, MIEAust
Associate Director
Email: swong@hughestrueman.com.au

Hughes Trueman
Level 2, 60 Pacific Highway, St Leonards NSW 2065
PO Box 151, St Leonards NSW 1590
Ph: 02 9439 2633
Fax: 02 9438 4505

From: Jeff Hunt [mailto:Jeff.Hunt@dnr.nsw.gov.au]
Sent: Tuesday, 21 July 2009 9:21 AM
To: Eddie Swat
Cc: Janne Grose
Subject: Re: Fwd: Scan Data from FX-95F8A2

Hi Eddie,
I inspected the Costco site last week, and DWE is satisfied with a riparian buffer of 10 metres for this site. It is consistent with site conditions (where the channel and narrow bank area are constrained by bridges/culverts at each end of the property) and consistent with buffers approved by DWE for 2 other sites upstream of this site.

Regards,

Jeff Hunt

A/Manager, Major Projects, Mine Assessments and Planning
Major Projects and Assessments
Dept of Water and Energy

Price Waterhouse Coopers Centre
Level 4, 26 Honeysuckle Drive
Newcastle NSW 2300
(PO Box 2213
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Web: www.dwe.nsw.gov.au

>>> Eddie Swat 9/07/2009 10:59 am >>>

Eddie Swat
Project Delivery Manager

Project Delivery Branch

Department of Planning
23-33 Bridge Street, Sydney, 2000
Ph: (02) 9228 6591
Mob: 0418 422 813

~~ Following Files were attached ~~
DWE comments.pdf
IMG_1760.JPG

Steven Wong

From: RAYMOND PARSELL [RAYMOND.PARSELL@sydneywater.com.au]
Sent: Monday, 17 August 2009 11:36 AM
To: swong@hughestrueman.com.au; DAVID GRASBY
Cc: JEYA JEYADEVAN; KAIA HODGE
Subject: Re: Costco - 19-21 Parramatta Road Lidcombe - Council OSD requirements

Steven

Basically our response to this site would be to ensure water quality management to appropriate standard. As discussed, in this catchment we would reference the NSW EPA "Managing Urban Stormwater - Council Handbook 1997" targets. Growth Centres targets (a bit more stringent) would be applied in other more natural creek receiving waters.

http://www.environment.nsw.gov.au/resources/stormwater/usp/chbody.pdf

We would expect this to be achieved using WSUD best practice - and demonstrated compliance through suitable MUSIC modelling. Sydney Water would encourage the use of "soft" treatment options integrated into the site landscaping.

Vehicular access to facilities and identifying an inspection / maintenance program for the owner are important.

At this point in the catchment Sydney Water would not require OSD and would encourage you to re use existing stormwater connections to our channel rather than construct new connections.

As discussed, the final resolution of these issues will depend on the determining authority for this development.

Pollutant	Requirement
Suspended Solids	80% reduction of the average annual load
Total Phosphorous	45% reduction of the average annual load
Total Nitrogen	45% reduction of the average annual load
Litter	Retention of litter greater than 50mm for flows up to 25% of the 1 year ARI peak flow
Coarse Sediment	Retention of sediment coarser than 0.125mm for flows up to 25% of the 1 year ARI peak flows
Oils and Grease	In areas with concentrated hydrocarbon deposition, no visible oils for flows up to 25% of the 1 year ARI peak flow

NSW EPA – Managing Urban Stormwater – Council Handbook 1997

With regard to the existing retaining wall, Sydney Water is unaware at this stage of any imperative to lobby for it's removal. However, if the wall and the landfill in the old flood plain behind it formed a significant choke to major floods in excess of the in bank capacity of the Sydney Water channel, then Council may put the case for removal of part of the landfill. I would suggest assessing this situation would be prudent.

DWE should be contacted re any riparian zone requirements.

Regards

Ray

>>> "Steven Wong" <swong@hughestrueman.com.au> 17/08/09 11:06 am >>>
Raymond / David,

Attached is Council's requirements for OSD for the Haslam Creek catchment (refer section 5).

Can you do me a favour and send me a copy (or link) to the EPA document referenced.

Regards,

Steven Wong
BE(Hons), MEngSc, MIEAust
Associate Director
Email: swong@hughestrueman.com.au

Hughes Trueman
Level 2, 60 Pacific Highway, St Leonards NSW 2065
PO Box 151, St Leonards NSW 1590
Ph: 02 9439 2633
Fax: 02 9438 4505

Sydney WATER

Case Number: 116375

21 August 2009

COSTCO WHOLESALE AUSTRALIA PTY LTD
c/- HUGHES TRUEMAN PTY LTD

FEASIBILITY LETTER

Developer: **COSTCO WHOLESALE AUSTRALIA PTY LTD**
Your reference: **09s603C**
Development: **Lot 1 DP 370232, Lot 1 DP 3702333 (No.19-21) Parramatta Rd, Lidcombe**
Development Description: **Existing warehouse**
Proposed retail building and carpark
refer to attached document
Your application date: **20 July 2009**

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 subdivision. **The information is accurate at today's date only.**

If you obtain development consent for that subdivision 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 Developing and Plumbing > Developing Your Land.

1. **Obtain Development Consent from the consent authority for your subdivision 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 subdivision. 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 Developing and Plumbing > 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

   Each lot in your subdivision 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 system has sufficient capacity to serve the proposed development.

- The main available for connection is the 375 mm main on the south side of Parramatta Road.

Large Water Service Connection

A water main are available to provide your subdivision with a domestic supply. The size of your subdivision 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 or at a Sydney Water Customer Centre. 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.

4.2 Sewer

Each lot in your subdivision 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 each lot's boundaries.

Sydney Water has assessed your application and found that:

The current sewer system has sufficient capacity to serve the proposed development.

The main available for connection is the 225 mm main in the north eastern corner of your development..

5. Ancillary Matters

5.1 Asset adjustments

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

5.2 Entry onto neighbouring property

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

OTHER THINGS YOU MAY NEED TO DO

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

Stamping and approval of your building plans

Please note that your building plans must be stamped and approved. This can be done at a Quick Check agency. For an agency list visit www.sydneywater.com.au > Building and Developing > Quick Check or call 13 20 92.

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

Your Coordinator can tell you about the approval process including:

- Possible requirements;
- Costs; and
- Timeframes.

Note: You must obtain our written approval before you do any work on Sydney Water's systems. Sydney Water will take action to have work stopped on the site if you do not have that approval. We will apply Section 44 of the *Sydney Water Act 1994.*

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 for all developments that

discharge trade wastewater 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.

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) 8805 5550:

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

All properties with a connection to the water supply, must install a backflow prevention containment device. All containment devices must be installed on the outlet side of each master water meter/s supplying the property. In circumstances where there is no master meter/s the backflow prevention containment device shall be installed on the water supply where it enters the property boundary.

Separate hydrant and sprinkler fire services, require the installation of a testable double check detector assembly. The device must be installed close to where the water service crosses the property boundary, upstream of any component of the fire service.

The backflow prevention containment 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 copy of Sydney Water's Backflow Prevention Policy is available on the Sydney Water Website at:
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 subdivision 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.

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;
- 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 subdivision 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

Statement of Available Pressure and Flow

Sydney WATER

HUGHES TRUEMAN
P.O. BOX 181
ST LEONARDS, 1590

WMS No: **31490**
Contact No: 8849-3531
Fax No: 8849-3111

Attention: Wade

Date: 29/07/2009

RECEIVED
31 JUL 2009
BY:

Pressure & Flow Application Number: 2626014
Your Pressure Inquiry Dated: Mon July 27 2009
Property Address: 19-21 Parramatta Rd Lidcombe 2141

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: **Parramatta Rd**	Side of Street: **South**
Distance & Direction from Nearest Cross Street	**5 metres West from John Street**
Approximate Ground Level (AHD):	**8 metres**
Nominal Size of Water Main (DN):	**375 mm**

EXPECTED WATER MAIN PRESSURES AT CONNECTION POINT

Normal Supply Conditions	
Maximum Pressure	67 metre head
Minimum Pressure	38 metre head

WITH PROPERTY FIRE PREVENTION SYSTEM DEMANDS	Flow l/s	Pressure head m
Fire Hose Reel Installations (Two hose reels simultaneously)	0.66	38
Fire Hydrant / Sprinkler Installations (Pressure expected to be maintained for 95% of the time)	5	40
	10	40
	20	40
	25	40
	40	40
	60	40
	80	40
	100	40
Fire Installations based on peak demand (Pressure expected to be maintained with flows combined with peak demand in the watermain)	5	38
	10	38
	20	38
	25	38
	40	38
	60	38
	80	38
	100	37
Maximum Permissible Flow	120	35

(Please refer to reverse side for Notes)

Robert Wickham
Team Leader
Asset Planning

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 mainbreaks, 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 lodged through Sydney Water Business Centres and agencies. Where possible, on-site recycling tanks are recommended for pump testing to reduce water waste and allow higher pump test rates.

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

Notes on Models

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

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

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

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

5. Modelling of the requested fire fighting flows may indicate that local System capacity is exceeded and that negative pressures may occur in the supply System. Due to the risk of water contamination and the endangering of public health, Sydney Water reserves the right to refuse or limit the amount of low requested n 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.

7. Modern pipes have quality assured, factory applied, concrete lining. Some older pipes are, however, designated CICLIS (cast iron concrete lined in-situ). In this situation, results are obtained using conservative modelling techniques to account for the uncertain quality of the lining. However, it is recommended that the applicant obtains verification of any results by field-testing. Appropriate notification to Sydney Water by the accredited service provider shall be given before testing is undertaken (conditions may apply). Sydney Water can provide technical support on a "change-out basis" if required.