



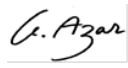
**Development Servicing
Plans for Water Supply
and Sewerage 2015/16**

Googong



Development Servicing Plans - Googong

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EXECUTIVE SUMMARY

These Development Servicing Plans (DSPs) cover water supply and sewerage developer charges for Googong development area as shown in the maps in Appendix A.

Each developer will be required to manage stormwater on their site at their cost. Therefore stormwater developer charge is not considered in this Plan.

The water supply and sewerage developer charges for Googong service area are shown below:

Googong Service Area	Developer Charges 2015/16 (\$/ET)
Water Supply	2,361
Sewerage	9,036

The charges will be indexed on 1st July each year on the basis of movements in the consumer price index (CPI) for Sydney. The developer charges calculated in these DSPs will be reviewed after 5 to 6 years.

The DSPs have been prepared in accordance with the Developer Charges Guidelines for Water Supply, Sewerage and Stormwater (2012) - Consultation Draft.

The timing and expenditures for new water supply and sewerage works that will serve the area covered by these DSPs are shown in section 9 for water supply and section 10 for sewerage.

Water supply and sewerage levels of service to be provided by Council are included in section 6.

Developers are responsible for the full cost of the design and construction of water supply and sewerage reticulation works within subdivisions.

Development Servicing Plans - Googong

1 Introduction

Developer charges cover part of the cost of providing water supply and sewerage infrastructures to new development and redevelopment. Developer charges have two related functions:

- They provide a source of funding for infrastructure required for urban development
- They provide signals regarding the cost of urban development thus encouraging less costly forms and areas of development

Queanbeyan City Council (QCC) is a local water utility, responsible for the provision of water supply and sewerage services within the Queanbeyan Local Government Area. Section 64 of the Local Government Act 1993 enables a local government council to levy developer charges for water supply and sewerage. This section refers to section 306 of the Water Management Act 2000. An outline of relevant legislation is provided in Appendix F.

A Development Servicing Plan (DSP) is a document which details the water supply and/or sewerage developer charges to be levied on development utilising a water utility's water supply and/or sewerage infrastructure.

These DSPs cover water supply and sewerage (including recycled water) developer charges for Googong development area. This DSP area, as shown in Appendix A is serviced by QCC as the local water utility (LWU).

QCC has investigated the topography and design of the Googong township. Each developer will be required to manage stormwater on their site and at their cost. Therefore stormwater developer charges are not considered in the Plan.

These DSPs aim to achieve the following objectives:

- Allow QCC to require an equitable monetary contribution for the provision of water supply and sewerage infrastructure to meet the demands generated by development in the Googong development area.
- Facilitate the future provision of water supply services which meet the required levels of service with regard to flows, pressure, water quantity and the frequency of restrictions
- Facilitate the future provision of sewerage services which meet the required levels of service with regard to capacity and treated effluent quality
- Set out the schedule and programme of proposed works to meet increasing demands for water supply and sewerage services generated by development
- Detail the contribution rates and QCC's payment policies

Development Servicing Plans - Googong

These DSPs have been prepared in accordance with the Developer Charges Guidelines for Water Supply, Sewerage and Stormwater (2012) - Consultation Draft. This document is to be registered with DPI Water (formerly NSW Office of Water).

These DSPs apply only for Googong new development area in Queanbeyan Local Government Area.

Developer charges calculated in these DSPs will be reviewed after a period of five to six years.

Development Servicing Plans - Googong

2 Glossary

Below is a list of some terms used in Development Servicing Plans.

Abbreviations	Definitions
Asset	An asset (or part of an asset) including land and headwork's assets that directly provides, or will provide, the developer services to developments within the DSP area for which the Developer Charge is payable
ADWF	Average dry weather flow. One of the design parameters for flow in sewers.
Capital Charge	Capital cost of assets per ET x Return on Investment (ROI) factor
Capital Cost	The present Value (MEERA basis) of assets used to service the development
CPI	Consumer Price Index
Developer Charge	A charge levied on developers to recover part of the capital cost incurred in providing infrastructure to new development and redevelopment
Development Area	That part of a water utility area covered by a particular Development Servicing Plan. Also referred to as a DSP Area
DSP	Development Servicing Plan
EP	Equivalent Person
ET	Equivalent Tenement
Guidelines	Developer Charges Guidelines for Water Supply, Sewerage and Stormwater (2012) - Consultation Draft
LEP	Local Environment Plan
LWU	Local Water Utility (NSW)
M	million
MEERA	Modern Equivalent Engineering Replacement Asset
N/A	Not Applicable
NPV	Net Present Value
OMA	Operation, maintenance and administration (costs)
Post Asset	An Asset that was commissioned by a water utility on or after 1st January of the specified year or that is yet to be commissioned
PV	Present Value
Pre Asset	An Asset that was commissioned by a water utility before 1st January of the specified year
PS	Pumping Stations
QCC	Queanbeyan City Council
Reduction	The amount by which the capital charge is reduced to arrive at

Development Servicing Plans - Googong

Abbreviations	Definitions
Amount	the developer charge. This amount reflects the present value of the capital contribution that will be paid by the occupier of a development as part of future annual charges
ROI	Return on investment. Represents the income that is, or could be, generated by investing money
Service Area	An area serviced by a separate water supply and sewerage system, a separate small town or village, or a new development of over 500 lots (Note: this is standard terminology from the Guidelines)
STP	Sewage Treatment Plant
TBL	Triple Bottom Line
TBA	To be Advised
TRB	Typical residential bill, which is the principal indicator of the overall cost of a water supply or wastewater system. It is the bill paid by a residential customer using the utility's average annual residential water supplied per connected property, and is not a pensioner
WRP	Water Recycling Plant
WTP	Water Treatment Plant

3 Administration

3.1 DSP Area and Boundaries

These DSPs cover only the Googong development area. The maps of the area covered by these DSPs are shown in Appendix A.

The basis for defining the DSP area boundary is the existing and future development serviced by Googong water supply and sewerage systems.

3.2 Application of Developer Charges

In order to assess the developer contribution applicable to a specific development, Council will assess the demand that the proposed development will place on the relevant water and/or sewerage systems in terms of equivalent tenements (ET) and will levy developer charges proportional to the number of ETs.

An Equivalent Tenement is the basic unit of measure to quantify the demand or loading on water supply or sewerage systems respectively. One ET represents the equivalent demand or loading from a standard detached residential dwelling.

The minimum demand for each development is 1 ET. The developer charges will be levied on all land within the DSP areas for new development and redevelopment (i.e. change of use).

3.3 Indexation of Developer Charge

The developer charges will be adjusted on 1 July each year on the basis of movements in the Consumer Price Index (CPI) for Sydney as published by the Australian Bureau of Statistics. The use of this index is specified in the guidelines.

3.4 Timing and Payment of Developer Charges

Payment of a developer charge is a precondition to the granting of a certificate of compliance under section 305 of the *Water Management Act 2000* or a construction certificate under section 109 of the *Environmental Planning and Assessment Act 1979*, which must be obtained in order to complete a development.

Developer charges must be made in the form of monetary payments to Queanbeyan City Council. Development requiring the payment of a developer charge (DC) will be issued a notice advising the charge which applies at the time of issuing the notice. The charge may increase through indexation or replacement of this DSP with a new one. The payment shall be at the DC rate that applies at the time of payment.

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3.5 Review of DSPs

Developer Charges relating to these DSPs will be reviewed every 5 to 6 years. A shorter review period is permitted if a major change in circumstances occurs.

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4 Demographic and Land Use Planning Information

4.1 Growth Projection

Googong is a new township serviced by QCC. This township contains all the amenities including self-contained water supply and sewerage systems and will also deliver recycled water to every home for toilet flushing and garden watering, as well as providing irrigation for parks and open spaces. Googong is expected to develop gradually over the next 20 years, and be fully occupied in 2033/34.

For the purpose of the DSPs, estimated Equivalent Persons (EPs) need to be converted in to ETs. It is assumed that Googong EP/ET ratio equivalent to 2.6, the conversion factor of medium courtyard residential dwelling in the Googong development. In these DSPs, a medium courtyard residential dwelling is equivalent to standard detached residential unit or 1 ET.

The estimated ETs over the Googong development period is summarised in Table 1.

Table 1: Googong ETs Projection

Period	Equivalent Persons (EPs)			Equivalent Tenements (ETs)
	Residential*	Non-Residential*	Total	
EP/ET = 2.6				
2014/15	1,893	-	1,893	728
2018/19	6,421	572	6,993	2,690
2023/24	11,072	1,425	12,497	4,807
2028/29	15,812	1,511	17,323	6,663
2033/34	18,682	1,511	20,193	7,767

(Source: *Data provided by QCC staff, 30 Jan and 16 Mar 2015)

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The next 30 years ETs projection is graphically presented in Figure 1.

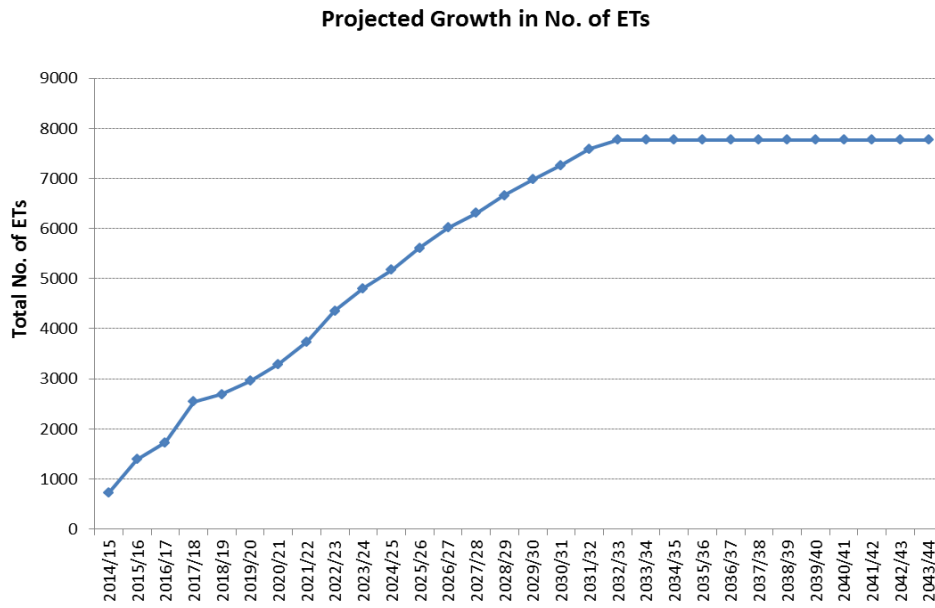


Figure 1: Googong 30 Year ETs Projection

4.2 Land Use Information

The Googong DSPs for water supply and sewerage should be read in conjunction with the Development Control Plans (DCPs) and other planning instruments used for Googong development area.

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5 Infrastructure

5.1 Water Supply System Overview

Googong water supply system comprises a connection to the Queanbeyan bulk supply from ACT region's water supply, reservoirs and a network of pipes. No QCC existing assets have been included in the DSP.

A detailed capital works program has been developed, and the assets planned for the next 20 years are included in the calculation. The value of the assets required over the 20 year project period is \$37.37 million. The capital works plan is included in Table 1 of the Googong DSP Background Document for Water Supply (see Appendix D).

Reticulation assets are excluded from the calculation of developer charges as the developers are responsible for the full cost of the design and construction of reticulation works within subdivisions. However, LWUs may calculate a reticulation supplement which would be payable by developers that have not provided the reticulation assets.

The 20 year capital works expenditure for water supply is shown in Figure 2. Timing of works and expenditure are to be reviewed and updated when required.

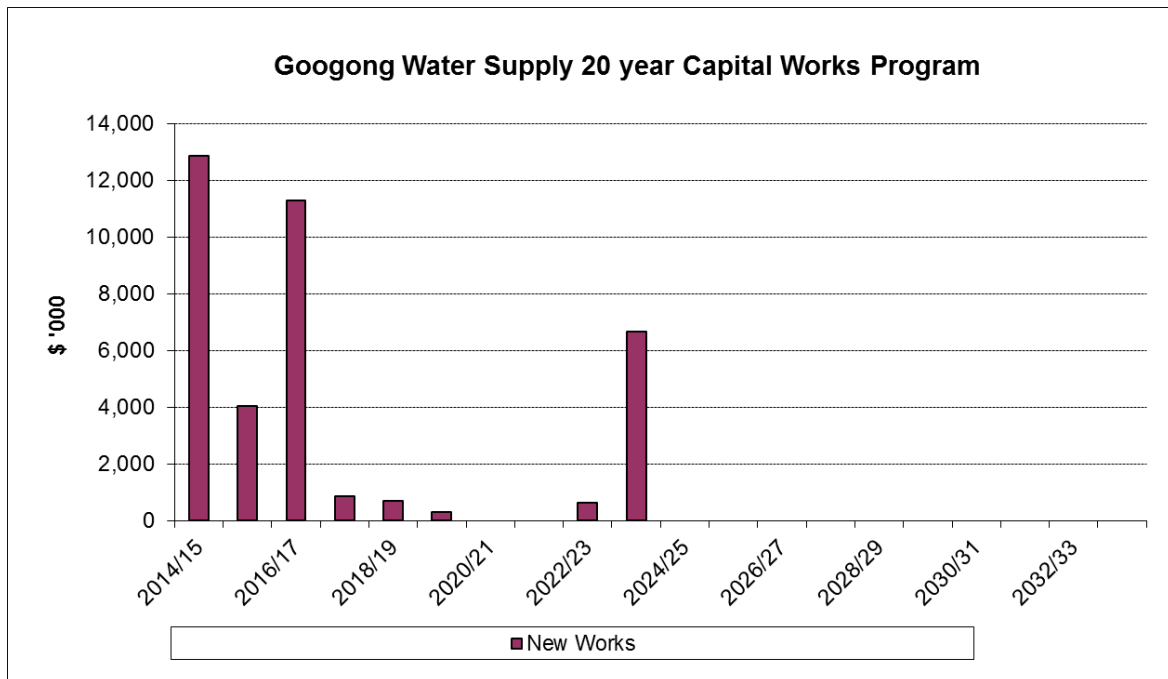


Figure 2: Googong Water Supply 20 Year Capital Works Program

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5.2 Sewerage System Overview

Sewage collected from Googong will be transferred to the water recycling plant (WRP) for treatment and recycling. The sewage will be collected through gravity mains and pumping systems. Four sewage pumping stations and rising mains will be constructed to transfer sewage to the WRP. All the houses will be connected to the recycled water which will be used for non-potable purposes such as toilet flushing and irrigation. No QCC existing assets have been included in the DSP.

A detailed capital works program has been developed, and the assets planned for the next 20 years are included in the calculation. The value of the assets required over the 20 year project period is \$63.66 million. The capital works plan is included in Table 1 of the Googong DSP Background Document for Sewerage (see Appendix E).

Reticulation assets are excluded from the calculation of sewerage developer charges as the developers are responsible for the full cost of the design and construction of sewer reticulation works within subdivisions. However, LWUs may calculate a reticulation supplement which would be payable by developers that have not provided the reticulation assets.

The 20 year capital works expenditure for sewerage is shown in Figure 3. Timing of works and expenditure are to be reviewed and updated when required.

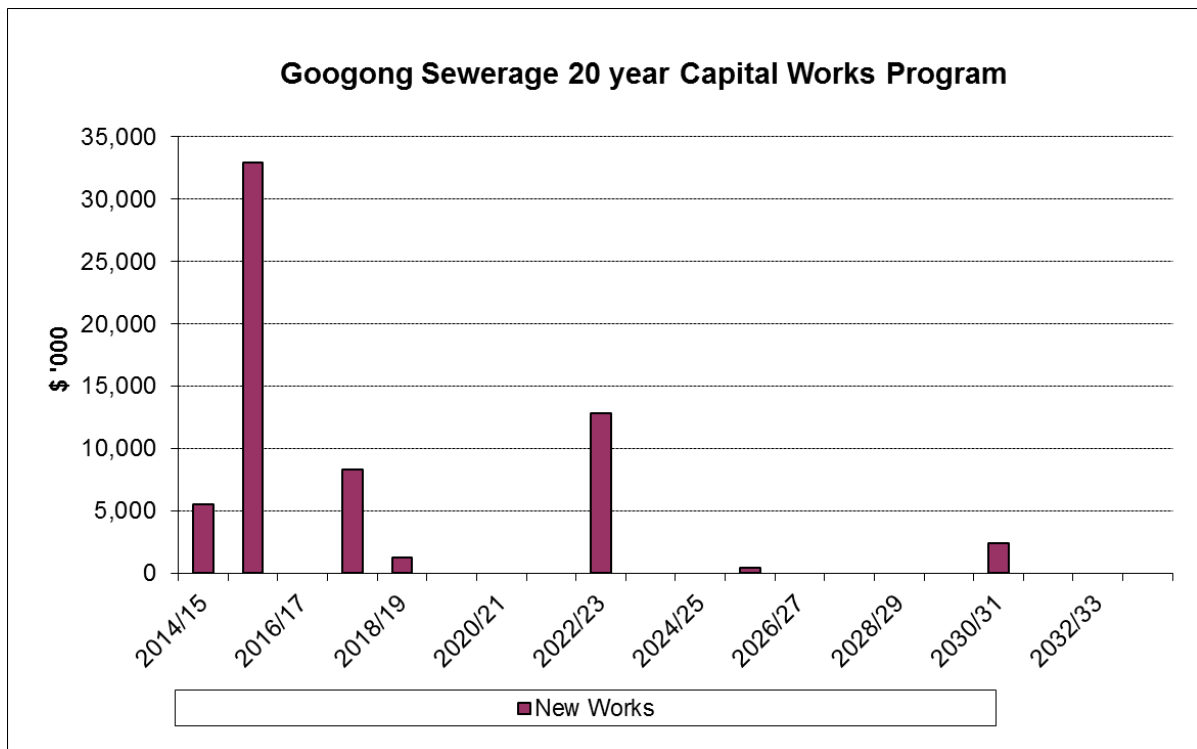


Figure 3: Googong Sewerage 20 Year Capital Works Program

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5.3 Adjustment to Capital Works Program

QCC engaged Jacobs Australia to undertake an audit of the costs incurred to date of the capital works program for the Integrated Water Cycle (IWC), which includes water, recycled water and sewerage infrastructure for the Googong Township.

The audit report, shown in Appendix C, investigates and compares actual design and implementation costs (D&I) against construction costs. The audit report highlights a large range in actual (D&I) costs and variance from other typical IWC D&I costs. QCC is not able to justify the actual range and variance for this work constructed in Googong.

Given the range and variance of the D&I rate, complexity of the infrastructure, unique three pipe system (water, recycled water and sewerage) and jurisdictions involved (Queanbeyan City Council, Palerang Council, NSW Government and Icon Water), QCC has determined a rate of 20% to be applied to design and implementation costs for this type of work at Googong. This rate has been applied to the D&I cost for the capital works program.

The Developer Charges for water supply and sewerage nominated in this DSP have been calculated based on the amended costs determined by QCC.

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6 Levels of Service

6.1 Water Supply

The target levels of service (LOS) applied to Googong's water supply systems are listed in Table 2:

Table 2: Levels of Service for Water Supply

DESCRIPTION	UNIT	LEVEL OF SERVICE
		4 Year Target
AVAILABILITY OF SUPPLY		
Normal Quantity Available:		
Domestic Peak day	L/tenement /day	4,500
Domestic Annual	kL/tenement /year	175
Total Annual Average Consumption	ML/year	4,000
Total Peak Daily Consumption	ML/day	64
Peak/Average consumption	-	5.8
Pressure:		
Minimum pressure when delivering 0.2 L/s/tenement	Meters head	30
Max. static pressure	Meters head	88
Consumption Restrictions in Droughts:		
Level of restriction applied through a repeat of the worst drought on record (5:10:10)		
Average duration of restriction	% of time for 10 years	5
Average frequency of restrictions	No./ 10 year period	1
Quantity available	% normal usage	90
Fire-Fighting:		
Compliance with The Water Supply Investigation Manual	% area served	100
Supply Interruptions to Consumers:		
Planned (95% of time):		
Notice given to domestic customers	Working Days	1
Notice given to commercial customers	Working Days	1
Notice given to industrial customers	Working Days	1
Maximum duration of interruption	Hours	8

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DESCRIPTION	UNIT	LEVEL OF SERVICE
		4 Year Target
Total number of interruptions	No./year/1000 tenements	20
Unplanned:		
Maximum duration	Hours	8
Maximum number per two years	Times	50
Total number of interruptions	No./year/1000 tenements	5
RESPONSE TIMES (Defined as time to have staff on-site to rectify problem)		
Supply Failure:		
Note: Times apply for 95% of occasions		
All Customers:		
During working hours	Hours	60
Out of working hours	Hours	60
Minor Problems & General Inquiries:		
Oral inquiry	Working Days	1
Written inquiry	Working Days	5
SERVICE PROVIDED		
Time to provide an individual connection to water supply in serviced area (90% of times)	Working Days	10
WATER QUALITY		
Physical parameters	%	100
Chemical parameters	%	100
Microbiological parameters	%	100

(Source: Reviewed LOS based on LOS included in 2004 QCC Development Servicing Plan, Oct 2014)

Note: the Levels of Service are the targets which Council aims to meet, they are not intended as a formal customer contract.

Development Servicing Plans - Googong

6.2 Sewerage

The target levels of service (LOS) applied to Googong's sewerage systems are listed in Table 3

Table 3: Levels of Service for Sewerage

DESCRIPTION	UNIT	LEVEL OF SERVICE
		4 Year Target
AVAILABILITY OF SERVICE		
Extent of area serviced	Serviced area	All areas serviced except for Ridgeway
FREQUENCY OF SYSTEM FAILURES		
Category 1: Failure due to rainfall and deficient capacity (overflows)	Number/year	0
Category 2: Failures due to pump or other breakdown including power failure	Number/year	0
Category 3: Failures due to main blockages and collapses	Number/year	200
Response Times		
System Failure: (Defined as the maximum time to have staff on site to commence rectification after notification)		
Priority 1: (Major spill, significant environmental or health impact, or affecting large number of consumers i.e. a major main)		
During working hours	Hours	1
After hours	Hours	1
Priority 2: (Moderate spill, some environmental or health impact, or affecting small number of consumers i.e. other mains)		
During working hours	Hours	1
After hours	Hours	1
Priority 3: (Minor spill, little environmental or health impact, or affecting a couple of consumers)		
During working hours	Hours	1
After hours	Hours	1
CUSTOMER COMPLAINTS		
General Complaints and Inquiries: Note: times for 95% of complaints		
Written complaints	Working Day	5

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DESCRIPTION	UNIT	LEVEL OF SERVICE
		4 Year Target
Oral complaints	Working Day	1
Odour Complaints:		
Treatment works (outside designated buffer zone)	Number/year	0
Pumping Stations	Number/year	0
Reticulation system	Number/year	0
Effluent Discharge and Sludge Management		
Meet EPA licence limits	%	90

(Source: Reviewed LOS based on LOS included in 2004 QCC Development Servicing Plan, Oct 2014)

Note: the Levels of Service are the targets which Council aims to meet, they are not intended as a formal customer contract.

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7 Design Parameters

Investigation, design and construction of water supply components are based on:

- Council's levels of service (Refer to section 6.1 above)
- Water Supply Investigation manual (1986)
- WSAA water supply code of Australia – WSA 03 2002

Investigation, design and construction of sewerage components are based on:

- Council's levels of service (Refer to section Table 3 above)
- Manual of Practice: Sewer Design (1984)
- Manual of Practice: Sewage Pumping Station Design (1986)
- WSAA Sewerage Code of Australia – WSA 02-2002
- WSAA Sewerage Pumping Station Code of Australia – WSA 04 - 2005

8 Developer Charges Methodology

8.1 Capital Charge

The capital charges were calculated for Googong water supply and sewerage service based on the new assets providing the services in this area. The capital charge per ET was calculated by dividing present value (PV) of cost of the assets by the PV of number of new ETs.

The calculation of the water supply capital charge is provided in Appendix D (Table 2) and summarised in section 9. The calculation of sewerage capital charges is provided in Appendix E (Table 2) and summarised in section 10.

Generally, the capacity of an asset would not be fully utilised until some years after the construction of the asset. The calculation therefore takes account of the period to full take-up of the capacity which is the planning horizon (30 years) to calculate the capital charge.

The Return on Investment (ROI) is based on the holding cost of early investment and recovery of the cost over time. The annual payments have to provide a return on the investment to reflect the discounting of future payments. In accordance with IPART's Determination 9, 2000, the capital charges were calculated based on the following discount rates.

Table 4: Discount Rates Used in the Capital Charge Calculation

Assets	Discount Rate
Pre-1996 assets	3% pa
Post 1996 assets	7% pa

8.2 Exclusions

The developer charges do not cover the costs for reticulation.

QCC does not levy charges for the construction of reticulation pipework. Developers are responsible for the provision of these works. These are handed over to QCC upon completion of the development.

8.3 Reduction Amount

The reduction amount represents the portion of the cost of assets that the LWU expects to recover through its annual bills to the new residents.

Council has adopted the NPV of annual bills method to calculate the reduction amount. This method calculates the reduction amount as the NPV for 30 years of the future net income from annual charges (revenue from annual bills less OMA) for the development area.

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8.4 Developer Charges and Implementation

Developer charge is the capital charge minus the reduction amount. The outcomes of water supply and sewerage developer charges calculations are included in sections 9 and 10 respectively.

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9 Water Supply DSP

9.1 Capital Charge

The calculated capital charge for Googong DSP area is \$6,503 per ET (in 2014/15 \$) and detailed calculation is provided Tables 2 in Appendix D.

9.2 Developer Charge

Developer charge is the capital charge minus the reduction amount. The reduction amount calculation methodology is provided in section 8.3 and the calculation is provided in Table 3 of Appendix D.

Googong water supply calculated developer charge is provided in Table 5.

Table 5: Water Supply Developer Charge

Service Area	Capital Charge 2014/15	Capital Charge 2015/16 ¹	Reduction Amount	Calculated Developer Charge 2015/16
	(\$ per ET)	(\$ per ET)	(\$ per ET)	(\$ per ET)
Googong	6,503	6,646	4,285	2,361

Note 1: 2015/16 Developer Charge is calculated using Sydney CPI for June 2014 to June 2015 of 2.2% /year

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10 Sewerage DSP

10.1 Capital Charge

The calculated capital charge for Googong DSP area is \$10,690 per ET and detailed calculation is provided Table 2 in Appendix E.

10.2 Developer Charge

Developer charge is the capital charge less the reduction amount. The reduction amount calculation methodology is provided in section 8.3 and the calculation is provided in Table 4 of Appendix E.

Googong sewerage calculated developer charge is provided in Table 6.

Table 6: Sewerage Developer Charges

Service Area	Capital Charge 2014/15	Capital Charge 2015/16 ¹	Reduction Amount	Calculated Developer Charge 2015/16
	(\$ per ET)	(\$ per ET)	(\$ per ET)	(\$ per ET)
Googong	10,690	10,925	1,890	9,036

Note 1: 2015/16 Developer Charge is calculated using Sydney CPI for June 2014 to June 2015 of 2.2% /year

11 Reviewing/Updating of Calculated Developer Charges

Developer charges relating to these DSPs shall be reviewed every 5 to 6 years. In the period between any reviews, developer charges will be adjusted on 1st July each year on the basis of movements in the CPI for Sydney as required by the Developer Charges Guidelines (excluding the impact of GST). Developer charges will be those charges determined by Council from time to time and will be published in Council's Annual Fees and Charges.

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12 Background Documents

Background information and calculations relating to these DSPs are contained in the following documents:

- Developer Charges Guidelines for Water Supply, Sewerage and Stormwater - Consultation Draft 2012, published by Department of Primary Industries, NSW Office of Water
- Googong 2015 DSP Background Document for Water Supply (Appendix D)
- Googong 2015 DSP Background Document for Sewerage (Appendix E)
- Queanbeyan Water Supply TBL Performance Report
- Queanbeyan Sewerage TBL Performance Report
- Queanbeyan Water Supply Development Servicing Plan, 2004
- Queanbeyan Sewerage Development Servicing Plan, 2004

Note: These background documents contain detailed calculations for the capital charges, reduction amount and developer charges and 30 years capital works program.

13 Other DSPs and Related Contribution Plans

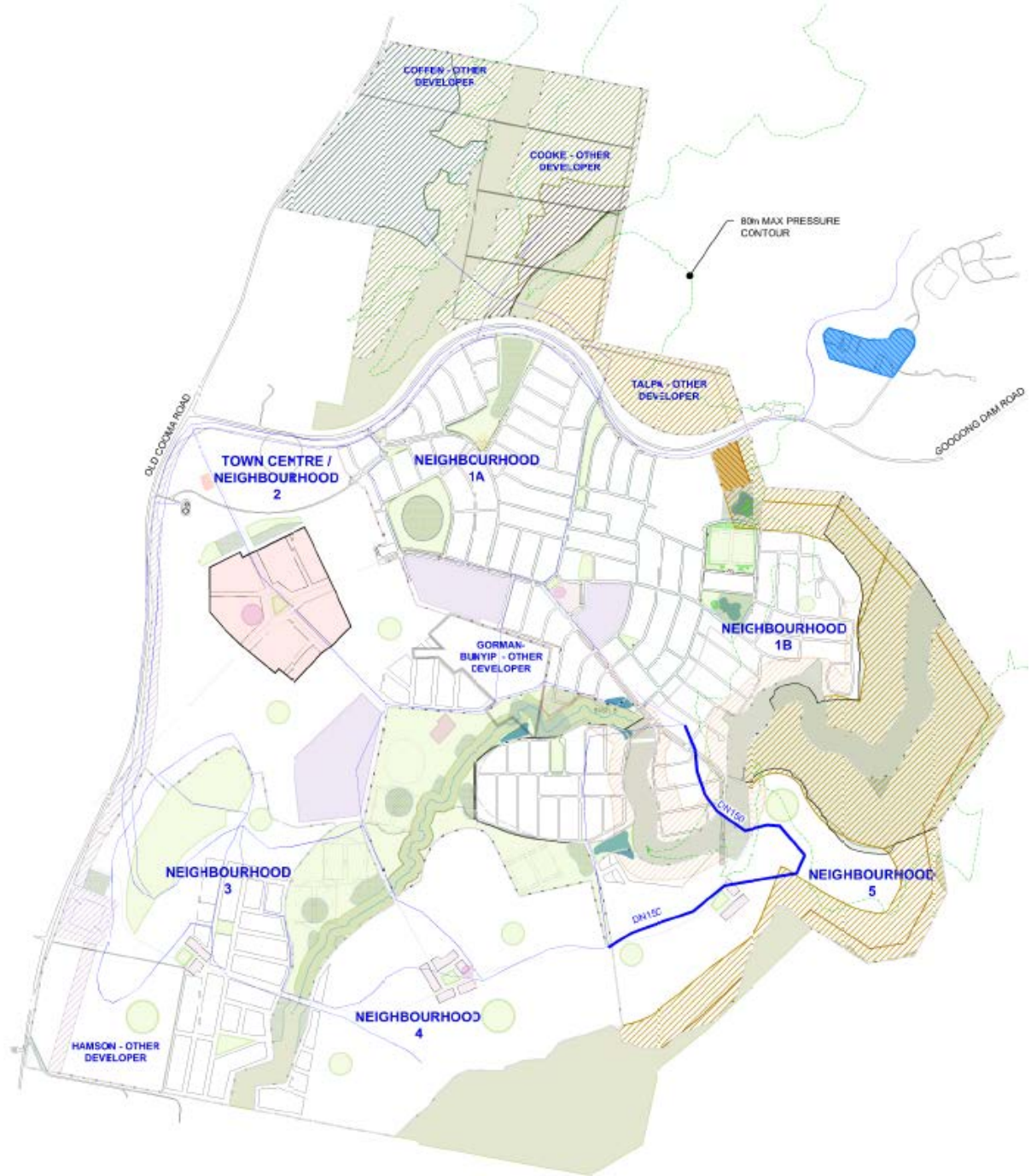
- Not applicable

14 APPENDICES

15 APPENDIX A

Googong DSP Area

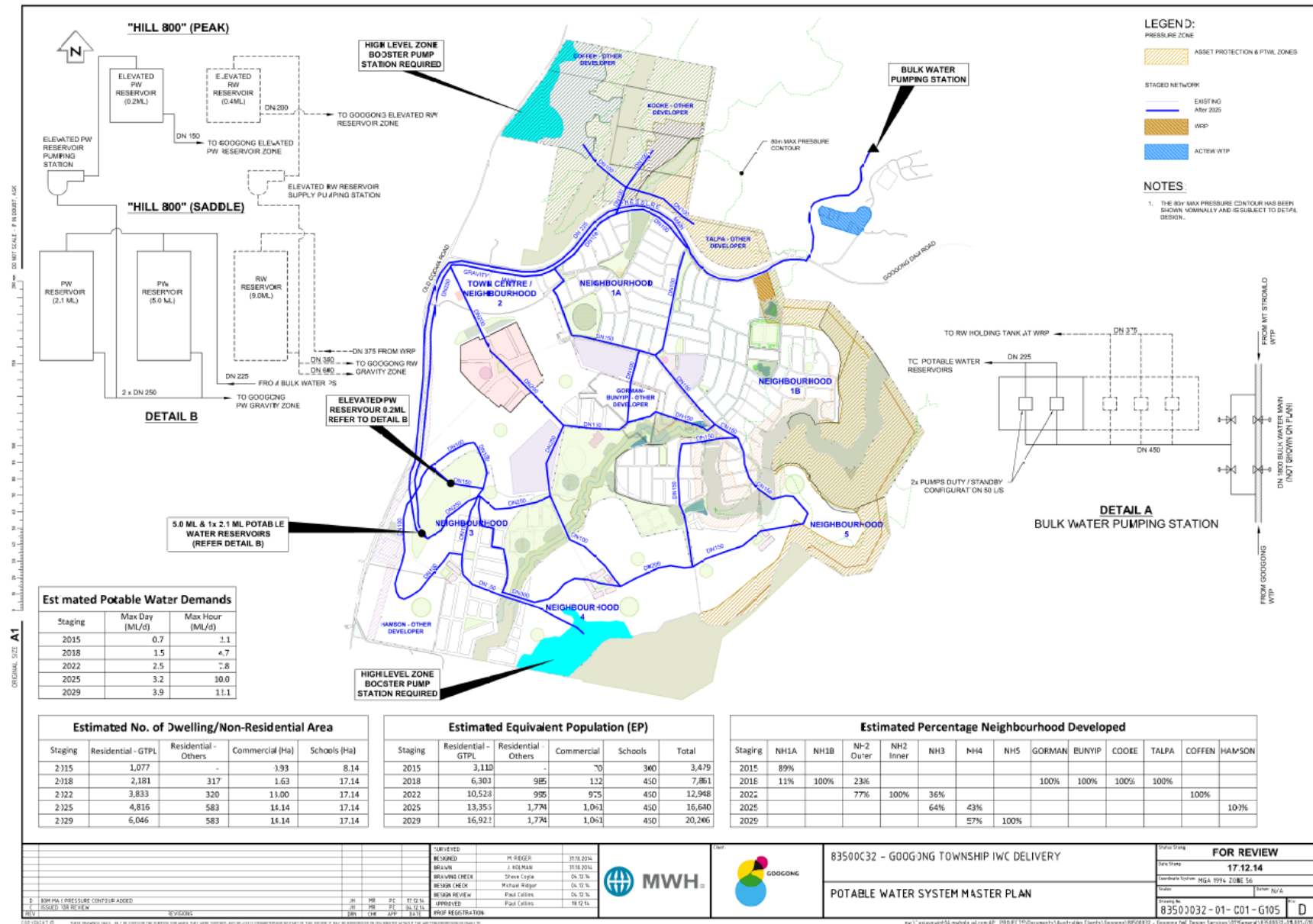
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16 APPENDIX B

Locations of Main Water, Wastewater and Recycled Water Assets

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Estimated Potable Water Demands

Staging	Max Day (ML/d)	Max Hour (ML/d)
2015	0.7	1.1
2018	1.5	4.7
2022	2.5	7.8
2025	3.2	10.0
2029	3.9	11.1

Estimated No. of Dwelling/Non-Residential Area

Staging	Residential - GTPL	Residential - Others	Commercial (Ha)	Schools (Ha)
2015	1,077	-	0.93	8.14
2018	2,181	317	1.63	17.14
2022	3,833	320	13.00	17.14
2025	4,816	583	14.14	17.14
2029	6,046	583	14.14	17.14

Estimated Equivalent Population (EP)

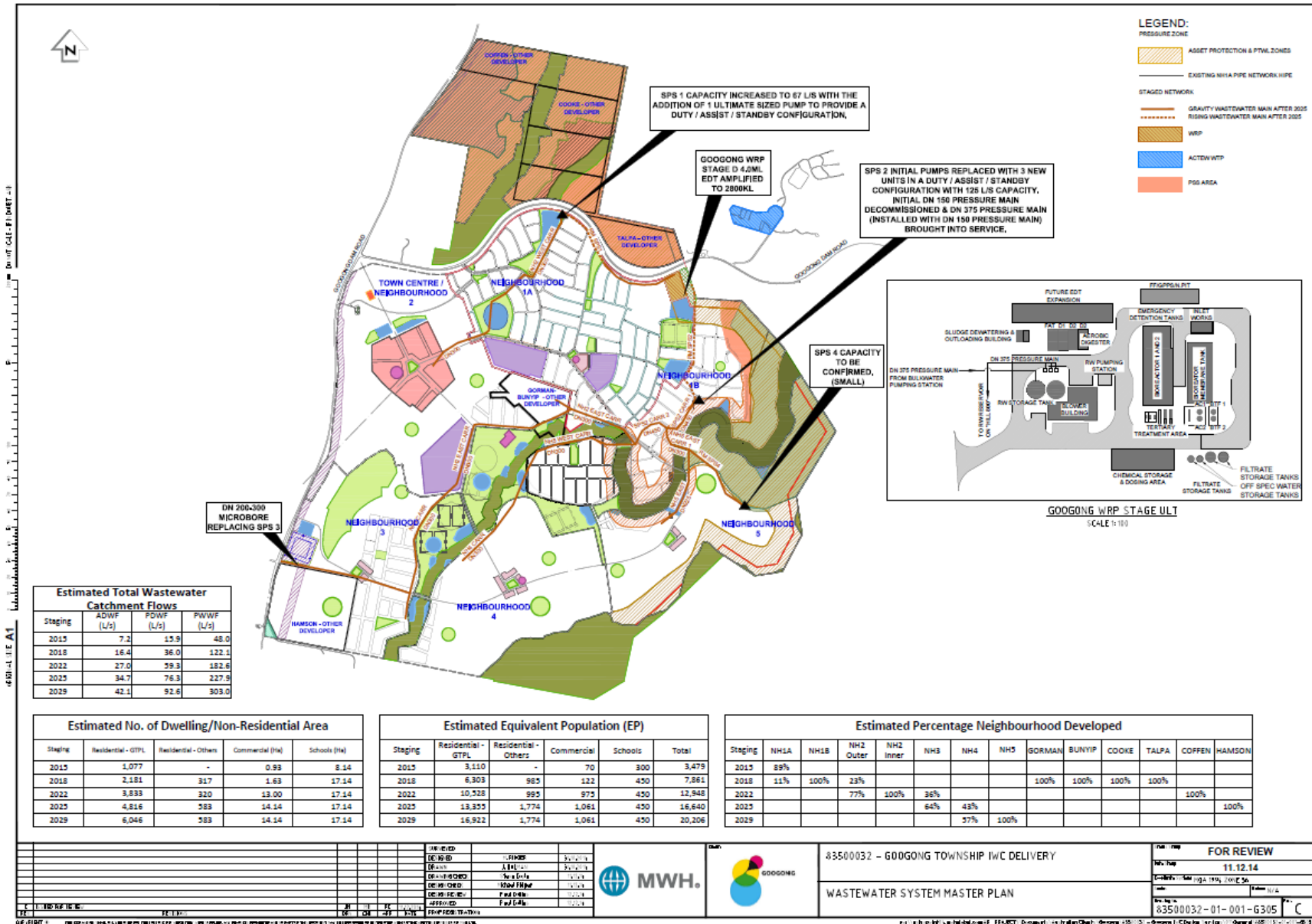
Staging	Residential - GTPL	Residential - Others	Commercial	Schools	Total
2015	3,110	-	70	360	3,479
2018	6,301	985	122	450	7,858
2022	10,528	995	975	450	12,948
2025	13,351	1,774	1,061	450	16,640
2029	16,921	1,774	1,061	450	20,206

Estimated Percentage Neighbourhood Developed

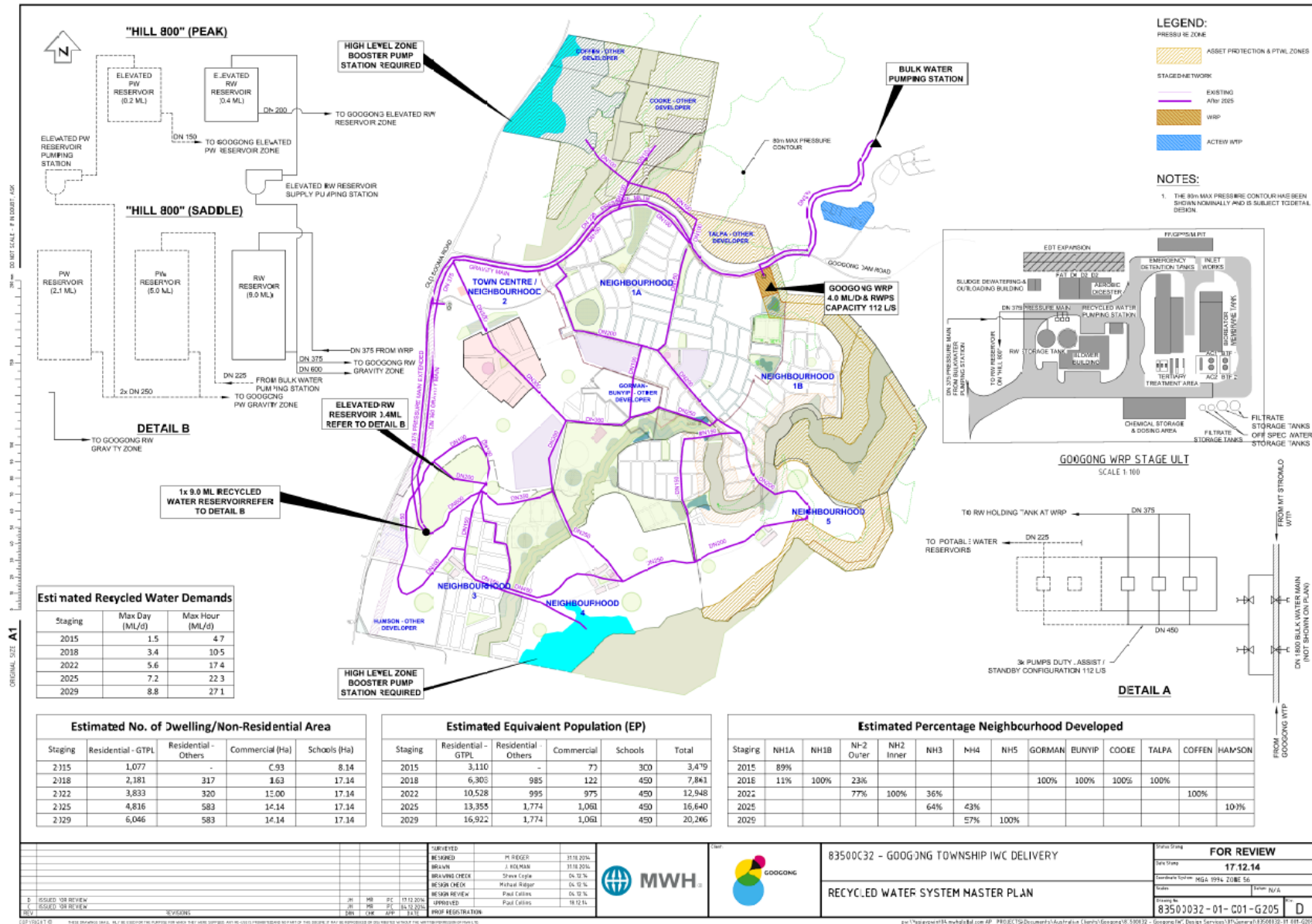
Staging	NH1A	NH1B	NH2 Outer	NH2 Inner	NH3	NH4	NH5	GORMAN	BUNYIP	COOKE	TALPA	COFFEN	HAMSON
2015	89%												
2018	11%	100%	23%					100%	100%	100%	100%		
2022			77%	100%	36%							100%	
2025					64%	43%							100%
2029					57%	100%							

<p>ISSUED FOR REVIEW</p> <p>DATE: 17/12/14</p> <p>BY: [Signature]</p>	<p>REVIEWED</p> <p>DATE: 17/12/14</p> <p>BY: [Signature]</p>	<p>APPROVED</p> <p>DATE: 17/12/14</p> <p>BY: [Signature]</p>	<p>PROJECT NO: 8350032 - GOOGONG TOWNSHIP IWC DELIVERY</p> <p>PROJECT TITLE: POTABLE WATER SYSTEM MASTER PLAN</p>	<p>DATE: 17/12/14</p> <p>FOR REVIEW</p> <p>DATE: 17/12/14</p> <p>PROJECT NO: 8350032-01-C01-G105</p>
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Development Servicing Plans - Googong



Development Servicing Plans - Googong



17 APPENDIX C

Audit Reports

08 April 2016

Attn: Michael Damo
Queanbeyan City Council
PO Box 90
Queanbeyan NSW 2620
Australia

Project Name: AUDIT OF COSTS – INTEGRATED WATER CYCLE (IWC) FOR GOOGONG
Project Number - IS137100

:

AUDIT OF COSTS – INTEGRATED WATER CYCLE (IWC) FOR GOOGONG

Dear Michael,

The purpose of this document is to provide a report on our findings following an auditing of components representing approximately 20% of the costs of works to date to determine if this historical data could be used for the cost forecasting/ budgeting of future works for the Integrated Water Cycle Works for the Googong Development.

Background

A kick off meeting was held on 1 December to obtain information to undertake the Audit. Dan Spackman (Jacobs), Andre Pretorius (QCC), Michael Damo (QCC), Craig Harris (CIC Australia) and Adrian Moy (CIC Australia) attended this meeting. It was agreed at this meeting that six selected component would be audited.

These components were labelled and identified as:-

Item	Description	Construction Costs	Design and Implementation
5	Interim Reservoirs	\$ 2,973,398.19	#\$ 783,815.00
8	Potable Water Booster System for Neighbourhood 1A	\$ 642,000.00	\$ 357,470.00
13	Neighbourhood 1A Potable Gravity Trunk Main	\$ 366,880.07	#\$ 96,713.40
14	Neighbourhood 1A Recycled Gravity Trunk Main Potable Gravity Trunk Main	\$ 397,513.25	#\$ 104,788.00
24	SPS2	\$ 2,969,282.59	\$ 574,541.24
25	SPS RM for ultimate use	\$ 420,309.41	\$ 81,327.76
	TOTALS	\$ 7,769,383.51	\$ 1,998,655.40
	Total Cost to be audited	\$	\$ 9,768,038.91

Amounts corrected as per Email from CIC Australia Pty Limited in Email dated 31 March 2016.

At this meeting it was indicated that CIC Australia would supply the relevant information (i.e. As Executed Drawings and relevant technical specifications).

The documents were received by Jacobs on 14 December 2015.

In addition to the drawings and some technical information some excel documents were provided showing in various formats, tabs and locations various data such as budgets, costs that have been incurred on the project to data and variation information.

The documents received to date are follows:–

Excel Spreadsheets

- Enclosure 2 IWC Infrastructure_v3_190115
- Guideline Contract at OCT 2015 incl. Breakdown for DSP
- Woden Contract at Claim 15 Rev7 incl. Breakdown for DSP

PDF Document

- Executed Deed of Release and settlement – 6 November 2014 – Woden V2 Word Document
- Googong IWC Cost Audit – Kick Off Meeting
- Email from CIC Australia Pty Limited in Email dated 31 March 2016 including corrections to Design and Implementation Costs. Attached to this email was a document “Non – Standard Scope in implementing Googong IWC

As Built Drawings

- C11140.2-000+/C, 001+/F, 002/C, 004+/E, 005+/G, 006+/C, 007+/C, 008+/C, 009+/B, 010+/C, 015/D, 016/A, 017/A, 018+/A, 020+/A, 025+B,
- C11140-190+/B, 191+/D, 192+/C, 193+/E, 195+/B
- 83500349-06-001-G003/WAE, G004/WAE, S001/WAE, S002/WAE, C001/WAE, C002/WAE, P001/WAE
- 83500349 05 001 G001/2, G002/2, G003/2, G004/2, G005/3, G006/4, G007/3, G008/3, G009/3, S001/2, S002/2, S004/2, C001/5, C002/4, C003/2, C005/3, C006/2, C009/2, E003/2,

Technical Information

Interim Reservoir Booster, Pumps Site O&M Manual. (23-01-2015)

Further Enquiries and Discussions

As a result of a review of the documents supplied, several questions were raised. Advice was sought from QCC. Jacobs was requested to ask CIC Australia directly to obtain a response to a number of the questions. Five questions were forwarded to CIC Australia via email. A phone discussion was held on 12th January 2016. Prior to the discussion emails were received from CIC Australia, which clarified some points raised in the questions and an updated spreadsheet was provided (Woden Contract at Claim 15 Rev 7 incl. Breakdown for DSP (Rev1 160111).xlsx). The email responses did not go to the intent of the initial questions which were to provide a detailed breakdown of the Design and Implementation Costs and a breakdown of some variation costs to the components being audited. In addition a breakdown of the Deed of release and settlement amount by the components being audited was requested.

A generalised description of the types of items that may be included in the Design and Implementation Costs and their causes was provided in the email. This was informative, but did not itemise the costs regarding the individual audited components. The spreadsheet intentionally contained hidden cells for some of the variations. These hidden variations were considered irrelevant to the audit components. The remaining variations were not dissected into components.

The phone conference followed a similar theme to the written response with generalities being discussed. In regards to the Design and Implementation costs CIC Australian indicated that the cost

may be more expensive than expected due to a range of issues such as; the planning/ approval issues due to the need for compliance to the NSW Governments Part 3A Legislative Approval and that the IWC involved three government jurisdictions.

It was also stated the costs could not easily be broken down into the components as they would require lengthy in depth study of accounts to find these costs and allocate them to the components. The explanation of the allocation of the current Design and Implementation costs to components was not known by CIC Australia. CIC Australia indicated that the person involved in compiling the figures no longer works for CIC Australia. It was stated that the initial variation compilation breakdowns preceded the setting up of the audit. CIC Australia was not currently willing to break the variations down to the audit components. Similarly the contractor was unwilling to supply a breakdown of cost relating to the \$900,000.00 Deed of Release and Settlement into the audit components.

Further to requests for a more in depth breakdown of the figures supplied, CIC Australia Pty Ltd sent an email dated 31 March 2016. This document incorporated more general comments about circumstances existing on the project. No allocation of audited items of costs incurred was included. Corrections to the Design and Implementation Costs were included. These have been incorporated into spreadsheets and this report.

Executive Summary

Generally overall Jacobs are in agreement with the appropriateness of rates and overall costs being presented for the contract works however a few items varied from our assessment.

There appears to be a difference in the assessment of the allocation of variation costs between Jacobs and CIC Australia. Jacobs are not able to determine the circumstances of or reasons why variations arose on this project.

Jacobs are aware that some variations resulted in the drawing up of a Deed of Release and settlement for those variations.

The difference in opinion as to the location and magnitude of variations and preliminary amounts contained within the summaries of the audited components appears to have led to some difference in opinion in regards to individual component costs.

Jacobs note that a contingency sum of 4% is used in DSP Summaries against contract related items in the project. The current claim (No 15) indicates that the works are nearly complete and therefore it is known why this remaining contingency will be required.

Design and Implementation Costs cannot be assessed based on the information received to date. However we note that when assessed against the construction costs the values appear high (i.e. between 19.35% and 55.67%).

Methodology

“As Built” drawings were issued to represent the works and the components being analysed. These were reviewed, analysed and items of work measurement to check the scope and quantities of components being audited.

Where it was not possible to identify the items and costs of items associated with components 13 and 14 costs have been analysed by measuring quantities from the drawings and applying the rates contained within the CIC Australia spreadsheets.

Where required in the case of component 25 (which also includes component 26) where a single line item was stated (without any breakdown of quantities and rates) Jacobs have measured the scope appearing on the “As Built” drawings and applied appropriate rates appearing in the “water mains” section of the CIC Australia’s spreadsheet.

Similarly in the case of gravity water mains (Component 13 and 14) where items on the spreadsheet had not been dissected into the components for audit Jacobs have measured the scope appearing on the “As Built” Drawings and applied CIC Australia’s rates appearing in the water mains section for comparison purposes.

The rates and costs used by Jacobs are either based on historical costs based on Jacobs experience on similar projects or NSW Reference rates.

For the purposed of the audit the spreadsheets supplied by the CIC Australia were modified to facilitate comparisons of the components.

Variations

Currently Jacobs are unable to ascertain how appropriate the cost of individual variation claims is relevant to the components without a full history of each variation. Similarly Jacobs cannot comment on the Deed of Release details without a detailed breakdown and a history of each variation mentioned in the deed.

The deed appears to cover variations concerning several portions of the works and components. This 900K deed has currently been wholly allocated by CIC Australia to the water main systems components.

CIC Australia has allocated an amount of \$972,863 (Variations) to the Interim Reservoirs. Based on the information provided to date a portion of the \$972,863 should have been allocated to other components. The deed appears to list some of the same variations included in the \$972,863. Jacobs have not been able to determine if this is a double-up.

The majority of variations identified appeared to relate to construction scope rather than contractual claim (i.e. extension of time claims).

It is worth noting that for a typical project following the establishment of the initial contract documents and agreed contract value the variation value typically ends up as a value of 5% to 10% of the original contract value. The value of the variations in this contract appears too been high compared to this benchmark. However as stated above Jacobs do not have a full understanding of why the variations have arisen.

As a consequence of the Jacobs allocation of variations the difference in component values varies across the audit components.

Design and Implementation Costs

Design and Implementation Costs cannot be assessed based on the information received to date also taking into consideration the additional information provided on 31 March 2016. However we note that when assessed against the construction costs the values appear high (i.e. between 19.35% and 55.67%).

CIC Australia stated in their correspondence response the following:-

“includes the myriad of tasks required to ensure compliance with the NSW Govt’s Part 3A legislative approval. They include more than what would be expected in a standard delivery method of water and sewer infrastructure work, including separate significant consultancies for tasks including but not limited to:

- Drafting approval submission documentation and seeking the approvals;
- Implementing the approved conditions throughout the construction works;
- Technical support for procurement and delivery options;
- Legal costs
- Detailed Design and Technical documentation
- Construction Phase technical support including Superintendency, Contract Administration and Site Surveillance

Further, the IWC works span three Government jurisdictions, so you could appreciate the overlapping and often contradictory requirements which require far more than a ‘standard’ cost allowance for the above topics.”

Typically a percentage of the construction cost in the range of 10 to 15% would be expected to provide for the types of services and coordination required. As stated above we do not have sufficient information to understand why the current values are so high.

Scope Assumptions

For the purposes of the audit we have made the following assumptions;

- The soil condition where excavation occurs is assumed to partially be in rock or rocky ground.
- Excavation for the installation of pipework in ground is assumed to be by open cut methodology.
- Pits for man-holes are assumed to be in-situ concrete constructed in fully formed systems.
- Hydrants only exist on the 250 gravity potable water main.
- The 250 gravity potable water main has been shown on the plan. It has been assumed the 375 gravity recycled water main uses the same route and profile.

08 April 2016

AUDIT OF COSTS – INTEGRATED WATER CYCLE (IWC) FOR GOOGONG

Details

Refer to the excel files for the following information:

- Appendix A for a summary comparison of CIC Australia and Jacob's assessment of costs.
- Appendix B - DSP Summary Claim History and Variations for annotation and calculations regarding components 5, 13 and 14.
- Appendix C - DSP Summary and Claim Sheet for annotation and calculations regarding components 8, 24 and 25 (26).

Summary

As previously stated Jacobs are generally in agreement with the individual contract rates when comparing with benchmarks.

There are too many uncertainties within the variations, provisional sum adjustments and the design and implementation costs to make a definitive statement regarding the cost of the individual components that have been audited.

Yours sincerely,

Roger Cochrane MAIQS

Senior Quantity Surveyor

+61 (0)3 8668 3052

roger.cochrane@jacobs.com

APPENDIX A

Item	Infrastructure	Approx. Operation Commencement Date	Length (m)	Diameter	Material	Catchment Area	Construction Costs (exc GST)	Design and Implementation Costs (exc GST) - Corrected	Contractors Aggregate	Drawings Ref: 83500032-01-001-	AUDIT ANALYSIS LOCATION (Excel File)	Percentage that Design and Implementation costs are compared with construction work	Jacobs Assessment of Construction Costs (From Appendix)	Construction & variation comparison	Jacobs - Design and Implementation - Say 12%	Jacobs Aggregate	Difference to Contractors aggregate	%
ACTEW Work - Bulk Water Supply																		
1	NWAE Rising Main to ACTEW metering station & BWPS	Feb-14	1400	225	DICL	N/A	\$ 2,304,946.00	\$ 5,248,135.00		G100, G200								
2	DN1800 Connection	Mar-15	N/A	N/A	N/A	N/A	\$ 3,010,948.00	\$ 1,462,409.00		G100, G201								
3	BWPS Upgrade 1	Dec-16	N/A	N/A	N/A	N/A	\$ 1,680,492.00	\$ 346,100.00		G101, G201								
4	BWPS Upgrade 2	2022	N/A	N/A	N/A	N/A	\$ 521,350.00	\$ 109,483.00		G202								
Water Network																		
5	Interim Reservoirs	Feb-14	N/A	N/A	N/A	N/A	\$ 2,973,398.19	\$ 783,815.00	\$ 3,757,213.19	G100, G200	APPENDIX B	26.36%	\$2,155,433.00	-28%	\$258,651.96	\$2,414,084.96	\$ 1,343,128.23	-35.75%
6	Ultimate Reservoirs	Dec-16	N/A	N/A	N/A	N/A	\$ 5,112,160.00	\$ 768,458.00		G101, G201								
7	Ultimate Reservoirs Upgrade in Stage D (including Elevated Reservoirs)	Nov-23	N/A	N/A	N/A	N/A	\$ 5,563,642.00	\$ 1,340,551.00		G102, G202								
8	Potable Water Booster System for Neighbourhood 1A	Jan-15	N/A	N/A	N/A	N/A	\$ 642,000.00	\$ 357,470.00	\$ 999,470.00	G100	APPENDIX C	55.68%	\$356,043.00	-45%	\$42,725.16	\$398,768.16	\$ 600,701.84	-60.10%
9	Potable Water Rising Mains to Interim Reservoir	Feb-14	2700	DN225	DICL	N/A	\$ 848,732.03	\$ 363,441.74		G100								
10	Recycled Water Rising Main to Interim Reservoir	Sep-15	2600	DN225	DICL	N/A	\$ 1,513,685.23	\$ 170,222.05		G200								
11	Potable Water Rising Main Extension to Ult Reservoirs	Dec-16	1400	DN225	DICL	N/A	\$ 2,383,514.00	\$ 368,407.00		G101								
12	Recycled Water Rising Main Extension to Ult Reservoirs	Dec-16	1400	DN375	DICL	N/A	\$ 1,594,262.00	\$ 238,097.00		G201								
13	Neighbourhood 1A Potable Gravity Trunk Main	Feb-14	990	DN250	UPVC	N/A	\$ 366,880.07	\$ 96,713.00	\$ 463,593.07	G100	APPENDIX B	26.36%	\$260,920.36	-29%	\$31,310.44	\$292,230.80	\$ 171,362.27	-36.96%
14	Neighbourhood 1A Recycled Gravity Trunk Main	Feb-14	1000	DN375	UPVC	N/A	\$ 397,513.25	\$ 104,788.00	\$ 502,301.25	G200	APPENDIX B	26.36%	\$335,956.36	-15%	\$40,314.76	\$376,271.12	\$ 126,030.12	-25.09%
Gravity Trunk Mains (DN300+)																		
15	Potable Water	Varies	1500	DN300	DICL	N/A	\$ 367,500.00	\$ 55,125.00		G105								
16		Varies	1300	DN300	DICL	N/A	\$ 318,500.00	\$ 47,775.00		G205								
18	Recycled Water	Varies	2700	DN350	DICL	N/A	\$ 715,500.00	\$ 107,325.00		G205								
19		Varies	1500	DN450	DICL	N/A	\$ 576,000.00	\$ 86,400.00		G205								
20		Varies	500	DN600	DICL	N/A	\$ 247,500.00	\$ 37,125.00		G205								
Sewer Network																		
21	SPS1 Interim	Feb-14	N/A	N/A	N/A	N/A	\$ 991,450.73	\$ 424,556.35		G300								
22	SPS1 RM	Sep-15	800	DN225	PVC-O PN15	NH1A West, NH2	\$ 251,920.50	\$ 107,876.72		G300								
23	Stage C: SPS1&2 Amplification	2022	N/A	N/A	N/A	N/A	\$ 205,890.00	\$ 41,044.00		G302								
24	SPS2	Jun-15	N/A	N/A	N/A	NH1A East & NH1B, NH4	\$ 2,969,282.59	\$ 574,541.24	\$ 3,543,823.84	G300	APPENDIX C	19.35%	\$2,807,083.74	-5%	\$336,850.05	\$3,143,933.79	\$ 399,890.05	-11.28%
25	SPS2 RM for interim use	Jun-15	730	DN150	PVC PN 20	NH1A East & NH1B, NH4	\$ 420,309.41	\$ 81,327.76	\$ 501,637.16	G300	APPENDIX C	19.35%	\$405,082.56	-4%	\$48,609.91	\$453,692.47	\$ 47,944.70	-9.56%
26	SPS2 RM for ultimate use	2022	730	DN375	DICL PN35	As above	Included above	Included Above		As above	APPENDIX C - see above							
27	Microtunnel (to replace SPS3)	2025	300	DN225	PVC	NH3	\$ 1,234,750.00	\$ 185,212.50		G303								
28	SPS4 - RM	Nov-30	500	DN150	DICL	NH5	\$ 1,973,515.00	\$ 315,762.00		G304								
Gravity Trunk Mains (DN225+)																		
29	NH2EAST Carrier	2018	1600	DN300	PVC	NH2 East & NH3	\$ 360,000.00	\$ 54,000.00		G305								
30	NH2WEST Carrier - Existing	Feb-14	950	DN300	PVC	NH1, NH2	\$ 213,750.00	\$ 32,062.50		G305								
31	NH2WEST Carrier - To Be Constructed	2018	400	DN300	PVC	NH2	\$ 90,000.00	\$ 13,500.00		G305								
32	NH3 Carrier	2018	1000	DN300	PVC	NH3	\$ 225,000.00	\$ 33,750.00		G305								
33	NH4 Carrier	2025	700	DN300	PVC	NH4	\$ 157,500.00	\$ 23,625.00		G305								
34	NH5EAST Carrier	2025	550	DN225	PVC	NH5	\$ 123,750.00	\$ 18,562.50		G305								
35	NH5EAST Carrier	2025	300	DN300	PVC	NH4 & NH5	\$ 67,500.00	\$ 10,125.00		G305								
36	NH5WEST Carrier	2018	700	DN300	PVC	NH5	\$ 157,500.00	\$ 23,625.00		G305								
37	SPS2 Carrier 1	2018	300	DN450	DICL	NH3, NH4 & NH5	\$ 115,500.00	\$ 17,325.00		G305								
38	SPS2 Carrier 2	2018	300	DN450	DICL	NH3 & NH4	\$ 115,500.00	\$ 17,325.00		G305								
WRP																		
39	Stage AB	Sep-15	N/A	N/A	N/A	Up to 4700EP	\$ 27,210,943.00	\$ 9,129,493.00		G300								
40	Stage C	May-18	N/A	N/A	N/A	Up to 9400EP	\$ 6,943,171.00	\$ 1,372,975.00		G301								
41	Stage D	Jun-23	N/A	N/A	N/A	Up to 18850EP	\$ 10,455,109.00	\$ 1,795,376.00		G302								
						Subtotal	\$ 85,420,864.00	\$ 26,363,904.36										
						TOTAL	\$ 111,784,768.36											
Audit Totals							\$ 7,769,383.51	\$ 1,998,655.00	\$ 9,768,038.51			25.72%	\$ 6,320,519.02		\$ 758,462.28	\$ 7,078,981.30	\$ 2,689,057.21	-27.53%

Corrected Design and Implementation Costs as advised by CIC Australia Pty Limited in Email Dated 31 March 2016

Googong Township
 SPS 2 & Booster PW
 Cost Reconcile for Council DSP
 Dec '15

APPENDIX C

Jacobs
 Assessment

Comments

Guideline Contract	DSP Schedule	Guideline Contract
		Contract Amount
24. SPS2	\$ 2,969,283	
Schedule of Costs for Pump Station 2		\$ 2,548,008
Sub Total -Provisional sum Costs for Pump Station 2		\$ 284,000
Variations		\$ 15,491
Contingency		\$ 113,280
Sub-Total SPS2	\$ 2,969,283	\$ 2,960,779
25. SPS R.M.	\$ 420,309	
Schedule of Costs for Rising main		\$ 400,205
Variations (Text / Line Added by Jacobs)		
Contingency		\$ 16,008
Sub-Total Sewer R.M.	\$ 420,309	\$ 416,213
Total For DSP Comparison (Excl GST)	\$ 3,389,592	\$ 3,376,992
Difference	\$ 12,600 0.4%	
8. Potable Water Booster System for Neighbourhood 1A		
<i>Plus other items in Contract</i>		
Schedule of Costs for Potable Water Booster Pump Station		\$ 255,937
Sub Total - Provisional sum Potable Water Booster Pump Station		\$ 50,000
Variations (Text / Line Added by Jacobs)		\$ -
Contingency (Text / Line Added by Jacobs)		\$ -
Sub Total - Potable Water Booster System for Neighbour 1A		\$ 305,937
Total Contract (Excl GST)		\$ 3,988,867

Jacobs Assessment		Comments	Difference	
2,418,051.96			-\$ 129,956	-5.10%
284,000.00			\$ -	0.00%
7,990.00	0.30%	Appear current claim on breakup sheet, used approved amounts	-\$ 7,501	-48.42%
97,041.68			-\$ 16,239	-14.33%
2,807,083.64			-\$ 153,696	-5.19%
389,464.00			-\$ 10,741	-2.68%
0.00%	0.00%	not sure if applicable		
15,578.56			-\$ 430	-2.68%
405,042.56			-\$ 11,170	-2.68%
3,212,126.20			-\$ 164,866	-4.88%
287,450.00			\$ 31,513	12.31%
50,000.00			\$ -	0.00%
6,822.00	2.02%		\$ 6,822	100.00%
11,770.88			\$ 11,771	100.00%
356,043			\$ 50,106	16.38%
3,924,212			-\$ 64,655	-1.62%

18 APPENDIX D

Googong 2015/16 DSP Background Document for Water Supply

Development Servicing Plans - Googong

Table 2: Googong Development Area Water Supply Capital Charges Calculations								Total ET	New ETs per year	PV of new ETs (@7%)	Capital Charge per ET (2014/15\$)
Year of Commissioning	Capital Cost of new assets only (\$'000)	Percentage of capital works for renewals utilised by new ETs after 1995/96	Effective Capital Cost (\$)	Rate of Return (%)	PV Factor	PV of capital costs (2014/15\$)					
Googong											
								Growth rate			
								8.21%			
Future		100.0%									
1 Assets planned in 2014/15	2015	\$12,874	\$12,873,798	7%	1.00	\$12,873,798	728	728	728		
2 Assets planned in 2015/16	2016	\$4,054	\$4,053,512	7%	0.93	\$3,788,329	1388	660	617		
3 Assets planned in 2016/17	2017	\$11,290	\$11,289,822	7%	0.87	\$9,860,968	1727	338	295		
4 Assets planned in 2017/18	2018	\$859	\$858,600	7%	0.82	\$700,873	2545	818	668		
5 Assets planned in 2018/19	2019	\$691	\$691,200	7%	0.76	\$527,313	2690	145	111		
6 Assets planned in 2019/20	2020	\$297	\$297,000	7%	0.71	\$211,757	2958	268	191		
7 Assets planned in 2020/21	2021	\$0	\$0	7%	0.67	\$0	3294	336	224		
8 Assets planned in 2021/22	2022	\$0	\$0	7%	0.62	\$0	3737	443	276		
9 Assets planned in 2022/23	2023	\$626	\$625,620	7%	0.58	\$364,117	4352	615	358		
10 Assets planned in 2023/24	2024	\$6,676	\$6,676,370	7%	0.54	\$3,631,503	4807	455	247		
11 Assets planned in 2024/25	2025	\$0	\$0	7%	0.51	\$0	5172	365	186		
12 Assets planned in 2025/26	2026	\$0	\$0	7%	0.48	\$0	5610	438	208		
13 Assets planned in 2026/27	2027	\$0	\$0	7%	0.44	\$0	6018	408	181		
14 Assets planned in 2027/28	2028	\$0	\$0	7%	0.41	\$0	6304	287	119		
15 Assets planned in 2028/29	2029	\$0	\$0	7%	0.39	\$0	6663	358	139		
16 Assets planned in 2029/30	2030	\$0	\$0	7%	0.36	\$0	6974	312	113		
17 Assets planned in 2030/31	2031	\$0	\$0	7%	0.34	\$0	7257	282	96		
18 Assets planned in 2031/32	2032	\$0	\$0	7%	0.32	\$0	7587	330	104		
19 Assets planned in 2032/33	2033	\$0	\$0	7%	0.30	\$0	7767	180	53		
20 Assets planned in 2033/34	2034	\$0	\$0	7%	0.28	\$0	7767	0	0		
21 Assets planned in 2034/35	2035	\$0	\$0	7%	0.26	\$0	7767	0	0		
22 Assets planned in 2035/36	2036	\$0	\$0	7%	0.24	\$0	7767	0	0		
23 Assets planned in 2036/37	2037	\$0	\$0	7%	0.23	\$0	7767	0	0		
24 Assets planned in 2037/38	2038	\$0	\$0	7%	0.21	\$0	7767	0	0		
25 Assets planned in 2038/39	2039	\$0	\$0	7%	0.20	\$0	7767	0	0		
26 Assets planned in 2039/40	2040	\$0	\$0	7%	0.18	\$0	7767	0	0		
27 Assets planned in 2040/41	2041	\$0	\$0	7%	0.17	\$0	7767	0	0		
28 Assets planned in 2041/42	2042	\$0	\$0	7%	0.16	\$0	7767	0	0		
29 Assets planned in 2042/43	2043	\$0	\$0	7%	0.15	\$0	7767	0	0		
30 Assets planned in 2043/44	2044	\$0	\$0	7%	0.14	\$0	7767	0	0		
		\$ 37,366	\$ 37,365,922				\$ 31,958,658		7767		
Subtotal (Assets post-1996)						\$ 31,958,658			4,914	\$ 6,503	
								TOTAL CAPITAL CHARGE PER ET			\$6,503

Development Servicing Plans - Googong

Table 3: Googong Development Area Water Supply Developer Charge Calculation					CPI (Consumer Price Index), Sydney June 14 - June 15	
Service area	Capital Charge per ET (2014/15\$)	Capital Charge per ET (2015/16 \$)	Reduction Amount (\$/ET)	Calculated Developer Charge (\$/ET) 2015/16		2.20%
Googong	\$ 6,503	\$ 6,646	\$ 4,285	\$ 2,361		

Table 4: Googong Development Area Water Reduction Amount Calculation			
		Current estimated (\$/ET) 2015/16	
Typical Residential Bill (TRB)		\$	931
Annual Water OMA Costs			577
Net Income		\$	354

	Year	Total ETs	New ETs	PV Factor	PV of new ETs (@7%)	Cumulative new ETs	Net income from new ETs	PV of Net income from new ETs (@7%)	Reduction Amount (\$/ET)
0	2013/14	-	-						
1	2014/15	728	728	1.00	728	728	\$257,601	\$257,601	
2	2015/16	1,388	660	0.93	617	1,388	\$491,252	\$459,114	
3	2016/17	1,727	338	0.87	295	1,727	\$610,867	\$533,555	
4	2017/18	2,545	818	0.82	668	2,545	\$900,310	\$734,921	
5	2018/19	2,690	145	0.76	111	2,690	\$951,613	\$725,981	
6	2019/20	2,958	268	0.71	191	2,958	\$1,046,597	\$746,209	
7	2020/21	3,294	336	0.67	224	3,294	\$1,165,396	\$776,552	
8	2021/22	3,737	443	0.62	276	3,737	\$1,322,161	\$823,375	
9	2022/23	4,352	615	0.58	358	4,352	\$1,539,754	\$896,151	
10	2023/24	4,807	455	0.54	247	4,807	\$1,700,601	\$925,014	
11	2024/25	5,172	365	0.51	186	5,172	\$1,829,742	\$930,148	
12	2025/26	5,610	438	0.48	208	5,610	\$1,984,874	\$942,999	
13	2026/27	6,018	408	0.44	181	6,018	\$2,129,120	\$945,355	
14	2027/28	6,304	287	0.41	119	6,304	\$2,230,500	\$925,578	
15	2028/29	6,663	358	0.39	139	6,663	\$2,357,327	\$914,212	
16	2029/30	6,974	312	0.36	113	6,974	\$2,467,553	\$894,355	
17	2030/31	7,257	282	0.34	96	7,257	\$2,567,436	\$869,679	
18	2031/32	7,587	330	0.32	104	7,587	\$2,684,193	\$849,747	
19	2032/33	7,767	180	0.30	53	7,767	\$2,747,879	\$812,998	
20	2033/34	7,767	-	0.28	-	7,767	\$2,747,879	\$759,811	
21	2034/35	7,767	-	0.26	-	7,767	\$2,747,879	\$710,104	
22	2035/36	7,767	-	0.24	-	7,767	\$2,747,879	\$663,649	
23	2036/37	7,767	-	0.23	-	7,767	\$2,747,879	\$620,232	
24	2037/38	7,767	-	0.21	-	7,767	\$2,747,879	\$579,657	
25	2038/39	7,767	-	0.20	-	7,767	\$2,747,879	\$541,735	
26	2039/40	7,767	-	0.18	-	7,767	\$2,747,879	\$506,294	
27	2040/41	7,767	-	0.17	-	7,767	\$2,747,879	\$473,172	
28	2041/42	7,767	-	0.16	-	7,767	\$2,747,879	\$442,217	
29	2042/43	7,767	-	0.15	-	7,767	\$2,747,879	\$413,287	
30	2043/44	7,767	-	0.14	-	7,767	\$2,747,879	\$386,250	
			7,767		4,914			\$ 21,059,954	\$ 4,285

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Googong 2015/16 DSP Background Document for Sewerage

Development Servicing Plans - Googong

30 years Capital Works Program

Table 1: Googong Development Area Sewerage Capital Works Program

All values are in year 2014/15

Project	Project Total	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34
Googong																					
SPS1 Interim	1,190	1190																			
SPS1 RM	302		302																		
Stage C: SPS1&2 Amplification	247									247											
SPS2	3,563	3563																			
SPS2 RM for interim use and ultimate use	504	504																			
SPS4 + RM	2,368																	2368			
NH2EAST Carrier	432					432															
NH2WEST Carrier - Existing	257	257																			
NH2WEST Carrier - To Be Constructed	108					108															
NH3 Carrier	270					270															
NH4 Carrier	189												189								
NH5EAST Carrier	149												149								
NH5EAST Carrier	81												81								
NH5WEST Carrier	189					189															
SPS2 Carrier 1	139					139															
SPS2 Carrier 2	139					139															
Stage AB	32,653		32653																		
Stage C	8,332				8332																
Stage D	12,546									12546											
	63,657	5,514	32,955	-	8,332	1,276	-	-	-	12,793	-	-	419	-	-	-	-	2,368	-	-	-
	\$'000																				
New Works	\$ 63,657	5,514	32,955	0	8,332	1,276	0	0	0	12,793	0	0	419	0	0	0	0	2,368	0	0	0
Renewals	\$ -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	\$ 63,657	\$ 5,514	\$ 32,955	\$ -	\$ 8,332	\$ 1,276	\$ -	\$ -	\$ -	\$ 12,793	\$ -	\$ -	\$ 419	\$ -	\$ -	\$ -	\$ -	\$ 2,368	\$ -	\$ -	\$ -

Development Servicing Plans - Googong

Table 2: Googong Development Area Sewerage Capital Charges Calculations											
	Year of Commissioning	Capital Cost of new assets only (\$'000)	Percentage of capital works for renewals utilised by new ETs after 1995/96	Effective Capital Cost (\$)	Rate of Return (%)	PV Factor	PV of capital costs (2014/15\$)	Total ET	New ETs per year	PV of new ETs (@7%)	Capital Charge per ET (2014/15\$)
Googong			100.0%								
							Growth rate				
							8.21%				
Future											
1	Assets planned in 2014/15	2015	\$5,514	\$5,513,750	7%	1.00	\$5,513,750	728	728	728	
2	Assets planned in 2015/16	2016	\$32,955	\$32,955,435	7%	0.93	\$30,799,472	1388	660	617	
3	Assets planned in 2016/17	2017	\$0	\$0	7%	0.87	\$0	1727	338	295	
4	Assets planned in 2017/18	2018	\$8,332	\$8,331,805	7%	0.82	\$6,801,235	2545	818	668	
5	Assets planned in 2018/19	2019	\$1,276	\$1,276,200	7%	0.76	\$973,607	2690	145	111	
6	Assets planned in 2019/20	2020	\$0	\$0	7%	0.71	\$0	2958	268	191	
7	Assets planned in 2020/21	2021	\$0	\$0	7%	0.67	\$0	3294	336	224	
8	Assets planned in 2021/22	2022	\$0	\$0	7%	0.62	\$0	3737	443	276	
9	Assets planned in 2022/23	2023	\$12,793	\$12,793,198	7%	0.58	\$7,445,758	4352	615	358	
10	Assets planned in 2023/24	2024	\$0	\$0	7%	0.54	\$0	4807	455	247	
11	Assets planned in 2024/25	2025	\$0	\$0	7%	0.51	\$0	5172	365	186	
12	Assets planned in 2025/26	2026	\$419	\$418,500	7%	0.48	\$198,826	5610	438	208	
13	Assets planned in 2026/27	2027	\$0	\$0	7%	0.44	\$0	6018	408	181	
14	Assets planned in 2027/28	2028	\$0	\$0	7%	0.41	\$0	6304	287	119	
15	Assets planned in 2028/29	2029	\$0	\$0	7%	0.39	\$0	6663	358	139	
16	Assets planned in 2029/30	2030	\$0	\$0	7%	0.36	\$0	6974	312	113	
17	Assets planned in 2030/31	2031	\$2,368	\$2,368,218	7%	0.34	\$802,197	7257	282	96	
18	Assets planned in 2031/32	2032	\$0	\$0	7%	0.32	\$0	7587	330	104	
19	Assets planned in 2032/33	2033	\$0	\$0	7%	0.30	\$0	7767	180	53	
20	Assets planned in 2033/34	2034	\$0	\$0	7%	0.28	\$0	7767	0	0	
21	Assets planned in 2034/35	2035	\$0	\$0	7%	0.26	\$0	7767	0	0	
22	Assets planned in 2035/36	2036	\$0	\$0	7%	0.24	\$0	7767	0	0	
23	Assets planned in 2036/37	2037	\$0	\$0	7%	0.23	\$0	7767	0	0	
24	Assets planned in 2037/38	2038	\$0	\$0	7%	0.21	\$0	7767	0	0	
25	Assets planned in 2038/39	2039	\$0	\$0	7%	0.20	\$0	7767	0	0	
26	Assets planned in 2039/40	2040	\$0	\$0	7%	0.18	\$0	7767	0	0	
27	Assets planned in 2040/41	2041	\$0	\$0	7%	0.17	\$0	7767	0	0	
28	Assets planned in 2041/42	2042	\$0	\$0	7%	0.16	\$0	7767	0	0	
29	Assets planned in 2042/43	2043	\$0	\$0	7%	0.15	\$0	7767	0	0	
30	Assets planned in 2043/44	2044	\$0	\$0	7%	0.14	\$0	7767	0	0	
Subtotal (Assets post-1996)			\$ 63,657	\$ 63,657,106			\$ 52,534,845		7767	4,914	\$ 10,690
							TOTAL CAPITAL CHARGE PER ET				\$10,690

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Table 3: Googong Development Area Sewerage Developer Charge Calculation

Service area	Capital Charge per ET (2014/15\$)	Capital Charge per ET (2015/16\$)	Reduction Amount (\$/ET)	Calculated Developer Charge (\$/ET) 2015/16
Googong	\$ 10,690	\$ 10,925	\$ 1,890	\$ 9,036

CPI (Consumer Price Index), Sydney
June 14 - June 15 2.20%

Table 4: Googong Development Area Sewerage Reduction Amount Calculation

	Current (\$/ET) 2015/16
Typical Residential Bill (TRB)	533
Annual OMA Costs	377
Net Income	156

	Year	Total ETs	New ETs	PV Factor	PV of new ETs (@7%)	Cumulative new ETs	Net income from new ETs	PV of Net income from new ETs (@7%)	Reduction Amount (\$/ET)
0	2013/14	-							
1	2014/15	728	728	1.00	728	728	\$113,580	\$113,580	
2	2015/16	1,388	660	0.93	617	1,388	\$216,600	\$202,430	
3	2016/17	1,727	338	0.87	295	1,727	\$269,340	\$235,252	
4	2017/18	2,545	818	0.82	668	2,545	\$396,960	\$324,038	
5	2018/19	2,690	145	0.76	111	2,690	\$419,580	\$320,096	
6	2019/20	2,958	268	0.71	191	2,958	\$461,460	\$329,015	
7	2020/21	3,294	336	0.67	224	3,294	\$513,840	\$342,393	
8	2021/22	3,737	443	0.62	276	3,737	\$582,960	\$363,038	
9	2022/23	4,352	615	0.58	358	4,352	\$678,900	\$395,126	
10	2023/24	4,807	455	0.54	247	4,807	\$749,820	\$407,852	
11	2024/25	5,172	365	0.51	186	5,172	\$806,760	\$410,116	
12	2025/26	5,610	438	0.48	208	5,610	\$875,160	\$415,782	
13	2026/27	6,018	408	0.44	181	6,018	\$938,760	\$416,821	
14	2027/28	6,304	287	0.41	119	6,304	\$983,460	\$408,101	
15	2028/29	6,663	358	0.39	139	6,663	\$1,039,380	\$403,089	
16	2029/30	6,974	312	0.36	113	6,974	\$1,087,980	\$394,334	
17	2030/31	7,257	282	0.34	96	7,257	\$1,132,020	\$383,454	
18	2031/32	7,587	330	0.32	104	7,587	\$1,183,500	\$374,666	
19	2032/33	7,767	180	0.30	53	7,767	\$1,211,580	\$358,463	
20	2033/34	7,767	-	0.28	-	7,767	\$1,211,580	\$335,012	
21	2034/35	7,767	-	0.26	-	7,767	\$1,211,580	\$313,095	
22	2035/36	7,767	-	0.24	-	7,767	\$1,211,580	\$292,612	
23	2036/37	7,767	-	0.23	-	7,767	\$1,211,580	\$273,470	
24	2037/38	7,767	-	0.21	-	7,767	\$1,211,580	\$255,579	
25	2038/39	7,767	-	0.20	-	7,767	\$1,211,580	\$238,859	
26	2039/40	7,767	-	0.18	-	7,767	\$1,211,580	\$223,233	
27	2040/41	7,767	-	0.17	-	7,767	\$1,211,580	\$208,629	
28	2041/42	7,767	-	0.16	-	7,767	\$1,211,580	\$194,980	
29	2042/43	7,767	-	0.15	-	7,767	\$1,211,580	\$182,224	
30	2043/44	7,767	-	0.14	-	7,767	\$1,211,580	\$170,303	
			7,767		4,914			\$ 9,285,641	\$ 1,890

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Outline of Legislation

(Source: Developer Charges Guidelines for Water Supply, Sewerage and Stormwater (2012)
- Consultation Draft)

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Outline of Legislation

Local Government Act 1993

The power for local government councils to levy developer charges for water supply, sewerage and stormwater derives from section 64 of the Local Government Act 1993 by means of a cross-reference in that Act to the relevant provisions of the Water Management Act 2000.

Section 64 of the Local Government Act states that:

Division 5 of Part 2 of Chapter 6 of the Water Management Act 2000 applies to a council exercising function under this Division in the same way as it applies to a water supply authority exercising functions under that Act.

Environmental Planning and Assessment Act 1979

Prior to the introduction of the Local Government Act in 1993, councils used the provisions of section 94 of the Environmental Planning and Assessment Act 1979 to obtain developer contributions for water supply services. As part of the Local Government (Consequential Provisions) Act 1993, amendment was made to the Environmental Planning and Assessment Act so that section 94 no longer applied for water supply services.

However, Councils can levy developer charges for stormwater under either Local Government Act or Water Management Act.

Water Management Act 2000

Section 305 (1) of the Water Management Act states that:

(1) A person may apply to a water supply authority for a certificate of compliance for development carried out, or proposed to be carried out, within the water supply authority's area.

Section 306 (2) and (3) of the Water Management Act states that:

(2) as a pre-condition to granting a certificate of compliance for development, a water supply authority may, by notice in writing served on the applicant, require the applicant to do either or both of the following:

(a) to pay a specified amount to the Authority by way of contribution towards the cost of such water management works as are specified in the notice, being existing works or projected works, or both,

(b) To construct water management works to serve the development.

(3) In calculating an amount for the purposes of subsection (2) (a):

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- (a) the value of existing water management works and the estimated cost of projected water management works may be taken into consideration, and
- (b) the amount of any government subsidy or similar payment is not to be deducted from the relevant value or cost of the water management works, and
- (c) Consideration is to be given to any guidelines issued for the time being for the purposes of this section by the Minister.

In 2011, the Minister for Primary Industries became responsible for non-metropolitan NSW town water services. The Minister is responsible for the issue of guidelines for water utilities on the calculation of water supply, sewerage and stormwater developer charges.

Note: Use of moneys raised from developer charges is discussed in section 2.7 on page 10 of the guidelines.

Local Government (Savings and Transitional) Regulation 1993

The Local Government (Savings and Transitional) Regulation 1993 covers the matter of developer contributions which had previously been obtained by councils under the Environmental Planning and Assessment Act as follows:

- (9) Any monetary contribution held by a council immediately before the commencement of this Regulation, being a contribution arising from a condition:
 - (a) that was imposed under section 94 of the *Environmental Planning and Assessment Act 1979*; and
 - (b) that specifies that the contribution is to be applied towards providing specified water or sewerage services or towards providing water or sewerage services generally,Is to be applied towards the construction of works within the meaning of Division 2 of Part 3 of the *Water Supply Authorities Act 1987*, or towards the repayment of money borrowed for the construction of such works, and is not to be applied towards any other purpose.