



Goldenfields Water County Council

Water Supply Services

Review of Development Servicing Plans

May 2014

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Table of Contents

1. Executive Summary	3
2. Introduction	4
3. Administration	5
4. Review of the Developer Charge	7
4.1 Introduction	7
4.2 Growth Projections	7
4.3 Capital Charge	7
4.4 Agglomeration of Capital Charges	8
4.5 Reduction Amount	8
4.6 Calculated Developer Charges	9
4.7 Developer Charges	9
4.7 Developer Charges for High Use Industrial	9
5. Glossary	11

Table Index

Table 1	Definition of DSP Area A	5
Table 2	Definition of DSP Area B	5
Table 3	Initial Capital Charges	7
Table 4	Agglomeration of Service Area Capital Charges	8
Table 5	Summary of Developer Charges	9
Table 6	Comparison of 2006 and 2011 Developer Charges	9
Table 7	Suggested developer charges for 5yr period	9

Appendices

Appendix A	Background Documents
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1. Executive Summary

The following document provides a review of the 2011 Development Servicing Plans (DSP) as required by the *Developer Charges Guidelines for Water Supply, Sewerage and Stormwater* (December 2002) issued by the former Department of Land and Water Conservation (DLWC); a review of DSP's is required after a period of 5 years.

The review outlines the process undertaken in recalculating the developer charge based on current figures.

The register of existing assets and calculation of developer charges are provided in spreadsheet form in Appendix A.

The review recalculated the developer charge for two DSP areas: Retail customers (Area A) including Oura, Mt Arthur, Hylands Bridge, Mt Daylight and Jugiong Retail service areas; and Bulk customers (Area B) comprising of the Jugiong Bulk service area.

The resulting calculations produced a developer charge of \$12,314 per ET (\$2013/14) for the Retail DSP and \$10,724 per ET (\$2013/14) for the Bulk DSP.

2. Introduction

Section 64 of the *Local Government Act 1993* enables a local government council or water utility to levy developer charges for water supply, sewerage and stormwater. This derives from a cross-reference in that Act to section 306 of the *Water Management Act 2000*.

A Development Servicing Plan (DSP) is a document, which details the water supply developer charges to be levied on development areas requiring water supply infrastructure.

The current plan contains two DSPs for areas served by Goldenfields Water County Council (GWCC).

This review has been prepared in accordance with the *Developer Charges Guidelines for Water Supply, Sewerage and Stormwater* (December 2002) issued by the former Department of Land and Water Conservation (DLWC), pursuant to section 306(3) of the *Water Management Act 2000*. The guidelines require a review of DSPs to be conducted after a period of 5 to 6 years.

These DSPs supersede any other requirements related to water supply infrastructure developer charges for the area covered by these DSPs. These DSPs takes precedence over any of Council's codes or policies where there are any inconsistencies relating to water supply developer charges.

3. Administration

In order to maintain consistency in the review process, the areas defined in the Development Servicing Plans of 2011 will be maintained and are defined below:

Table 1 Definition of DSP Area A

DSP Name	GWCC Retail DSP
DSP A Oura, Mt Arthur, Jugiong Retail, Hylands Bridge, Mt Daylight	
DSP Boundaries	The basis for defining the DSP area boundaries are the areas served by the existing Jugiong (areas covering retail customers only), Oura, Mt Arthur, Hylands Bridge and Mt Daylight water supply distribution system and the future assets schedule for the next 5 years.
Payment of Developer Charges	The contribution(s) will be assessed by Council and will apply for 3 months from the date of the assessment notice. Contributions not received by Council within 3 months of the date of notice will be adjusted in accordance with the DSP current at the time of payment. Developer charges are interrelated with the Compliance Certificate which must be submitted to complete a development. A Compliance Certificate will not be issued until the developer charge has been received.
Indexation of Developer Charges	Developer charges will be indexed by 5% per annum

Table 2 Definition of DSP Area B

DSP Name	GWCC Bulk DSP
DSP B Jugiong Bulk	
DSP Boundaries	The basis for defining the DSP area boundaries are the areas served by the existing Jugiong (areas covering bulk customers only) water supply distribution system and the future assets schedule for the next 5 years
Payment of Developer Charges	The contribution(s) will be assessed by Council and will apply for 3 months from the date of the assessment notice. Contributions not received by Council within 3 months of the date of notice will be adjusted in accordance with the DSP current at the time of payment.



DSP Name	GWCC Bulk DSP
	Developer charges are interrelated with the Compliance Certificate which must be submitted to complete a development. A Compliance Certificate will not be issued until the developer charge has been received.
Indexation of Developer Charges	Developer charges will be indexed by 5% per annum

4. Review of the Developer Charge

4.1 Introduction

The developer charge was recalculated based on up-to-date figures. The following sections outline the methodology behind calculation of the developer charge and deviation from figures obtained in the original DSP.

4.2 Growth Projections

The growth rates assumed in the previous DSP were compared to the new connections for the current financial year. With little to no change previous growth rates were maintained.

Also consistent with the previous DSP report, growth of Hylands Bridge and Mt Daylight was determined to be zero, and as such will be excluded from the capital charge calculation. Agglomeration of areas with zero growth results in their exclusion from the capital charge.

4.3 Capital Charge

The capital charge for each service area is based on the present value of the capital cost for assets commissioned after 1970 and future assets planned for the next 5 years. Future assets catering for growth are included in the capital charge.

The capital cost for each asset is multiplied by a 'Return on Investment' factor (ROI) which takes into account the time to full take up of capacity for that asset, the resulting figure is the capital charge. The capital charges for each asset are totalled to produce the capital charge for each respective DSP area.

Table 3 Initial Capital Charges

Service Area	Capital Charge per ET (\$/ET*) \$2013
Oura	\$14,536
Jugiong Retail	\$13,174
Mt Arthur	\$5,980
Jugiong Bulk	\$11,094

* An ET is equal to 250 kL of water per annum

Areas of zero growth (Mt Daylight and Hylands Bridge) have been omitted from the Capital Charge calculation due to zero projected growth over the 25 year horizon. Capital charge is largely dependant on the quantity and value of assets as well as the number of equivalent tenements within the service area.

4.4 Agglomeration of Capital Charges

Areas with capital charges within 30% of the highest capital charge are agglomerated. Water utilities can further consolidate DSP areas by agglomeration, in order to compare with the previous DSP all retail areas have been agglomerated into a single capital charge (DSP Area A) shown in Table below.

Agglomeration of capital charges produces a weighted average capital charge for each DSP area. The weighted capital charge is the summation of each towns capital charge multiplied by the ratio of its growth to total growth of the DSP area.

Table 4 Agglomeration of Service Area Capital Charges

DSP Area	Service Area	Capital Charge per ET (\$/ET*)	Growth of ET (2014-2039)	Capital Charge for each DSP area (\$/ET* \$2013)
A	Oura	\$14,536	1242	
	Jugiong Retail	\$13,174	70	
	Mt Arthur	\$5,980	270	
	Total DSP A		1582	\$13,014
B	Jugiong Bulk	\$11,094	1102	
	Total DSP B		1102	\$11,094

* An ET is equal to 250 kL of water per annum

4.5 Reduction Amount

GWCC has employed the Direct NPV method for calculation of the reduction amount (Refer to Section 4.3 of the *Developer Charges Guidelines for Water Supply, Sewerage and Stormwater (2002)*, DLWC).

The Direct NPV method requires the total number of assessments (residential and non-residential) at year end for each year projected to 2038 for each DSP area. Projected yearly expenditure for renewal works over a 50 year horizon and improved level of service to 2038 are also required in the model. This data is extracted from the capital works program and asset register based on commissioning date and asset life span.

The calculated reduction amounts for DSP Area A (retail) was \$700 per ET (\$2013), while DSP Area B (bulk) was calculated at \$370 per ET. (\$2013) Details of the reduction amount calculation are located in Tables A5 and A6 of Appendix A.

4.6 Calculated Developer Charges

The developer charges recalculated using current figures are summarised in the table below:

Table 5 Summary of Developer Charges

DSP Name	Capital Charge (\$/ET*)	Reduction Amount (\$/ET)	Calculated Developer Charge (\$/ET \$2013)
A: GWCC Retail DSP Area	\$13,014	\$700	\$12,314
B: GWCC Bulk DSP Area	\$11,094	\$370	\$10,724

*An ET is equal to 250 kL of water per annum

Table 6 compares the developer charges obtained from the 2011 DSP report with the 2014 calculated figures.

Table 6 Comparison of 2011 and 2014 Developer Charges

DSP Name	Calculated Developer Charge 2011 (\$/ET*)	Calculated Developer Charge 2014 (\$/ET)
A: GWCC Retail DSP Area	\$14,302	\$12,314**
B: GWCC Bulk DSP Area	\$6,162	\$10,724***

* An ET is equal to 250 kL of water per annum

** The reduction in charge for DSP area A is attributed to the recent revaluation of assets.

*** The increase in charge for DSP area B is attributed to large capital works required to maintain levels of service and the recent major works undertaken.

4.7 Developer Charges

It is noted the developer charge is the maximum that may be levied by the utility; a combination of financial, social and environmental factors should be considered to present a fair and acceptable charge for developers. Table 6 shows the recommended charges considering external factors.

Table 7 Developer charges over 5 years (per ET*)

DSP Name	2014/15	2015/16	2016/17	2017/18	2018/2019
GWCC Retail DSP Area A	\$7,075	\$7,429	\$7,800	\$8,190**	\$8,600**
GWCC Bulk DSP Area B	\$6,470	\$6,794	\$7,134	\$7,491**	\$7,866**

* An ET is equal to 250 kL of water per annum

** Pricing to be approved by the next Board

Note – Pricing does not include 2014 indexing. As the bulk price has been adjusted by 5% this is inconsequential.



4.8 Developer Charge for High Use Industrial Developments

The high use industrial developer charge will be calculated on annual volume with a deduction applied for the constant (non peak) demand on the system. This will be based on the current peak day factor applied to system demands for infrastructure planning.

5. Glossary

Capital Cost	The Present Value (MEERA basis) of assets used to service the development based on recent similar project costings.
Capital Charge	Capital cost of asset per ET x ROI Factor
Developer Charge	A charge levied on developers to recover part of the capital cost incurred in providing infrastructure to new development
DSP	Development Servicing Plan
ET	Equivalent Tenement. A measure of the demand a development will place on the infrastructure in terms of the water consumption for an average residential dwelling equal to 250 KI pa
MEERA	Modern Engineering Equivalent Replacement Asset. An asset value calculated on the basis that the asset is constructed at the time of valuation in accordance with modern engineering practice and the most economically viable technologies, which provides similar utility functions to the existing asset in service.
NPV	Net Present Value
Post-1996 Asset	An Asset that was commissioned by a local water utility on or after 1 January 1996 or that is yet to be commissioned
Pre-1996 Asset	An Asset that was commissioned by a local water utility before 1 January 1996
Reduction Amount	The amount by which the capital charge is reduced to arrive at the developer charge. This amount reflects 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
ROI	An area served by a separate water supply system, an area served by a separate sewage treatment works, a separate small town or village, or a new development of over 500 lots.

Appendix A

Background Documents

- ▶ Table A1 Oura DSP Area Capital Charge Calculation
- ▶ Table A2 Mt Arthur DSP Area Capital Charge Calculation
- ▶ Table A3 Jugiong Retail DSP Area Capital Charge Calculation
- ▶ Table A4 Jugiong Bulk DSP Area Capital Charge Calculation
- ▶ Table A5 Direct NPV Reduction Calculation: DSP A
- ▶ Table A6 Direct NPV Reduction Calculation: DSP B

Table A2

Service Area	Mt Arthur			Pre 1996 discount rate	3%
Capital Charge	\$5,980		per ET	Post 1996 discount rate	7%
Scheme Capacity		2310	ET	Annual Consumption	250 KL
Current Year:	2013				

Asset	Capital cost (\$'000)	Year dollars	Capital Cost (\$'000, 2013\$)	Year Commissioned	Effective year commissioned	Present value 2010 (\$'000)	Capacity (ML/d)	Capacity (ETs)	Capacity (ETs)	Capital Cost (\$/ET)	Year of full take-up	Years to full take-up	Discount Rate %	ROI factor	Capital Charge (\$/ET)
Existing Assets (Pre 1996)															
LONESDALE LANE PUMPING STATION	42.02	1978	1978	1996	1996	42.02				18	2038	25	3%	1.39	25
LONESDALE LANE PUMPING STATION	108.16	1978	1978	1996	1996	108.16				47	2036	23	3%	1.36	64
COOLAMON Town	39.60	1978	1978	1996	1996	39.60				17	2038	25	3%	1.39	24
GANMAIN PUMPING STATION	171.27	1979	1979	1996	1996	171.27				74	2038	25	3%	1.39	103
GANMAIN No.4 STORAGE RESERVOIR	331.46	1979	1979	1996	1996	331.46				144	2038	25	3%	1.39	200
COOLAMON Town (reduced by 1.095)	58.80	1980	1980	1996	1996	58.80				25	2038	25	3%	1.39	35
MATONG Town	8.90	1985	1985	1996	1996	8.90				4	2038	25	3%	1.39	5
GRONG GRONG Town	233.20	1988	1988	1996	1996	233.20				101	2038	25	3%	1.39	141
GANMAIN Town	90.00	1989	1989	1996	1996	90.00				39	2038	25	3%	1.39	54
COOLAMON Town	85.12	1990	1990	1996	1996	85.12				37	2038	25	3%	1.39	51
COOLAMON Town	75.00	1991	1991	1996	1996	75.00				32	2038	25	3%	1.39	45
COOLAMON Town	750.00	1991	1991	1996	1996	750.00				325	2038	25	3%	1.39	453
Mt. ARTHUR BORE No.1	79.34	1992	1992	1996	1996	79.34				34	2038	25	3%	1.39	48
Existing Assets (Post 1996)															
Mt. ARTHUR BORE No.2	79.34	2000	2000	2000	2000	79.34				34	2038	25	7%	2.00	69
Mt. ARTHUR BORE No.2	214.35	2000	2000	2000	2000	214.35				93	2038	25	7%	2.00	186
GRONG GRONG Town	12.00	2000	2000	2000	2000	12.00				5	2038	25	7%	2.00	10
COOLAMON Town	21.50	2000	2000	2000	2000	21.50				9	2038	25	7%	2.00	19
MATONG Town (Wood Street) (reduced by 54.9km)	2.10	2002	2002	2002	2002	2.10				1	2038	25	7%	2.00	2
GANMAIN Town (Grave Street)	10.20	2002	2002	2002	2002	10.20				4	2038	25	7%	2.00	9
GANMAIN Town (Lake Street)	20.00	2002	2002	2002	2002	20.00				9	2038	25	7%	2.00	17
GANMAIN Town (Hall Street)	20.00	2002	2002	2002	2002	20.00				9	2038	25	7%	2.00	17
GANMAIN - CHLORINATOR	186.29	2002	2002	2002	2002	186.29				81	2038	25	7%	2.00	162
COOLAMON Town (Cowabie Street North)	19.04	2004	2004	2004	2004	19.04				8	2038	25	7%	2.00	17
COOLAMON Town (Lewis Street)	308.79	2004	2004	2004	2004	308.79				134	2038	25	7%	2.00	268
COOLAMON Town (Wagga Road)	86.25	2004	2004	2004	2004	86.25				37	2038	25	7%	2.00	75
COOLAMON Town (Banksia Street)	22.40	2004	2004	2004	2004	22.40				10	2038	25	7%	2.00	19
COOLAMON Town (Orr Street)	3.50	2005	2005	2005	2005	3.50				2	2038	25	7%	2.00	3
COOLAMON Town (Ivraic Street)	57.00	2005	2005	2005	2005	57.00				25	2038	25	7%	2.00	49
COOLAMON Town (Lewis Street)	7.50	2005	2005	2005	2005	7.50				3	2038	25	7%	2.00	7
COOLAMON Town (Learys Lane)	90.00	2005	2005	2005	2005	90.00				39	2038	25	7%	2.00	78
COOLAMON Town (Dan Curtis Lane)	75.00	2005	2005	2005	2005	75.00				32	2038	25	7%	2.00	65
Mt. ARTHUR BORE No.1	214.35	2006	2006	2006	2006	214.35				93	2038	25	7%	2.00	186
GANMAIN PUMPING STATION	373.64	2006	2006	2006	2006	373.64				162	2038	25	7%	2.00	324
MATONG PUMPING STATION	26.34	2006	2006	2006	2006	26.34				11	2038	25	7%	2.00	23
MATONG PUMPING STATION	58.62	2006	2006	2006	2006	58.62				25	2038	25	7%	2.00	51
Coolamon South Reservoir Inlet Main	17.50	2006	2006	2006	2006	17.50				8	2038	25	7%	2.00	15
Coolamon South Reservoir Inlet Main	125.00	2006	2006	2006	2006	125.00				54	2038	25	7%	2.00	109
COOLAMON Town (Wagga Road)	34.63	2006	2006	2006	2006	34.63				15	2038	25	7%	2.00	30
COOLAMON Town (Hakea Drive)	36.50	2006	2006	2006	2006	36.50				16	2038	25	7%	2.00	32
GANMAIN Town	57.50	2006	2006	2006	2006	57.50				25	2038	25	7%	2.00	50
GANMAIN Town	56.00	2006	2006	2006	2006	56.00				24	2038	25	7%	2.00	49
GANMAIN Town	285.10	2006	2006	2006	2006	285.10				123	2038	25	7%	2.00	247
GANMAIN Town (Lake Street)	21.50	2006	2006	2006	2006	21.50				9	2038	25	7%	2.00	19
GANMAIN No. 1, 2, 3 STORAGE RESERVOIR	910.28	2006	2006	2006	2006	910.28				394	2038	25	7%	2.00	790
LONSDALES LANE RESERVOIR	88.74	2006	2006	2006	2006	88.74				38	2038	25	7%	2.00	77
COOLAMON SOUTH RESERVOIR	996.67	2006	2006	2006	2006	996.67				432	2038	25	7%	2.00	865
MATONG PUMPING STATION RESERVOIR	458.89	2006	2006	2006	2006	458.89				199	2038	25	7%	2.00	398
COOLAMON Town (Lewis St Subdivision)	26.20	2010	2010	2010	2010	26.20				11	2038	25	7%	2.00	23
COOLAMON Town (Lewis St Subdivision)	4.16	2010	2010	2010	2010	4.16				2	2038	25	7%	2.00	4
COOLAMON Town (Lewis St Rail Xing)	7.00	2010	2010	2010	2010	7.00				3	2038	25	7%	2.00	6
COOLAMON Town (Lewis, Stinson, Methul and Orr St)	24.25	2010	2010	2010	2010	24.25				10	2038	25	7%	2.00	21
COOLAMON Town (Lewis, Stinson, Methul and Orr St)	176.39	2010	2010	2010	2010	176.39				76	2038	25	7%	2.00	153
GANMAIN Town (Waterview Street)	3.15	2010	2010	2010	2010	3.15				1	2038	25	7%	2.00	3
GANMAIN Town (Waterview Street)	11.30	2010	2010	2010	2010	11.30				5	2038	25	7%	2.00	10
MATONG Town (Matong St)	23.00	2011	2011	2011	2011	23.00				10	2038	25	7%	2.00	20
MATONG Town (Matong St)	3.53	2011	2011	2011	2011	3.53				2	2038	25	7%	2.00	3
COOLAMON Town (Mann St)	3.78	2011	2011	2011	2011	3.78				2	2038	25	7%	2.00	3
COOLAMON Town (Mann St)	19.70	2011	2011	2011	2011	19.70				9	2038	25	7%	2.00	17
COOLAMON Town (Hornby Sub Furner St)	7.62	2011	2011	2011	2011	7.62				3	2038	25	7%	2.00	7
COOLAMON Town (Hornby Sub Wallace & Mirool St)	68.80	2011	2011	2011	2011	68.80				30	2038	25	7%	2.00	60
COOLAMON Town (Hornby Sub Mirool St)	1.76	2011	2011	2011	2011	1.76				1	2038	25	7%	2.00	2
COOLAMON Town (Hornby Sub Furner St)	4.03	2011	2011	2011	2011	4.03				2	2038	25	7%	2.00	3
GANMAIN Town (Waterview St)	14.11	2011	2011	2011	2011	14.11				6	2038	25	7%	2.00	12
GANMAIN Town (Waterview St)	24.50	2011	2011	2011	2011	24.50				11	2038	25	7%	2.00	21
GANMAIN Town (Ford & Wright St)	8.00	2011	2011	2011	2011	8.00				3	2038	25	7%	2.00	7
GANMAIN RES - Rehabilitation	13.88	2011	2011	2011	2011	13.88				6	2038	25	7%	2.00	12
LONSDALES LANE RES - Rehabilitation	9.13	2011	2011	2011	2011	9.13				4	2038	25	7%	2.00	8
Future Assets															

Table A3

Service Area	Jugiong Retail			Pre 1996 discount rate	3%
Capital Charge	\$13,174		per ET	Post 1996 discount rate	7%
Scheme Capacity		1568	ET	Annual Consumption	250 KL
Current Year:	2013				

Asset	Capital cost (\$'000)	Year (\$'000, dollars)	Capital Cost (\$'000, 2013\$)	Year Commissioned	Effective year commissioned	Present value 2013 (\$'000)	Capacity (ML/d) Capacity (ETs)	Capacity (ETs)	Capital Cost (\$/ET)	Year of full take-up	Years to full take-up	Discount Rate %	ROI factor	Capital Charge (\$/ET)
Existing Assets (Pre 1996)														
BAULOORA - TEMORA Trunk Main	2644.62		2644.62	1975	1996	2644.62			1687	2038	25	3%	1.39	2351
WALLEDBEEN Town	153.22		153.22	1976	1996	153.22			98	2038	25	3%	1.39	136
WALLEDBEEN Town	438.40		438.40	1976	1996	438.40			280	2038	25	3%	1.39	390
WALLEDBEEN Town	58.80		58.80	1976	1996	58.80			38	2038	25	3%	1.39	52
BRAWLIN Rural	67.35		67.35	1980	1996	67.35			43	2038	25	3%	1.39	60
BRAWLIN Rural	91.35		91.35	1980	1996	91.35			58	2038	25	3%	1.39	81
BRAWLIN Rural	135.65		135.65	1980	1996	135.65			87	2038	25	3%	1.39	121
BRAWLIN Rural	62.79		62.79	1980	1996	62.79			40	2038	25	3%	1.39	56
BRAWLIN Rural	112.52		112.52	1980	1996	112.52			72	2038	25	3%	1.39	100
BRAWLIN RESERVOIR	110.74		110.74	1980	1996	110.74			71	2038	25	3%	1.39	98
DIRNASEER Rural	15.54		15.54	1981	1996	15.54			10	2038	25	3%	1.39	14
DIRNASEER Rural	146.30		146.30	1981	1996	146.30			93	2038	25	3%	1.39	130
DIRNASEER Rural	74.59		74.59	1981	1996	74.59			48	2038	25	3%	1.39	66
DIRNASEER Rural	130.05		130.05	1981	1996	130.05			83	2038	25	3%	1.39	116
DIRNASEER Rural	78.20		78.20	1981	1996	78.20			50	2038	25	3%	1.39	70
DIRNASEER Rural	661.20		661.20	1981	1996	661.20			422	2038	25	3%	1.39	588
DIRNASEER Rural	41.68		41.68	1981	1996	41.68			27	2038	25	3%	1.39	37
DIRNASEER Rural	220.66		220.66	1981	1996	220.66			141	2038	25	3%	1.39	196
DIRNASEER Rural	182.45		182.45	1981	1996	182.45			116	2038	25	3%	1.39	162
DIRNASEER Rural	36.16		36.16	1981	1996	36.16			23	2038	25	3%	1.39	32
FRAMPTON Rural	110.25		110.25	1981	1996	110.25			70	2038	25	3%	1.39	98
FRAMPTON Rural	103.73		103.73	1981	1996	103.73			66	2038	25	3%	1.39	92
FRAMPTON Rural	84.00		84.00	1981	1996	84.00			54	2038	25	3%	1.39	75
FRAMPTON Rural (Reduced by 0.063)	88.53		88.53	1981	1996	88.53			56	2038	25	3%	1.39	79
FRAMPTON Rural	78.52		78.52	1981	1996	78.52			50	2038	25	3%	1.39	70
FRAMPTON Rural	11.59		11.59	1981	1996	11.59			7	2038	25	3%	1.39	10
FRAMPTON Rural	7.06		7.06	1981	1996	7.06			5	2038	25	3%	1.39	6
OLD TEMORA RD. (FRAMPTON) PUMPING	39.75		39.75	1982	1996	39.75			25	2038	25	3%	1.39	35
OLD TEMORA ROAD RESERVOIR	56.43		56.43	1982	1996	56.43			36	2038	25	3%	1.39	50
FRAMPTON RESERVOIR	110.74		110.74	1982	1996	110.74			71	2038	25	3%	1.39	98
MANNINGS RESERVOIR	110.74		110.74	1982	1996	110.74			71	2038	25	3%	1.39	98
DIRNASEER RESERVOIR	110.74		110.74	1982	1996	110.74			71	2038	25	3%	1.39	98
WALLEDBEEN RESERVOIR	115.75		115.75	1982	1996	115.75			74	2038	25	3%	1.39	103
STOCKINBINGAL Town	155.00		155.00	1983	1996	155.00			99	2038	25	3%	1.39	138
COOTAMUNDRA Rural	46.50		46.50	1987	1996	46.50			30	2038	25	3%	1.39	41
STOCKINBINGAL Town	122.00		122.00	1988	1996	122.00			78	2038	25	3%	1.39	108
WALLEDBEEN Town	9.50		9.50	1993	1996	9.50			6	2038	25	3%	1.39	8
Existing Assets (Post 1996)														
DIRNASEER Rural	1.80		1.80	2000	2000	1.80			1	2038	25	7%	2.00	2
OLD TEMORA RD. (FRAMPTON) PUMPING	98.61		98.61	2002	2002	98.61			63	2038	25	7%	2.00	126
DIRNASEER Rural	104.01		104.01	2004	2004	104.01			66	2038	25	7%	2.00	133
DIRNASEER Rural	56.05		56.05	2004	2004	56.05			36	2038	25	7%	2.00	72
FRAMPTON Rural (Grays)	8.78		8.78	2005	2005	8.78			6	2038	25	7%	2.00	11
STOCKINBINGAL Town (Dudauman Road)	2.92		2.92	2007	2007	2.92			2	2038	25	7%	2.00	4
STOCKINBINGAL Town (Dudauman Road)	2.00		2.00	2007	2007	2.00			1	2038	25	7%	2.00	3
1/3 BAULOORA - TEMORA Trunk Main	4055.76		4055.76	2008	2008	4055.76			2587	2038	25	7%	2.00	5187
SPRINGDALE Town	12.60		12.60	2008	2008	12.60			8	2038	25	7%	2.00	16
TEMORA EAST RESERVOIR	1077.72		1077.72	2009	2009	1077.72			687	2038	25	7%	2.00	1378
BRAWLIN Rural	0.38		0.38	2010	2010	0.38			0	2038	25	7%	2.00	0
BRAWLIN Rural	0.38		0.38	2010	2010	0.38			0	2038	25	7%	2.00	0
FRAMPTON Rural (Creek Crossing)	1.45		1.45	2011	2011	1.45			1	2038	25	7%	2.00	2
Murray St Offtake	6.00		6.00	2012	2012	6.00			4	2038	25	7%	2.00	8
FRAMPTON Rural - Offtake Extension	132.50		132.50	2012	2012	132.50			85	2038	25	7%	2.00	169
Future Assets														

Table A4

Service Area	Jugiong - Bulk			Pre 1996 discount rate	3%
Capital Charge	\$11,094		per ET	Post 1996 discount rate	7%
Scheme Capacity	13032		ET	Annual Consumption	250 KL
Current Year:	2013				

Asset	Capital cost (\$'000)	Year dollars	Capital Cost (\$'000, 2013\$)	Year Commissioned	Effective year commission	Present value (\$'000)	Capacity (ML/d)	Capacity (ETs)	Capital Cost (\$/ET)	Year of full take-up	Years to full take-up	Discount Rate %	ROI factor	Capital Charge (\$/ET)
Existing Assets (Pre 1996)														
ROSEHILL PUMPING STATION	300.6694	1975	300.67	1975	1996	300.67			23	2038	25	3%	1.39	32
DEMONDRILLE PUMPING STATION	238.6241	1975	238.62	1975	1996	238.62			18	2038	25	3%	1.39	26
PRUNEVALE PUMPING STATION	208.8909	1975	208.89	1975	1996	208.89			16	2038	25	3%	1.39	22
CH. CA25121 - CH. CA28351 (to Bell's Hill) (duplicate)	0	1975	0.00	1975	1996	0.00			0	2038	25	3%	1.39	0
CH. YA33248 - CH. YA38524	781.3575	1975	781.36	1975	1996	781.36			60	2038	25	3%	1.39	84
CH. YD42469 - CH. YD44350 (to Young T.S.)	192.8025	1981	192.80	1981	1996	192.80			15	2038	25	3%	1.39	21
YOUNG TERMINAL STORAGE	5810.7168	1983	5810.72	1983	1996	5810.72			446	2038	25	3%	1.39	622
JUGIONG CLEAR WATER PUMPING STATION	946.0012	1987	946.00	1987	1996	946.00			73	2038	25	3%	1.39	101
JUGIONG CLEAR WATER PUMPING STATION	2838.1553	1987	2838.16	1987	1996	2838.16			218	2038	23	3%	1.36	296
CH. J9581 - CH. J13659 (Jugiong Booster P.S. to)	2365.8517	1987	2365.85	1987	1996	2365.85			182	2038	25	3%	1.39	253
CH. Y885 - CH. Y9314	4319.8625	1987	4319.86	1987	1996	4319.86			331	2038	25	3%	1.39	462
CH. Y16523 - CH. Y19684	1620.0125	1987	1620.01	1987	1996	1620.01			124	2038	25	3%	1.39	173
CH. Y23298 - CH. Y25305 (to Demondrille P.S.)	859.89915	1987	859.90	1987	1996	859.90			66	2038	25	3%	1.39	92
CH. Y25305 - CH. Y28855	1520.9975	1987	1520.99	1987	1996	1520.99			117	2038	25	3%	1.39	163
JUGIONG BOOSTER BALANCE TANK	819.7868	1988	819.79	1988	1996	819.79			63	2038	25	3%	1.39	88
DEMONDRILLE - CHLORINATOR	186.2876	1989	186.29	1989	1996	186.29			14	2038	25	3%	1.39	20
CH. J239 - CH. J6301	3516.8693	1990	3516.87	1990	1996	3516.87			270	2038	25	3%	1.39	376
CH. Y28855 - CH. Y32255	1456.73	1990	1456.73	1990	1996	1456.73			112	2038	25	3%	1.39	156
CH. Y35643 - CH. Y38524 (Decreased by 0.297)	794.58	1990	794.58	1990	1996	794.58			61	2038	25	3%	1.39	85
JUGIONG CLEARWATER TANK	1060.5347	1990	1060.53	1990	1996	1060.53			81	2038	25	3%	1.39	113
JUGIONG - WATER TREATMENT PLANT - CIVIL	14579.485	1990	14579.49	1990	1996	14579.49			1119	2038	25	3%	1.39	1559
JUGIONG - WATER TREATMENT PLANT - ELEC/MECH	6248.3508	1990	6248.35	1990	1996	6248.35			479	2038	23	3%	1.36	651
RAW WATER P.S. - to JUGIONG W.T.P.	105.5873	1991	105.59	1991	1996	105.59			8	2038	25	3%	1.39	11
JUGIONG CLEAR WATER TANK - to JUGIONG C.W.P.S.	154.18788	1991	154.19	1991	1996	154.19			12	2038	25	3%	1.39	16
JUGIONG RAW WATER PUMPING STATION	442.6606	1992	442.66	1992	1996	442.66			34	2038	23	3%	1.36	46
JUGIONG BOOSTER PUMPING STATION	979.8303	1994	979.83	1994	1996	979.83			75	2038	25	3%	1.39	105
JUGIONG BOOSTER PUMPING STATION	2939.7943	1994	2939.79	1994	1996	2939.79			226	2038	23	3%	1.36	306
Existing Assets (Post 1996)														
CH. J8792.4 - CH. J8930.4 (to Cooneys Ck.)	80.0607	1997	80.06	1997	1997	80.06			6	2038	25	7%	2.00	12
CH. Y475 - CH. Y885 (to Rosehill P.S.)	150.86975	2001	150.87	2001	2001	150.87			12	2038	25	7%	2.00	23
ROSEHILL PUMPING STATION	534.4391	2003	534.44	2003	2003	534.44			41	2038	25	7%	2.00	82
DEMONDRILLE PUMPING STATION	389.4139	2003	389.41	2003	2003	389.41			30	2038	25	7%	2.00	60
PRUNEVALE PUMPING STATION	371.3616	2003	371.36	2003	2003	371.36			28	2038	25	7%	2.00	57
CH. J6301 - CH. J8792	1445.1537	2005	1445.15	2005	2005	1445.15			111	2038	25	7%	2.00	222
CH. J8930.4 - CH. J9581 (to Jugiong Booster P.S.)	377.67765	2005	377.68	2005	2005	377.68			29	2038	25	7%	2.00	58
CH. J13659 - CH. J18566 (to Cowangs Res.)	2846.7961	2005	2846.80	2005	2005	2846.80			218	2038	25	7%	2.00	438
JUGIONG C.W.P.S. - CH. J239	138.65585	2006	138.66	2006	2006	138.66			11	2038	25	7%	2.00	21
CH. Y29253 (Rocky Hill B.P.T. Offtake) - to Rocky Hill B.P.T	27.23015	2006	27.23	2006	2006	27.23			2	2038	25	7%	2.00	4
CH. Y 38233 (Kings Creek replacement 0.350 long)	149.9575	2006	149.96	2006	2006	149.96			12	2038	25	7%	2.00	23
COWANGS RES - Inlet Replace Investigations	3.396	2011	3.40	2011	2011	3.40			0	2021	8	7%	1.25	0
YOUNG TERMINAL STORAGE - Rehab	1.324	2011	1.32	2011	2011	1.32			0	2038	25	7%	2.00	0
Cowangs Res to Bell's Hill	5238.7545	2012	5238.75	2012	2012	5238.75			402	2038	25	7%	2.00	806
Bell's Hill to Cootamundra Pump Station	3164.175	2012	3164.18	2012	2012	3164.18			243	2038	25	7%	2.00	487
Cootamundra Pump Station to Bauloora Res	4640.175	2012	4640.18	2012	2012	4640.18			356	2038	25	7%	2.00	714
DEMONDRILLE PUMP 1 Rebuild	49	2013	49.00	2013	2013	49.00			4	2018	5	7%	1.14	4
JUGIONG - WATER TREATMENT PLANT - ACCESS RD, /	275.575	2013	275.58	2013	2013	275.58			21	2038	25	7%	2.00	42
1/3 BAULOORA - TEMORA Trunk Main	4055.76	2008	4055.76	2008	2008	4055.76			311	2038	25	7%	2.00	624
Future Assets														
New Reservoir	10000.00	2013	10000.00	2013	2013	10000.00			767	2038	25	7%	2.00	1538

**Table A5 - Calculation of Developer Charges using the Direct NPV Method
Goldenfields Water County Council - Water Supply for DSP Area A - Combined Oura + Jugiong Retail + Mt Arthur**

Base Data	
Capital charge per ET (2013/14\$)	13,014
Year 1	2013/14
Debt at end of 2012/13 (\$'000)	-
Cash and investments at end of 2012/13 (\$'000)	-
Net debt (\$'000)	-
Discount rate for future works	7%

Assessments at year end		Year No.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
		Year	2012/13	2013/14	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	2034/35	2035/36	2036/37	2037/38
Residential (including backlog works)			7,345	7,394	7,440	7,486	7,532	7,578	7,624	7,670	7,716	7,762	7,808	7,854	7,900	7,946	7,992	8,038	8,084	8,130	8,176	8,222	8,268	8,314	8,360	8,406	8,452	8,498
Non-residential			3,195	3,201	3,208	3,214	3,220	3,227	3,233	3,239	3,246	3,252	3,258	3,265	3,271	3,277	3,284	3,290	3,296	3,303	3,309	3,315	3,322	3,328	3,334	3,341	3,347	3,353
ET per Residential assessment			0.99																									
ET per non-residential assessment			2.80																									
Capacity for future customers (ET)			-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Capital works		Base year	2013/14
Renewals	(2013/14\$'000)*Renewals	Year	2013/14
	Inflation from Base year to Year 1 (%)	2013/14	0.00%
	Capital Works for Improved Standards (2013/14\$'000)	2014/15	0
	Government Grant on Works for Improved standards (2013/14\$'000)	2015/16	3698.5977
	Inflation from 2013/14 to 2013/14 (%)	2016/17	0
	Last year of the program	2017/18	167.9319
		2018/19	108.1621
		2019/20	0
		2020/21	22
		2021/22	325.3965
		2022/23	296.0696
		2023/24	445.46
		2024/25	0
		2025/26	0
		2026/27	2217.538
		2027/28	2317.185
		2028/29	0
		2029/30	2652.53
		2030/31	627.562
		2031/32	2765.811
		2032/33	293.44
		2033/34	2908.417
		2034/35	2466.278
		2035/36	304.84
		2036/37	571.95
		2037/38	933.33

PV of ET		Year No.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Total equivalent tenements (ET)			16,221	16,283	16,348	16,411	16,473	16,538	16,601	16,663	16,728	16,791	16,853	16,918	16,981	17,043	17,108	17,171	17,233	17,298	17,361	17,423	17,488	17,550	17,613	17,678	17,740	17,803
Growth (ET)			62	65	62	62	65	62	62	62	65	62	62	65	62	62	65	62	62	65	62	62	65	62	62	65	62	62
PV of 10 years of growth (ET)			509																									
PV ETs			16,729																									

PV of renewal works		Year No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Renewals (\$'000) in 2013/14\$			11,769	0	0	3,699	0	168	108	0	22	325	256	445	0	0	2,218	2,317	0	2,653	628	2,766	293	2,908	2,466	305	572	933
PV of 50 year of renewals at discount rate of 7% pa			11,769																									
PV Renewals per ET (\$)			703																									

PV of Works for Improved Standards to existing population		Year No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Works for Improved Standards (\$'000) in 2013/14\$ after Government grant			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PV of works for Improved Standards at discount rate of 7% pa			0																								
PV Standards per ET (\$)			0																								

The Reduction Amount is the greater of

(1)	PV Renewals per ET + PV Standards per ET	703
(2)	Capital Charge - [(N/(N-F)) * (Capital Charge - PV Renewals per ET - PV Standards per ET - Net Debt per ET)]	703

Where:

Capital Charge =	13,014
N - PV of present and future ETs =	16,729
F - Capacity for future customers =	0
Net debt per ET	0

Developer Charge Calculation

Reduction Amount is therefore	\$703	say	\$700
Developer Charge for 2013/14 in 2013/14\$			
less	Capital Charge	\$13,014	
	Reduction amount	\$700	
	Developer Charge	\$12,314	

**Table A6 - Calculation of Developer Charges using the Direct NPV Method
Goldenfields Water County Council - Water Supply for DSP Area B - Jugiong Bulk**

Base Data		(2013/14\$)
Capital charge per ET	Year 1	11,094
	Year 1	2013/14
	Debt at end of 2012/13 (\$'000)	-
	Cash and investments at end of 2012/13 (\$'000)	-
	Net debt (\$'000)	-
	Discount rate for future works	7%

Assessments at year end	Year No.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Residential (including backlog works)	Year	2012/13	2013/14	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	2034/35	2035/36	2036/37	2037/38
Non-residential		7,487	7,523	7,559	7,595	7,631	7,667	7,703	7,739	7,775	7,811	7,847	7,883	7,919	7,955	7,991	8,027	8,063	8,099	8,135	8,171	8,207	8,243	8,279	8,315	8,351	8,387
ET per Residential assessment		1,611	1,614	1,617	1,620	1,623	1,626	1,629	1,632	1,635	1,638	1,641	1,644	1,647	1,650	1,653	1,656	1,659	1,662	1,665	1,668	1,671	1,674	1,677	1,680	1,683	1,686
ET per non-residential assessment		0.95																									
Capacity for future customers (ET)		2.80																									
		-																									
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Capital works		Base year	2013/14
Renewals	(13/14\$'000)*Renewals	Year	2013/14
	Inflation from 13/14 to 2013/14 (%)		0.00%
	Capital Works for Improved Standards (13/14\$'000)		0
	Government Grant on Works for Improved standards (13/14\$'000)		0
	Inflation from 13/14 to 2013/14 (%)		0.00%
	Last year of the program		2063/64

PV of ET		Year No.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Total equivalent tenements (ET)			11,929	11,974	12,018	12,062	12,106	12,150	12,194	12,238	12,282	12,326	12,370	12,414	12,459	12,503	12,547	12,591	12,635	12,679	12,723	12,767	12,811	12,855	12,899	12,944	12,988	13,032
Growth (ET)			44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44
PV of 10 years of growth (ET)			354																									
PV ETs			12,283																									

PV of renewal works		Year No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Renewals (\$'000) in 2013/14\$			0	0	0	0	0	49	0	0	3	0	0	0	781	0	2,838	0	6,248	0	443	0	2,940	0	0	0	0
PV of 50 year of renewals at discount rate of 7% pa			4,516																								
PV Renewals per ET (\$)			368																								

PV of Works for Improved Standards to existing population		Year No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Works for Improved Standards (\$'000) in 2013/14\$ after Government grant			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PV of works for Improved Standards at discount rate of 7% pa			0																								
PV Standards per ET (\$)			0																								

The Reduction Amount is the greater of

(1)	PV Renewals per ET + PV Standards per ET	368
(2)	Capital Charge - [(N/(N-F)) * (Capital Charge - PV Renewals per ET - PV Standards per ET - Net Debt per ET)]	368

Where:

Capital Charge =	11,094
N - PV of present and future ETs =	12,283
F - Capacity for future customers =	0
Net debt per ET	0

Developer Charge Calculation

Reduction Amount is therefore	\$368	say	\$370
Developer Charge for 2013/14 in 2013/14\$			
less	Capital Charge	\$11,094	
	Reduction amount	\$370	
	Developer Charge	\$10,724	