Appendix 7

RETURN TO APPENDICES LIST

Final Report DORC Valuation Calliope Shire Council Water Supply Infrastructure

(Davwil Designs and Management Services Pty Ltd)

Final Report

For

Gladstone Area Water Board (GAWB) QLD

DORC Valuation

Calliope Shire Council Water Supply Infrastructure

Prepared by

DaWil Designs & management services P/L

April 2006

Final Report
For
Gladstone Area Water Board (GAWB)

DORC Valuation
Calliope Shire Council Water Supply Infrastructure

Prepared by

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Reviewed:	Reviewed:	Approved for Issue:
		
Charlie Reed Asset Management Reviewer	Mark Wright CPA	David Watson Managing Director
Date:	Date:	Date:

14 April 2006 Our Ref: GAWB Jan 06

Mr Warwick Lloyd

Pricing and Treasury Manager

Gladstone Area Water Board
P O Box 466
GLADSTONE QLD 4680

Dear Warwick,

RE: DORC VALUATION – CALLIOPE SHIRE COUNCIL WATER INFRASTRUCTURE

Davwil Designs & Management Services Pty Ltd (Davwil Services) is pleased to submit this Final Report to the Gladstone Area Water Board (GAWB) for the provision of consultancy services to prepare a valuation of fixed water supply assets currently owned by the Shire of Calliope principally in the northern Yarwun area.

This Final Report includes all additional information discussed and in particular revised pricing provide by GAWB since the submission of the Draft Report.

Any queries, please do not hesitate to contact me on mobile 0438840040.

Yours faithfully,

David Watson

Managing Director

Distribution:
1. Original
2. File: GAWB Jan 06

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Executive Summary

Gladstone Area Water Board (GAWB) is a Category 1 Water Authority and registered Service Provider established under the *Water Act 2000* and operates as a commercialised statutory authority. GAWB's main role is to supply water in bulk to major consumers in the Gladstone Region and it owns and operates the infrastructure to perform that function. Those major consumers comprise large industries, power generating organisations and Local Authorities. Around 20% of the bulk water supplied is treated water.

As part of rationalising and improving management of the bulk supply system GWAB is considering purchasing assets which are currently owned by the Calliope Shire but are being used as part of bulk delivery of treated water to the north area supplied from the Yarwun Water Treatment Plant (Yarwun Area).

The intent of this assignment is to provide a valuation of water supply infrastructure assets currently owned by the Calliope Shire in the Northern (Yarwun) Area of GAWB, valued to 30 June 2006. The valuation is to be in accordance with current accounting standards including Australian Equivalents to International Financial reporting Standards (AEIFRS) and include the completion of a PV analysis to support assessing the value of the assets proposed to be purchased.

Davwil Designs & Management Services P/L (Davwil) was engaged by GAWB to carry out this valuation as at 30 June 2006 of the Yarwun Area water supply assets owned by Calliope Shire Council. In addition, GAWB requested several other assets at Wilmott Lagoon and the township of Calliope to be valued and costs associated with increased pumping and treatment at Yarwun Water Treatment Plant to be provided. Information on these other assets is set out in the main report.

Key data outputs include:

- Current Replacement Cost;
- Condition Rating;
- Design Life;
- Remaining Useful Life;
- Depreciated Replacement Cost;
- Optimised basis (using demands provided by GAWB); and
- Depreciated Optimised Replacement Cost (DORC) and associated PV analysis.

Most of the above data is provided in a data base.

Excluding increased Yarwun pumping and Water treatment capacity upgrade required, virtually all demand cases considered can be accommodated within a rearrangement of the existing rising main and gravity system arrangement to a pumped system and floating storage if testing shows potential pressure fluctuations can be accommodated by the existing customer services.

The exception is the extreme demand cases fro QCA and Higher Demand Cases involving a peaking daily flow factor of 2.5 times the average annual demands. Additional storage capacity and duplication of the pipeline at least to Orica will be required for these demand case when Stage 2 Comalco comes on line, if not earlier.

Key valuation outcomes for the Yarwun Area assets are summarised in the following graphs and tables.

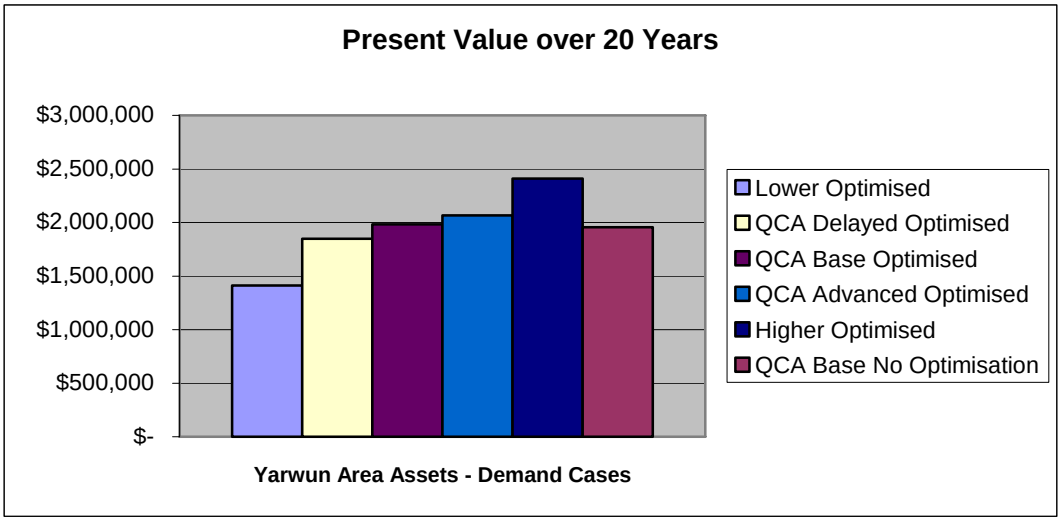
No Optimisation Case Yarwun Area Total Water Infrastructure Replacement & Depreciated Replacement Costs - 30 June 2006 (excluding land valuation)

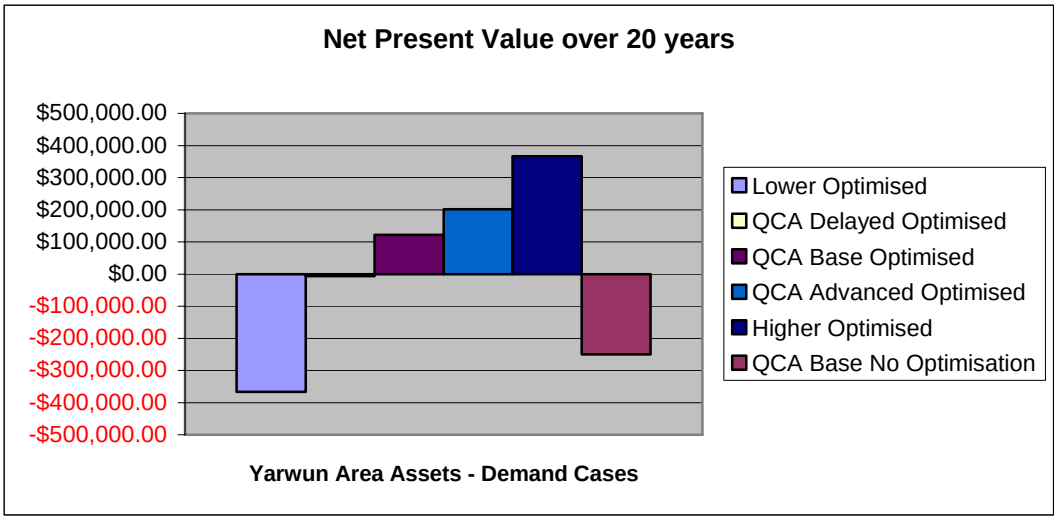
Replacement Cost $	Depreciated Replacement Costs - Age Based (not in accordance with Accounting Standards) $	Depreciated Replacement Costs - Service Potential (condition) Based $
2,534,164	1,902,566	2,197,799

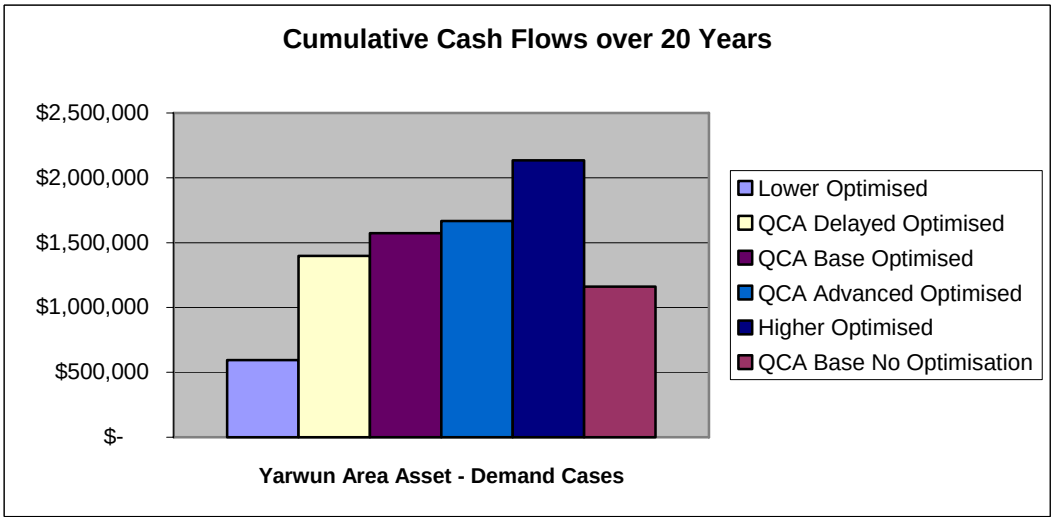
Note: Land Valuation advised by GAWB is $21,000.

Yarwun Area Total Water Infrastructure Optimised Replacement & Depreciated Optimised Replacement Costs - 30 June 2006 (excluding land valuation)

Demand Case	Replacement Cost $	Depreciated Replacement Costs - Service Potential (condition) Based $
Lower Optimised	2,088,618	1,776,833
QCA (All three cases – delayed, base and advanced) Optimised	2,148,119	1,832,868
Higher Optimised	2,334,251	2,002,883







Price for Zero NPV (30 June 2006) including land Valuation

Demand Case	Price $/ML
Lower Optimised	127
QCA Delayed Optimised	105
QCA Base Optimised	100
QCA Advanced Optimised	96
Higher Optimised	91
QCA Base No Optimisation	116

1 Introduction

1.1 General

Gladstone Area Water Board (GAWB) is a Category 1 Water Authority and registered Service Provider established under the *Water Act 2000* and operates as a commercialised statutory authority. GAWB's main role is to supply water in bulk to major consumers in the Gladstone Region and it owns and operates the infrastructure to perform that function. Those major consumers comprise large industries, power generating organisations and Local Authorities. Around 20% of the bulk water supplied is treated water.

GAWB owns and operates Awoonga Dam on the Boyne River in Calliope Shire along with a network of delivery pipelines, water treatment plants and other bulk water distribution infrastructure in Gladstone City and Calliope Shire in central Queensland.

The Board was originally formed in 1973 as a Project Board. Current membership of the Board comprises representatives from Gladstone City Council and Calliope Shire Council, plus two independent members and an independent Chair. The Board retains management, administrative and technical personnel, and outsources most of its operations and maintenance responsibilities to local authorities.

As part of rationalising and improving management of the bulk supply system GWAB is considering purchasing assets which are currently owned by the Calliope Shire but are being used as part of bulk delivery of treated water to the north area supplied from the Yarwun Water Treatment Plant (Yarwun Area).

This study is to provide a series valuations of these assets to assist in establishing an agreed purchase price for the assets.

The Terms of Reference (TOR) as provided by GAWB for this variation is reproduced in *Section 2.1 – Background* and *Section 2.2 – Expected Outcomes / Outputs.*

2 Scope of Services

2.1 Background

GAWB has adopted the "fair value" basis of measurement for the Land, Buildings and Improvements and Infrastructure classes of assets.

Legislative Framework

GAWB operates within a legislative framework that includes the following key pieces of legislation;

- Water Act 2000;
- Financial Administration and Audit Act 1977; and
- Financial Management Standard 1977.

Part 3 Division 5 of the Financial Management Standard 1997 deals specifically with the management of assets and sets down in broad terms the requirements for asset management. This part of the Standard is of particular relevance in performing a valuation in that;

> *"…the valuation or revaluation is consistent with the document called Non Current Asset Accounting Guidelines for the Queensland Public Sector"*

This document is a publication of Queensland Treasury and forms part of the methodology used to establish valuations.

Assignment Broad Scope

The intent of this assignment is to provide a valuation of water supply infrastructure assets which are currently owned by the Calliope Shire in the Northern (Yarwun) Area of GAWB, valued to 30 June 2006. The valuation is to be in accordance with current accounting standards including Australian Equivalents to International Financial reporting Standards (AEIFRS) and include the completion of a PV analysis to support the assessment of the value of the assets proposed to be purchased.

An indicative list of assets was provided as an initial guide to the likely assets to be valued (*Appendix A*), and any land valuation which is required to be included in the valuation assessment would be provided by GAWB.

Valuation

In establishing the DORC Valuation of Calliope Shire Council Water Infrastructure the following broad process has been followed:

- The valuation is compatible to the revaluations of GAWB's Infrastructure and Building Assets undertaken by SMEC Australia P/L in 2005;
- GAWB provided or arranged provision of all current asset data information available from Calliope Shire Council;

- It was GAWB's responsibility to confirm that all assets proposed to be purchased have been identified, and to advise any specific descriptions or groupings/classifications required and any land valuations to be added;
- Any additional asset identified during the site visit and in discussions with key GAWB and Calliope Shire staff were added to the indicative list;
- All assets identified were valued, irrespective of what is likely to be their written down value (ie no minimum to apply);
- The condition ratings for estimating remaining life and estimated design life are based on definitions used in GAWB's 2005 revaluation of assets;
- Assessment of the condition of the assets was based on inspection of visible assets, discussions with GAWB management and key operations and maintenance staff for other assets, recognized best practice and the knowledge the water supply asset built up over the past 4 years;
- GAWB advised the basis (i.e. demand scenarios) for optimising the value of the assets for establishing a Depreciated Optimised Replacement Cost;
- Present Value (PV) and Net Present Value (NPV) Analysis complies as appropriate with requirements of AEIFRS standards AASB136 which applies from 1 July 2005 and any relevant accounting policy by GAWB; and
- The parameters required for the completion of the PV and NPV analyses are those as established by the recent Queensland Competition Authority (QCA) review and contained in the "GAWB: Investigation of Pricing Practices – Final Report". This report contains independent external assessments of a number of factors including forward projections of WACC, inflation rates, water demand, rate of return and operating costs which will be assessed and used appropriately as part of completion of the analyses.

2.2 Expected Outcomes/Outputs

The key output is a Depreciated Optimised Replacement Cost (DORC) valuation as at 30 June 2006 of certain Council owned treated water supply infrastructures located in the Yarwun area. The valuation will reflect two demand projection scenarios. An indicative list of the relevant infrastructure assets is attached as *Schedule 3*.

GAWB will provide, and the parties will accept:

- the list of infrastructures assets to be valued;
- the current and future demand scenarios; and
- the water prices to apply in future.

In relation to the demand projections, the Comalco Aluminium Refinery (CAR) has indicated that it expects to rely on both GAWB's and Calliope Shire Council's treated water infrastructure for the foreseeable future rather than move to substitute secondary treatment of raw water in its plant. The future demand scenarios will be based on CAR either providing or not providing, a commitment to take existing demand with the added possibility of CAR doubling its water demand with its stage 2 development.

The valuation will not include land.

The valuation will reflect:

- current accounting standards, including Australian Equivalents of the International Financial Reporting Standards (AEIFRS);
- a present value analysis (PVA), based on the demand scenarios and pricing arrangements; and
- condition ratings, based on recognized best practice, inspections of visible assets, and discussions with key GAWB and Council employees. This will be supplemented by the service provider's prior knowledge of the relevant infrastructures.

During the course of the valuation, GAWB will use its best endeavours to ensure that Calliope Shire Council provides access to its infrastructure and its staff as required.

Deliverables

1. Draft Valuation Report (electronic)
2. Final Valuation Report (electronic, 3 hard copy)

Each report will include a valued asset database including details of;

- Current Replacement Cost;
- Condition Rating;
- Design Life;
- Remaining Useful Life;
- Depreciated Replacement Cost;
- Optimised basis (using demands provided by GAWB); and
- Depreciated Optimised Replacement Cost (DORC).

2.3 Expected Completion Date

Subject to availability of data particularly pricing, other valuation issues and additional work required, completion date was set at 28 February 2006.

3 Methodology

3.1 Activities Followed

3.1.1 Start up, Issue Resolution and Information Gathering

- Completion of contract and finalise program;
- Clarification with GAWB on any valuation issues including issues of confidence levels and audit certification;
- Confirmed and agreed the approach for condition assessment, remaining and design life, optimisation and PVA basis and extent;
- Confirmed expected outputs of the consultancy for GAWB including key influencing details such as level of verification and asset classification/data base format;
- Identified any additional work required by GAWB;
- GAWB provided electronic data on assets and existing valuation for the assets proposed to be purchased and other readily available asset management information for assessment and comparison with required best practice;
- GAWB provided or advised land valuations, demand and pricing data to be used;
- GAWB confirmed extent of assets to be purchased;
- Discussed and gathered available relevant regional unit costs and inflation rates, historical costs, depreciation including condition based monitoring and other methods, aspects of this consultancy which will assist with valuation requirements (identifying any additional actions worthwhile) and other relevant material needed; and
- Determined and discussed with GAWB types of replacements and costs based on equivalent service potential and a cost effective modern engineering equivalent.

3.1.2 Visit including Inspection & Verification

- System inspection (site visit) to a level adequate to verify all assets, quantities and condition, based on agreed confidence levels and compare with existing mapping and data base information; and
- Based on inspections, discussion with management, operators and maintenance staff and overall asset management considerations, determine the approach to valuation assessment including optimisation and PVA.

3.1.3 Analysis & Draft Report

- Established condition ratings, design life, age and remaining useful life data;

- Established replacement costs for same service potential based on modern engineering equivalent and utilising a range of methods including indexed historical costs, regional recognised costs, consultant and national data bases indexed appropriately and recognised quantity estimated costings including appropriate design & investigation costs, overheads and contingencies where other methods are consider inappropriate;
- Optimised the existing Yarwun Area water supply system based on predicted future demands scenarios using 5 different demand scenarios agreed with GAWB (3 scenarios allowed for in proposal) with treated supply either via a separate rising main and gravity from Mt Miller Reservoir or a pumped system with Mt Miller Reservoir floating on the system, resulting in three Optimised Valuations plus the Base Case (no optimising);
- Undertook (as an additional request of GAWB) a sensitivity assessment in relation to optimising water supply asset by increasing peak daily demands to equivalent to residential peak demands, as distinct from previously assessed industrial demand daily peaks used in previous QCA optimising of GAWB assets. Peak daily rates over average annual demands increases from 1.65 times to 2.5 times in this sensitivity assessment and is in place of more relevant (actual) data on peak daily industrial demands not able to be readily provided by GAWB;
- Included (as an additional request of GAWB) the valuation of other water supply assets from East End Reservoir to Wilmott Lagoon including the pipeline owned by GAWB and the Wilmott Pumping Station and Chlorinator owned by Calliope Shire Council. These assets maybe considered as part of Mt Larcom system rationalisation;
- Included (as an additional request of GAWB) the valuation of the pipeline at Calliope owned by GAWB between Mt Elizabeth and Silverdale Reservoirs. This asset maybe considered as part of Calliope township system rationalisation
- Included (as an additional request of GAWB) the cost of increased pumping and treatment at the Yarwun Water Treatment plant;
- Calculated DORC values based on the remaining useful life of each asset, optimising and conditioned based and aged based depreciation methods;
- Determined an agreed forward pricing regime with GAWB to be used for PV and NPV analysis;
- Reviewed parameters to be used for PV and NPV analysis; and
- Reviewed DORC values based on depreciated replacement cost against future economic benefits (PVA) for calculation of "*fair value*".

3.1.4 Finalise Assessment & Final Report

- Completion of Final Report incorporating relevant amendments and comments from GWAB and forward to GAWB in both written (3 copies) and electronic format (CD).

4 Project Team

The Project Team which comprised an experienced and technically skilled team, has undertaken GAWB's previous valuations and asset valuation assessment for the Queensland Competition Authority (QCA).

The principal Team involved:

David Watson	*Project Manager & Asset Management Specialist*
Mark Wright	*CPA Accountant*
Charlie Reed	*Asset Management Reviewer*

5 Valuation Assessment

This section of the report details the valuation assessment undertaken in accordance with the methodology as previously described from asset identification / verification to determination of DORC.

5.1 Asset Identification & Verification

5.1.1 General

Appendix A updated into an electronic form was provided by GAWB as the basic list of assets to be verified and valued, as part of the Yarwun Area water supply assets owned by Calliope Shire Council.

List of assets and their details were confirmed on 16 and 17 February 2006, after a detailed site inspection, discussions with GAWB and Calliope Shire Council staff and inspection of various plans and drawings provided by GAWB and Calliope Shire Council.

In general, the assets listed and their details were verified. A number of new assets have been installed since the list was complied. These assets were either not recorded or recorded only in part.

At the request of GAWB, several additional other assets which may be considered in the rationalisation of ownership were also included in the verification – see *Section 5.8*.

Appendix B (Plan of Calliope Shire Council Yarwun Water Assets) has been completed to detail the range of assets and relate all assets in the Yarwun Area to the List of Assets set out in *Appendix C (Sheet – Revised Asset List)*. The assets highlighted in red in *Appendix C (Sheet – Revised Asset List)* are either amendments or additions to the original list of assets provided to reflect current status.

The range of assets covered a series of pipelines from Mt Miller Reservoir to Boat Creek connection to GAWB assets, associated fittings and customer service connections, asset roads and Mt Miller Reservoir and associated fittings and fencing.

5.1.2 Land Assets

GAWB undertook a separate assessment to determine land tenure associated with Calliope Shire Council Yarwun Assets (refer separate plan available from GAWB). Five categories were identified as follows:

- Pipelines on Road Reserves – require advice to Department of Main Roads (DMR) of change of ownership;
- Pipeline on registered easement on land owned by Orica. This easement can be transferred through Department of Natural Resources and Mines (DNRM) by way of documentation with the consent of Orica;

- Pipelines on land owned by the Queensland State Government with no registered easements. Water Act 2000 gives power to inspect and maintain etc. Consideration will need to be given where an easement should be registered;

- Pipeline on land owned by Queensland Rail with no registered easements. Water Act 2000 gives power to inspect and maintain etc. Consideration will need to be given where an easement should be registered;

- Pipelines and Reservoir on land which is a Reserve for Local Government (Water Supply) Purposes. An application for consent to transfer the trusteeship of the reserve would need to be made to State Lands Assets. (Most likely all the Reserve would be transferred).

Herron Todd White was separately requested by GAWB under a separate commission to provide a valuation on the above five types of land assets.

GAWB initially advised that only two land assets may have value required to be recognised by GAWB, these being:

- Mt Miller Reservoir Site valued at $80,000; and

- Easement over Orica Land valued at $21,000.

Subsequent review and advice from GAWB on total land valuation to be recognised is only $21,000 (Easement over Orica Land). It is assumed this valuation to be as at 30 June 2006 and it has been separately identified in the List of Assets in *Appendix C (Sheet – Revised Asset List).*

5.2 Asset Condition & Design Lives

5.2.1 Service Potential (Condition) Rating

Table 5.1 below, sets out the rating criteria used for assessing the service potential (condition) of assets to be valued. The rating criteria and its application are the same as used in the recent valuation of GAWB assets in 2005.

Service Potential (Condition) rating for each asset was based on visual site inspection, review of maintenance history, discussions with operations and maintenance staff and overall knowledge gained by previous condition assessments of water supply assets in the Gladstone City / Calliope Shire area by the assessor. More specific condition comments for each asset is provided in *Appendix C (Sheet – Revised Asset List)*

In general the condition of the assets was found to be in a better state than their age may suggest.

To assist with asset identification and understanding of condition, a series of photos were taken during the site inspection of key assets or asset locations and are presented in *Appendix D.*

Table 5.1 Valuation of Asset based on Service Potential (Condition)

Service Potential Rating (previously called Condition Rating)	Service Potential Assessment Criteria (full set) (previous Condition Rating identified the key criteria applicable for GAWB assets, not full set of criteria) *(IMPORTANT: Rating is based on the worst criteria observed/assessed for an asset at the time of inspection/revaluation)*	Estimated Service Potential Consumed (%)	Estimated Remaining Life (% of Total Life #) (as previously assessed)
5	Expected Usage (Service Output) • Asset is performing/operating 100+% effectively to designed service levels and risks are acceptable • Asset often has significant spare capacity • Asset is reliable requiring minimum recommended monitoring • Asset has had (or is expected to have within 5 years) no change to designed service levels which would increase service potential consumption Expected Wear & Tear (Physical Condition) • Asset is in as new or excellent condition • Asset is operating at 100+% design efficiency • Asset requires minimum recommended scheduled surveillance/maintenance • Asset has no observable wear or assessed deterioration and risks are acceptable • Asset has had (or is expected to require within 5 years) no un-scheduled maintenance or repair Technical & Commercial Obsolescence • Asset operating safely (day to day) and risks are acceptable • Asset complies with current standards/requirements and risks are acceptable • Asset embraces modern technology • Asset is not redundant or used for emergencies services only • *Asset is required/commercially viable (GAWB to determine)* *Legal & Similar Limits on Usage* • *Asset at beginning of legal ownership or licence or lease (GAWB to determine)* Age (Key general indicator for all above criteria) • Asset age is < 5% of assessed or recommended useful/economic /design service/*legal* life	0	100 (# Total life is the best estimate of useful life based on the most reliable balance of service, economic, physical and technical design life at the time of valuation or revaluation. Total life is the length of time until an asset is estimated to have no service potential remaining or service potential is not appropriate anymore, that is service potential is fully consumed).

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Table 5.1 cont. Valuation of Asset based on Service Potential (Condition)

Service Potential Rating (previously called Condition Rating)	Service Potential Assessment Criteria (full set) (previous Condition Rating identified the key criteria applicable for GAWB assets, not full set of criteria) *(IMPORTANT: Rating is based on the worst criteria observed/assessed for an asset at the time of inspection/revaluation)*	Estimated Service Potential Consumed (%)	Estimated Remaining Life (% of Total Life #) (as previously assessed)
4	Expected Usage (Service Output) • Asset is performing/operating 100+% effectively to designed service levels and risks are tolerable • Asset may have some spare capacity • Asset is reliable requiring recommended monitoring • Asset has had (or is expected to have within 5 years) a change to designed service levels which slightly increases service potential consumption Expected Wear & Tear (Physical Condition) • Asset is in very good condition • Asset is operating at 100% design efficiency • Asset requires recommended scheduled surveillance/maintenance • Asset has slight observable wear or assessed deterioration and risks are tolerable • Asset has had (or is expected to require within 5 years) no un-scheduled maintenance or repair Technical & Commercial Obsolescence • Asset operating safely (day to day) and risks are tolerable • Asset may not fully comply with all current standards/requirements but risks are tolerable • Asset generally embraces modern technology • Asset is not redundant or used for emergencies services only • *Asset is required/commercially viable (GAWB to determine)* *Legal & Similar Limits on Usage* • *Asset in the early period of legal ownership or licence or lease (GAWB to determine)* Age (Key general indicator for all above criteria) Asset age is 5-15% of assessed or recommended useful/economic /design service/*legal* life	10	90

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Table 5.1 cont. Valuation of Asset based on Service Potential (Condition)

Service Potential Rating (previously called Condition Rating)	Service Potential Assessment Criteria (full set) (previous Condition Rating identified the key criteria applicable for GAWB assets, not full set of criteria) *(IMPORTANT: Rating is based on the worst criteria observed/assessed for an asset at the time of inspection/revaluation)*	Estimated Service Potential Consumed (%)	Estimated Remaining Life (% of Total Life #) (as previously assessed)
3	Expected Usage (Service Output) • Asset is performing/operating 100% effectively to designed service levels and risks are tolerable or could be approaching intolerable for some types of assets • Asset approaching no spare capacity • Asset is reliable requiring recommended monitoring or increased monitoring where risks may be approaching intolerable • Asset has had (or is expected to have within 5 years) a change to designed service levels which significantly increases service potential consumption Expected Wear & Tear (Physical Condition) • Asset is in good condition • Asset is operating at 100% design efficiency • Asset requires recommended scheduled surveillance/maintenance • Asset has slight observable to noticeable wear or assessed deterioration but some risks for some asset types maybe approaching or are intolerable • Asset has had no un-scheduled maintenance or repair but could be expected to have limited occurrences within 5 years Technical & Commercial Obsolescence • Asset operating safely (day to day) and risks are tolerable • Asset does not fully comply with all current standards/requirements and some risks for some asset types maybe approaching or have just moved into the intolerable range and at least upgrade investigation is required • Asset generally embraces modern technology but new innovations maybe of interest • Asset is not redundant or used for emergencies services only • *Asset is required/commercially viable (GAWB to determine)* *Legal & Similar Limits on Usage* • *Asset in the early period of legal ownership or licence or lease (GAWB to determine)* Age (Key general indicator for all above criteria) Asset age is 15-35% of assessed or recommended useful/economic /design service/*legal* life	25	75

Table 5.1 cont. Valuation of Asset based on Service Potential (Condition)

Service Potential Rating (previously called Condition Rating)	Service Potential Assessment Criteria (full set) (previous Condition Rating identified the key criteria applicable for GAWB assets, not full set of criteria) *(IMPORTANT: Rating is based on the worst criteria observed/assessed for an asset at the time of inspection/revaluation)*	Estimated Service Potential Consumed (%)	Estimated Remaining Life (% of Total Life #) (as previously assessed)
2	Expected Usage (Service Output) • Asset is performing/operating 100% effectively to designed service levels but risks for some asset types maybe approaching or are intolerable • Asset has no spare capacity and may for short periods use system reserve/back-up • Asset is reliable but increased monitoring required particularly for some asset types where risks maybe approaching or are intolerable • Asset has had (or is expected to have within 5 years) a change to designed service levels which markedly increases service potential consumption Expected Wear & Tear (Physical Condition) • Asset is in fair condition • Asset is operating at <100% design efficiency • Asset requires recommended scheduled surveillance/maintenance • Asset has noticeable wear or assessed deterioration and risks for some asset types maybe approaching or are intolerable • Asset has had limited un-scheduled maintenance or repair and could be expected to have more within 5 yrs. Technical & Commercial Obsolescence • Asset operating safely (day to day) but risks are increasing but are tolerable • Asset does not comply with some current standards/requirements and risks for some asset types are intolerable and regulator is seeking upgrade • Asset generally has not the most modern technology but is still readily maintained • Asset is not redundant or used for emergencies services only • *Asset is required but has the potential to become commercially unviable (GAWB to determine)* *Legal & Similar Limits on Usage* • *Asset in the middle period of legal ownership or licence or lease (GAWB to determine)* Age (Key general indicator for all above criteria) Asset age is 35-65% of assessed or recommended useful/economic /design service/*legal* life	50	50

Table 5.1 cont. Valuation of Asset based on Service Potential (Condition)

Service Potential Rating (previously called Condition Rating)	Service Potential Assessment Criteria (full set) (previous Condition Rating identified the key criteria applicable for GAWB assets, not full set of criteria) *(IMPORTANT: Rating is based on the worst criteria observed/assessed for an asset at the time of inspection/revaluation)*	Estimated Service Potential Consumed (%)	Estimated Remaining Life (% of Total Life #) (as previously assessed)
1	Expected Usage (Service Output) • Asset is performing/operating <100% effectively to designed service levels and risks for most asset types are approaching and for some asset types are intolerable • Asset has no spare capacity and may for relatively long periods significantly encroach on system reserve/back-up • Asset has a reliable risk requiring significant monitoring with a possible expectation that emergency management provisions maybe required with 5 years • Asset has had (or is expected to have within 5 years) a change to designed service levels which markedly increases service potential consumption Expected Wear & Tear (Physical Condition) • Asset is in poor condition • Asset is operating significantly <100% design efficiency • Asset requires significant scheduled surveillance/maintenance • Asset has significant wear or assessed deterioration and risks for some asset types maybe approaching or are significantly intolerable • Asset has had significant un-scheduled maintenance or repair and could be expected to have more within 5 years Technical & Commercial Obsolescence • Asset operating safely (day to day) but increasing risks maybe becoming intolerable • Asset does not comply with current standards/requirements and increasingly risks for some asset types maybe approaching or are significantly intolerable and regulator is requiring urgent attention or threatening penalties • Asset has technology which is becoming obsolete • Asset is becoming redundant or is or maybe used for emergencies services only • *Asset is required/but becoming commercially unviable (GAWB to determine)* *Legal & Similar Limits on Usage* • *Asset in the latter period of legal ownership or licence or lease (GAWB to determine)* Age (Key general indicator for all above criteria) Asset age is 65-95% of assessed or recommended useful/economic /design service/*legal* life	80	20

Table 5.1 cont. Valuation of Asset based on Service Potential (Condition)

Service Potential Rating (previously called Condition Rating)	Service Potential Assessment Criteria (full set) (previous Condition Rating identified the key criteria applicable for GAWB assets, not full set of criteria) *(IMPORTANT: Rating is based on the worst criteria observed/assessed for an asset at the time of inspection/revaluation)*	Estimated Service Potential Consumed (%)	Estimated Remaining Life (% of Total Life #) (as previously assessed)
0	Expected Usage (Service Output) • Asset is performing/operating much<100% effectively to designed service levels and risks are intolerable with some assets significantly intolerable • Asset has no spare capacity and for long periods significantly encroach on system reserve/back-up • Asset is unreliable requiring major monitoring as emergency management provisions have been invoked or could be expected to be required in the near future • Asset has had a change to designed service levels which effectively reduces service potential consumption to zero Expected Wear & Tear (Physical Condition) • Asset is in an unsatisfactory condition • Asset is operating much <100% design efficiency • Asset requires major scheduled surveillance/maintenance • Asset has excessive wear or assessed deterioration and risks are significantly intolerable • Asset has had or is expected to require major un-scheduled maintenance or repair Technical & Commercial Obsolescence • Asset operating unsafely (day to day) • Asset does not comply with current standards/requirements and risks are extremely intolerable or action has been undertaken by the regulator • Asset has technology which is obsolete • Asset is redundant or being decommissioned • *Asset is not required/commercially unviable (GAWB to determine)* *Legal & Similar Limits on Usage* • *Asset at the end of legal ownership or licence or lease (GAWB to determine)* Age (Key general indicator for all above criteria) Asset age is >95% of assessed or recommended useful/economic /design service/*legal* life	100	0

5.2.2 Design Lives

Table 5.2 below, sets out the design lives used for assessing the remaining life of assets. The design lives are the same as used in the recent valuation of GAWB assets in 2005 and are tested against recognised practice in the water industry. In many instances the design lives provided in the original list of assets were considered not to reflect the overall service potential of the various types of assets to be valued.

Table 5.2 Design Lives

Category	Expected Design Life (years)	Reference / Comments
Roads & Pavement	30	MRD Pavement Design Manual adjusted for low use
Bridges	100	Austroads Bridge Design Manual
Fencing	15	
Site & Dam Earthworks & Spillways	150	Maximum from an economic perspective
Dams Outlets	100	ANCOLD
Electrical – Power	35	Based on local experience
Switchboards	20	Based on local experience
Telemetry/Electrical - Control	10	Based on expected obsolescence of electronics
Flow Meters	15	Based on local experience
Pumps	25	TKL (Note submersible/dosing 15 or 10 respectively)
Electric Motors	25	As per pumps
Misc. Mechanical	25	
Cranes	25	AS1418
Pipelines – AC, RC, FRC	50	Varies with installation
Pipelines – DI, MC, PV	70	Varies with installation
Valves	30	Varies with installation
Concrete Reservoirs	50	AS3600
Buildings, General Structures	50	AS3600
Other Concrete Structures	50	AS3600
Steel Work	35	Varies with installation & site
Special Materials	15	-
Special Structures	25	-
Vehicles	5	
Software/Computing	3	
Equipment	7	
Other Corporate\Items	Various	As per Conquest Designation

5.3 Replacement Costs

5.3.1 Pipelines and Fittings

Modern engineering equivalent for high head/pumped pipelines from 200mm to 375mm diameter cement lined ductile iron (DICL) is normal. For pipelines of 100mm to 150mm diameter unplasticised polyvinylchloride (UPVC) piping is normal. Pipelines for sizes smaller than 100mm are usually high strength black polyethylene (PE).

Pipeline costs were extensively researched as part of the GAWB 2005 valuation. Values for ductile iron pipes were determined from relatively recent contract prices assessed at 30 June 2005 prices and confirmed with TYCO DICL pipe manufacture. Current TYCO pipe prices were again checked and found to have increased generally in line with ABS General Construction Cost Index for Brisbane. Recent contracts for the construction of the 150mm UPVC pipeline at Yarwun by Calliope Shire Council and cross checked with Vinidex, provided the most reliable UPVC pipeline costs. Similarly PE pipelines where valued from current pricing from Vinidex for pipe and fittings and local contract installations costs. In cases where short lengths of PE were under bored under paved roads appropriate addition boring costs were added. Existing asbestos cement (AC) pipes were valued at modern engineering equivalent (either DICL or UPVC)

Total pipeline costs were determined from costs for pipes, pipe fittings and installation plus an additional estimated 8% for site investigation and design costs. Where the assets listed involved fittings such as sluice, scour and air values and fire hydrants, the cost of these installations were determined from current manufacture and typical installation costs. In general these costs were included in the determination of total pipeline costs. Where identified as a separate asset on the list of assets their value was subtracted from the total pipeline cost to give the balance for pipeline cost.

5.3.2 Reservoir and Associated Assets

Concrete reservoir costs which were extensively researched as part of the GAWB 2005 valuation and so were used after confirmation through cross checking current data base information available from the water industry. Costs of associated assets such as security fencing, roads, gravel access track construction and service connections were obtained from Calliope Shire Council based on recent construction rates and checked against other municipal data bases.

Costs for pumping station, chlorinator and telemetry systems were taken from the extensively researched GAWB 2005 valuation rates. Where the assets were a significant cost, a check with manufactures and installation contractors was undertaken.

5.3.3 Indexing

Most appropriate recent cost rates where indexed using the ABS General Construction Cost Index for Brisbane - refer *Appendix C (Sheet – Escalation Rates)* to arrive at 30 June 2006 value which includes an estimate for inflation for the period January to June 2006.

Refer Appendix C (Sheet – Revised Asset List – No Optimisation) for all details of cost rates, inflation factors used and the (Current) Replacement Cost estimate for 30 June 2006.

5.4 Remaining Useful Life & Depreciated Replacement Costs

5.4.1 Service Potential (Condition) and Age Based

Two depreciated replacement costs have been provided in *Appendix C (Sheet – Revised Asset List – No Optimisation)* for 30 June 2006.

The first depreciated replacement cost is age based with the remaining life of the asset calculated as the difference between the design life and age of the asset. This basis is not in accordance with current accounting standards but maybe permitted where there is no other basis available. For this assessment, it is provided purely as a comparison to indicate that a great many of the assets are generally in good condition compared with their age.

The second and appropriate depreciated replacement cost is based on service potential or condition in accordance with the service potential (condition) rating criteria discussed in *Section 5.2.1* above and is in accordance with current accounting standards. The remaining useful life of the asset is taken as the mid point of each of the service potential (condition) ratings, range of useful lives.

5.4.2 Total Current Replacement Costs & Depreciated Replacement Costs

The total Depreciated Replacement Cost (excluding land values which are not depreciated) for both age and service potential (condition) based as determined in *Appendix C (Sheet – Revised Asset List – No Optimisation)* are summarised below in *Table 5.3* for the Yarwun Area infrastructure assets.

Table 5.3 No Optimisation Case Yarwun Area Total Water Infrastructure Replacement & Depreciated Replacement Costs - 30 June 2006 (excluding land valuation)

Replacement Cost $	Depreciated Replacement Costs - Age Based (not in accordance with Accounting Standards) $	Depreciated Replacement Costs - Service Potential (condition) Based $
2,534,164	1,902,566	2,197,799

Note: Land Valuation advised by GAWB is $21,000.

Variations to the total Yarwun Area infrastructure assets depreciated replacement costs (excluding land) are provided in *Appendix C (Sheet – Revised Asset List – No Optimisation)* and include:

- Total Yarwun Assets plus Wilmott Lagoon Assets
- Total Yarwun Assets minus AC Pipeline Supply to Mt. Larcom (i.e. Wilmott Lagoon) owned by GAWB; and

- Total Yarwun Assets minus AC Pipeline Supply to Mt. Larcom (i.e. Wilmott Lagoon) owned by GAWB and minus Mt Elizabeth to Silverdale Pipeline at Calliope owned by GAWB.

5.5 Optimisation (Yarwun Water Supply Infrastructure Assets)

5.5.1 Demands

Following the site visit and discussions with GAWB staff, GAWB requested that five annual future demand scenarios be assessed. The scenarios are as follows:

- *Lower Case* – QCA Case (as per 2005 GAWB Revised Base Case - Pricing assessment) less Stage 2 Comalco;
- *QCA Case Delayed* – QCA Case (as per 2005 GAWB Revised Base Case - Pricing assessment) with Stage 2 Comalco delayed 4 years
- *QCA Case* – QCA Case (as per 2005 GAWB Revised Base Case - Pricing assessment)
- *QCA Case Advanced* – QCA Case (as per 2005 GAWB Revised Base Case - Pricing assessment) with Stage 2 Comalco advanced 2 years; and
- *Higher Case* – QCA Case (as per 2005 GAWB Revised Base Case - Pricing assessment) and no Orica demand reduction plus 1% growth in Mt Larcom Township passed 2005/06.

In addition, a sensitivity check of the normal peak daily ratio identified in QCA 2005 pricing assessment of 1.65 times the average annual demand for industry was also requested. In the absence of readily available peak daily data for the Yarwun Area from GAWB, this check assumed normal residential daily peak factor of 2.5 times the average annual demand.

Such a high peaking factor would be unusual for industrial demands generally operating for at least the majority of the day. Peak daily demands would be of the order of 75 l/sec based on a 1.65 peaking factor. This is about 15% higher the current pumping capacity at Yarwun Water Treatment Plant, so during peak demand periods Mt Miller Reservoir could be expected to be significantly drawn down. Discussions with GAWB staff indicated that during peak demand periods supply difficulties were being experienced which seemed consistent with the above 1.65 peaking factor assessment. If peaking factor of 2.5 was currently being experienced, peak daily demands would be about 115 l/sec and even for one-off peak or very sporadic peaks, much more difficulty of supply than described would likely be experienced.

Appendix E sets out the full set of annual and peak daily demand scenarios.

5.5.2 Yarwun Area System Optimisation

Under normal system planning where high reliability of supplies is required such as the Yarwun Area, a 20 year forward planning horizon would be allowed for and not optimised out. This approach has been taken to determine extent of excess and shortfall in water supply infrastructure for the different demand scenario discussed in *Section 5.5.1* above.

A simplified system hydraulic model (excel spreadsheet) adequate to determine appropriate pipeline sizes for the different demand scenarios was used. In addition, both system arrangements, raising main / gravity supply from Mt Miller Reservoir (current arrangement) and a pumped system with Mt Miller Reservoir floating on the system, were modeled. The modeling for the various demand scenarios and system optimising is set out in *Appendix F*.

An assessment was also undertaken of the appropriate storage capacity of Mt Miller Reservoir for the different demand scenarios. For the high reliability required for treated water supply to key industrial customers, a minimum of 12 hours peak daily demand should remain in storage reserve. Up to a similar additional storage capacity would be normally allowed to take advantage of off-peak electricity tariffs for pumping. This additional storage capacity is normally transferred to reserve storage as demands get higher increasing the duration and higher tariff cost of pumping up to 22 hours a day pumping after which additional storage capacity would normally be added. In some instances additional storage capacity may occur when pumping durations rises to 15 to 20 hours per day if economics indicates overall efficiency is achieved.

In summary the optimisation of the Yarwun Area System indicated the following:

- Demand Scenarios where Assets should be Optimised Down.
    - All demand scenarios with either 1.65 or 2.5 peaking factors for 20 years projections should be optimised down by:
        - Valuing as zero the 150mm diameter UPVC main installed past Queensland Rail service connection as there is no identifiable future service connections;
        - Reducing the size of the existing 300mm diameter DICL main to 150mm diameter UPVC main from Comalco (CAR) service connection to Boat Creek connection with GAWB assets unless Stage 2 Comalco service connection is further down towards Boat Creek.
    - Demand scenario Lower Case with 1.65 peaking factor should be further optimised down by:
        - Reducing the size of the existing 375mm diameter DICL pipeline from Mt Miller Reservoir to Hanson Road to 300mm diameter DICL pipeline; and

- Reducing the size of the existing 300mm diameter DICL pipeline in Hanson Road from connection with the 375mm diameter DICL pipeline to the Comalco (CAR) service connection to 200mm diameter DICL pipeline.

o Demand scenarios QCA Case (all three cases – delayed, base and advanced) with 1.65 peaking factor should be further optimised down by:

- Reducing the size of the existing 375mm diameter DICL pipeline from Mt Miller Reservoir to Hanson Road to 300mm diameter DICL pipeline; and

- Reducing the size of the existing 300mm diameter DICL pipeline in Hanson Road from connection with the 375mm diameter DICL pipeline to the Comalco (CAR) service connection to 250mm diameter DICL pipeline.

o Demand scenarios Higher Case with 1.65 peaking factor has no further optimising.

- Demand Scenarios where Additional Assets will be Required.

o Treatment and Pumping from Yarwun Water treatment Plant to Mt Miller Reservoir

Current pumping capacity (57 l/sec) is at its limit under the raising main/gravity supply system arrangement. While opening the cross connection and converting the system to a direct pumped system with a floating storage will assist in meeting demands, existing pump curve characteristics indicate efficiencies will suffer and additional flows could be limited. The pump system with floating storage arrangement should be tested to confirm the increased pump capacities able to be achieved with existing pumps but in any case it is envisaged that new pumps will be required for Stage 2 Comalco, if not before.

Similarly the current treatment plant capacity is at its limit, requiring at times in the order of 20% over design capacity operation. As with the pumps the treatment plant capacity will need to be increased to 100 l/sec for Stage 2 Comalco, if not before.

Existing replacement and depreciated replacement cost of the treatment plant and pumps (30 June 2006) together with an initial capital cost estimate to upgrade pumps and treatment based on an inflated assessment done for QCA valuations in 2001/02 together with projected operating costs for the *QCA Case* is set out in *Appendix C (Sheet – Revised Asset List – Cells CO117 to DR151).*

- Raising main to Mt Miller Reservoir

  The 300mm diameter DICL rising main is capable of meeting QCA future demand cases based on 1.65 peaking factor or 8.2 ML/d peak daily flows estimated to occur in 20 years time, with velocities and pump head staying within normally acceptable velocity and efficiency limits. Greater demands and peaking would normally see duplication of the raising main. The more cost effective upgrade for Higher Demand Case with 1.65 peaking factor would be to convert the raising main/gravity arrangement to the pumped system and floating storage arrangement and install appropriately upgrade pumps.

  For the greater demands associated with QCA Demand Cases and Higher Demand Case with 2.5 peaking factor, instead of duplication of the rising main, it would be more cost effective to install a shorter length of 300mm diameter DICL from the Yarwun Water Treatment Plant to at least the Orica service connection and convert the system to a pumped system with floating storage. To maintain maximum system flexibility it may be desirable to extend the 300mm diameter DICL to the 375mm diameter DICL main past the Orica service connection. This approach would also overcome undesirable high velocities in the 200mm diameter DICL pipeline supplying Orica service connection arising from the QCA Demand Cases and the Higher Demand Case with 2.5 peaking factor. Construction of between 759m to 1234m of the 300mm diameter DICL would need to be installed, at least by start-up of Stage 2 Comalco, if not before.

  Existing replacement and depreciated replacement cost of the rising main (30 June 2006) is set out in *Appendix C (Sheet – Revised Asset List – Cells CO117 to DR151).*

- Mt Miller Reservoir Capacity

  6 ML current capacity is just adequate to accommodate the Higher Demand Case based on a 1.65 peaking factor or the Lower Demand Case with 2.5 peaking factor and the criteria explained above. The QCA Demand Cases with 2.5 peaking factor would require an additional 3 ML storage constructed and the Higher Demand Case with 2.5 peaking factor would require an additional 5ML storage constructed, at least by start-up of Stage 2 Comalco, if not before.

- Optimisation Conclusion

  Overall, a more detailed system assessment should be undertaken to determine the most cost effective upgrade of pumps associated with varying potential demand increases and for high demand options considering options of additional storage capacity, duplication of the raising main or an additional main passed Orica. Potential future Aldoga industrial expansion may also influence requirements for treated water supplies out of the Yarwun Area.

Provided that appropriately sized new pumps are installed by the time Stage 2 Comalco comes on line or before if found to be required, and the existing rising main/gravity supply arrangement can be successfully converted to a pumped system with floating storage and no unacceptable service pressure fluctuations and inefficiencies occurs with trials, then:

- All demand scenarios with either 1.65 or 2.5 peaking factors for 20 years projections should be optimised down by:
  - Valuing as zero the 150mm diameter UPVC main installed past Queensland Rail service connection; and
  - Reducing the size of the existing 300mm diameter DICL main to 150mm diameter UPVC main from Comalco (CAR) service connection to Boat Creek connection with GAWB assets subject to Stage 2 Comalco service connection requirements.
- Demand scenarios for 20 year projections based on 1.65 peaking factor and the Lower Demand Case with 2.5 peaking factor can be accommodated with the existing Yarwun Area assets proposed to be acquired from Calliope Shire Council;
- Demand scenarios for 20 year projections involving Lower Demand Case and QCA Demand Cases with 1.65 peaking factor should be optimised down by reducing main sizes for certain pipelines.
- Demand scenarios for 20 years projections involving QCA Demand Cases and Higher Demand Case with 2.5 peaking factor will required additional pipeline and storage capacity installed at least by start-up of Stage 2 Comalco, if not before. Cost of these works would range from $540,000 to $890.000 (as at 30 June 2006) depending on the peak high demand case eventuating and length of duplication installed.

Table 5.4 sets out the Total Optimised Replacement and Depreciated Optimised Replacement Costs for the main demand scenarios.

Table 5.4 Yarwun Area Total Water Infrastructure Optimised Replacement & Depreciated Optimised Replacement Costs - 30 June 2006 (excluding land valuation)

Demand Case	Replacement Cost $	Depreciated Replacement Costs - Service Potential (condition) Based $
Lower Optimised	2,088,618	1,776,833
QCA (All three cases – delayed, base and advanced) Optimised	2,148,119	1,832,868
Higher Optimised	2,334,251	2,002,883

Note: Land Valuation advised by GAWB is $21,000.

5.6 Pricing

The agreed forward pricing regime with GAWB, to be used in Yarwun Area Assets PV analysis, is as follows:

- Pricing provided by GAWB of $101.84 per ML (2005/06) was determined from GAWB's corporate financial / pricing model developed for establishing 2005 pricing in accordance with QCA requirements. (An initial price provided by GAWB based on the pricing established between GAWB and Calliope Shire Council between 2002 and 2005 adjusted by CPI inflation involving depreciated replacement costs (total $1,222,100) determined on an age basis on 31 March 2002 was subsequently considered not appropriate. *Appendix C (Sheet – Revised Asset List – Value Comparison & Pricing* sets out the establishment of this initial price not subsequently used); and

- Assume CPI (2.51% per annum) index pricing from 2005/06 will continue for the 20 year assessment period.

5.7 Present (Fair) Value & Net Present Value Analysis – Yarwun Area Assets

The Present Value (PV) and Net present Value Analysis (NPV) is detailed in *Appendix C (Sheet – Cashflow Yarwun Agreed)* and is based on valuations as required under the consultancy as at 30 June 2006.

Pricing used is as agreed and determined above in *Section 5.6*.

The methodology used was generally the same used in the GAWB 2005 Valuation and key aspects are set out in *Appendix C (Sheet – Cashflow Yarwun Agreed)*. Key aspects are discussed below:

- Taxation

  - GAWB have advised that they have accumulated tax losses and that tax is divided out to zones (Segments). It is not possible for us to model this without GAWB's corporate financial / pricing model;

  - GAWB have provided us with one taxation scenario based on *QCA Case scenario*. This taxation estimate has been applied to each of the scenarios but it should be recognised that this approach is not ideal but is the best estimate available at present; and

  - To establish the best estimate of tax applicable for each scenario for inclusion in the NPV calculation, the revenue and costs of each scenario would need to be run through GAWB's corporate financial / pricing model.

- Weighted Average Cost of Capital, Forecasted Inflation rate and Return on Investment

  - Initial determination of the two key parameters Weighted Average Cost of Capital (WACC) and the Forecasted Inflation Rate were 8.05% and 2.67% respectively, based on the same used in GAWB 2005 valuation as indicators such as the 10 year bond rate are effectively the same as when the GAWB 2005 valuation and PV analysis was undertaken;

  - However, after discussion with GAWB it was agreed that the WACC (7.73%) and Forecasted Inflation Rate (2.51%) used by GAWB to determine their pricing should continue to be used so as to remain in line with pricing established in accordance with QCA requirements;

  - For the QCA pricing approach, the return on investment is determined as "(Regulated Asset Base) multiplied by (WACC less forecasted inflation rate). This approach, while not universally used, removes the inflationary capital gain from pricing. The approach was used in establishing the price provided by GAWB (*Section 5.6*) and in undertaking the PV and NPV analyses; and

  - GAWB advised that the additional administration cost identified after discussion with Calliope Shire Council would not apply upon purchase of assets by GAWB's. This additional cost would either be offset by a similar reduction in current GAWB costs dealing with customer issues in Yarwun Area or absorbed in corporate efficiencies.

Cumulative Cashflows, Present Values and Net Present Values for five demand optimised cases and one demand case with no optimisation are summarised in *Appendix C (Sheet – Cashflow Summary)*.

Table 5.5 sets out the PVA or "Fair Value" outcomes for the Yarwun Area Assets over 20 years for five demand optimised cases and one demand case with no optimisation.

Table 5.5 Present Values (30 June 2006)

Demand Case	Present Value $
Lower Optimised	1,411,736
QCA Delayed Optimised	1,847,439
QCA Base Optimised	1,982,374
QCA Advanced Optimised	2,066,366
Higher Optimised	2,409,390
QCA Base No Optimisation	1,955,161

Table 5.6 sets out the Net Present Values for the Yarwun Area Assets over 20 years for five demand optimised cases and one demand case with no optimisation.

Table 5.6 Net Present Values (30 June 2006) including land valuation

Demand Case	Net Present Value $
Lower Optimised	- 366,943
QCA Delayed Optimised	-6,110
QCA Base Optimised	122,131
QCA Advanced Optimised	201,956
Higher Optimised	366,382
QCA Base No Optimisation	-250,558

Table 5.7 sets out the Cumulative Cashflow over 20 years for the Yarwun Area Assets for five demand optimised cases and one demand case with no optimisation.

Table 5.7 Cumulative Cash Flows over 20 Years

Demand Case	Cumulative $
Lower Optimised	593,002
QCA Delayed Optimised	1,397,178
QCA Base Optimised	1,573,747
QCA Advanced Optimised	1,666,735
Higher Optimised	2,135,629
QCA Base No Optimisation	1,162,436

In addition, the price required on 30 June 2006 and inflated by CPI over the next 20 years, to achieve a positive (near zero) NPV was also determined for five demand optimised cases and one demand case with no optimisation and are detailed in *Appendix C (Sheet – Cashflow Yarwun NPV Zero)*.

Table 5.8 sets out the Price on 30 June 2006 required to achieve a positive (near zero) NPV for the Yarwun Area assets over the next 20 years for five demand optimised cases and one demand case with no optimisation.

Table 5.8 Price for Zero NPV (30 June 2006) including land valuation

Demand Case	Price $/ML
Lower Optimised	127
QCA Delayed Optimised	105
QCA Base Optimised	100
QCA Advanced Optimised	96
Higher Optimised	91
QCA Base No Optimisation	116

5.8 Other Assets Valued

During the course of the study in response to discussions on rationalisation of ownership of assets, GAWB requested that several other assets outside the Yarwun Asset Area be valued. These additional assets were as follows:

- Water supply assets from East End Reservoir to Wilmott Lagoon including the pipeline owned by GAWB and Wilmott Pumping Station and Chlorinator owned by Calliope Shire Council; and
- Pipeline at Calliope owned by GAWB between Mt Elizabeth and Silverdale Reservoirs.

These assets which are also listed in *Appendix C (Sheet – Revised Asset List)* have been kept separate from the Yarwun Area assets.

Table 5.9 provides a summary of valuation outcomes. All these other assets were assessed to be at or near their optimum so no optimisation was consider necessary.

Table 5.9 Other Assets Replacement & Depreciated Replacement Costs (same for optimised) - 30 June 2006

Demand Case	Replacement Cost $	Depreciated Replacement Costs - Service Potential (condition) Based $
Wilmott Lagoon Assets (Pump Station, Chlorinator & associated assets) - Calliope Shire Council	144,599	94,478
AC Pipeline Supply (including fittings) to Mount Larcom - GAWB Asset Number 1914	182,356	136,767
Mt Elizabeth to Silverdale AC Pipeline (including fittings) at Calliope - GAWB Asset Number 859	453,450	340,087

Appendix A

Listing of Likely Assets to be Valued

WATER ASSETS - YARWUN INDUSTRIAL AREA WATER SUPPLY SCHEME

Asset Description & Location	Year Created	Useful Life	Age	Expiry	Rep Cost (as at 30 June 2003)	Date	Current Rep Cost (CPI Indexed 3.6%)	Deprec'n (p.a)	Written Down Value
Telemetry - Mount Larcom Reservoir	1/07/1990	20	15	1/07/2010	$8,400.00	13/01/2005	$8,702.40	$420	$2,377
Wind Generator & Solar Cells - Mount Larcom Reservoir	1/07/1990	20	15	1/07/2010	$4,500.00	13/01/2005	$4,662.00	$225	$1,273
100mm CI Pipework & Fittings - Mount Larcom Reservoir	1/07/1965	110	40	1/07/2075	$5,400.00	13/01/2005	$5,594.40	$49	$3,582
Telemetry Unit - Mt Larcom Reservoir	14/04/2004	20	1	14/04/2024	$6,800.00	13/01/2005	$7,044.80	$340	$6,780
Pump Station Building - Wilmott Pump Station	1/07/1990	100	15	1/07/2090	$91,680.00	13/01/2005	$94,980.48	$916	$81,172
Formed Pavement	1/07/1965	100	40	1/07/2065	$3,000.00	13/01/2005	$3,108.00	$30	$1,879
Pump No.1 - Wilmott Pump Station	1/07/1990	25	15	1/07/2015	$9,200.00	13/01/2005	$9,531.20	$368	$3,988
Pump No.2 - Wilmott Pump Station	1/07/1990	25	15	1/07/2015	$9,200.00	13/01/2005	$9,531.20	$368	$3,988
Pump Station Switchboard & Electrics - Wilmott Pump Station	1/07/1990	20	15	1/07/2010	$1,500.00	13/01/2005	$1,554.00	$75	$424
Gantry & Steel Work - Wilmott Pump Station	1/07/1990	80	15	1/07/2070	$4,100.00	13/01/2005	$4,247.60	$51	$3,475
100mm Pipework & Fittings - Wilmott Pump Station	1/07/1990	110	15	1/07/2100	$9,200.00	13/01/2005	$9,531.20	$84	$8,271
Telemetry - Wilmott Pump Station	1/07/1994	20	11	1/07/2014	$8,400.00	13/01/2005	$8,702.40	$420	$4,117
100mm AC Main - Willmott Road	1/07/1965	50	40	1/07/2015	$179,070.00	13/01/2005	$185,516.52	$3,579	$38,816
(200mm) Sluice Valve - Reid Road	7/08/1997	50	7	1/08/2047	$1,915.00	13/01/2005	$1,983.94	$38	$1,689
200mm DI Main - Reid Road	7/08/1997	110	7	1/08/2107	$9,396.00	13/01/2005	$9,734.26	$85	$9,076
200mm Sluice Valve - Hanson Road	30/06/1989	50	16	1/07/2039	$1,915.00	13/01/2005	$1,983.94	$38	$1,367
200mm DICL Main - Hanson Road	30/06/1989	110	16	1/07/2099	$73,630.00	13/01/2005	$76,280.68	$669	$65,497
200mm DI Main - Lot 138 CTN 2123	7/08/1997	110	7	1/08/2107	$124.00	13/01/2005	$128.46	$1	$120
200mm DI Main - Lot 138 CTN 2123	7/08/1997	110	7	1/08/2107	$1,457.00	13/01/2005	$1,509.45	$13	$1,407
(200mm) Sluice Valve - Lot 138 CTN 2123	7/08/1997	50	7	1/08/2047	$3,830.00	13/01/2005	$3,967.88	$77	$3,377
375mm DICL Main - Lot 142 CTN2143	30/06/1989	110	16	1/07/2099	$66,919.00	13/01/2005	$69,328.08	$608	$59,527
(375mm) Hydrant Set - Lot 142 CTN2143	30/06/1989	50	16	1/07/2039	$525.00	13/01/2005	$543.90	$11	$375
200mm DI Main - Reid Road	7/08/1997	110	7	1/08/2107	$8,009.00	13/01/2005	$8,297.32	$73	$7,736
(200mm) Hydrant - Reid Road	7/08/1997	50	7	1/08/2047	$525.00	13/01/2005	$543.90	$10	$463
150mm DI Main - Lot 138 CTN 2123	7/08/1997	110	7	1/08/2107	$1,238.00	13/01/2005	$1,282.57	$11	$1,196
(150mm) Sluice Valve - Lot 138 CTN 2123	7/08/1997	50	7	1/08/2047	$2,400.00	13/01/2005	$2,486.40	$48	$2,116
(200mm) Scour Valve - Reid Road	7/08/1997	50	7	1/08/2047	$1,975.00	13/01/2005	$2,046.10	$39	$1,742
(200mm) Sluice Valve - Reid Road	7/08/1997	50	7	1/08/2047	$1,915.00	13/01/2005	$1,983.94	$38	$1,689
(200mm) Scour Valve - Reid Road	7/08/1997	50	7	1/08/2047	$1,975.00	13/01/2005	$2,046.10	$39	$1,742
(200mm) Sluice Valve - Reid Road	7/08/1997	50	7	1/08/2047	$1,915.00	13/01/2005	$1,983.94	$38	$1,689
200mm DI Main - Reid Road	7/08/1997	110	7	1/08/2107	$74,212.00	13/01/2005	$76,883.63	$674	$71,685
Scour Valve - Hanson Road	30/06/1989	50	16	1/07/2039	$2,000.00	13/01/2005	$2,072.00	$40	$1,428
300mm Fire Hydrant - Hanson Road	30/06/1989	50	16	1/07/2039	$525.00	13/01/2005	$543.90	$10	$375
300mm Sluice Valve - Hanson Road	30/06/1989	50	16	1/07/2039	$3,850.00	13/01/2005	$3,988.60	$77	$2,749
300mm DICL Main - Hanson Road	30/06/1989	110	16	1/07/2099	$103,396.00	13/01/2005	$107,118.26	$939	$91,986
Air Valve - Hanson Road	30/06/1989	50	16	1/07/2039	$730.00	13/01/2005	$756.28	$15	$521
200mm DI Main - Reid Road	7/08/1997	110	7	1/08/2107	$2,663.00	13/01/2005	$2,758.87	$24	$2,572
Air Valve - Lot 1 RP612126	30/06/1989	50	16	1/07/2039	$730.00	13/01/2005	$756.28	$15	$521
Scour Valve - Lot 1 RP612126	30/06/1989	50	16	1/07/2039	$1,000.00	13/01/2005	$1,036.00	$20	$714
375mm DICL Main - Lot 1 RP612126	30/06/1989	110	16	1/07/2099	$390,993.00	13/01/2005	$405,068.75	$3,552	$347,844
375mm Sluice Valve - Lot 1 RP612126	30/06/1989	50	16	1/07/2039	$13,700.00	13/01/2005	$14,193.20	$274	$9,782
(200mm) Sluice Valve - Reid Road	7/08/1997	50	7	1/08/2047	$1,915.00	13/01/2005	$1,983.94	$38	$1,689
200mm DI Main - Reid Road	7/08/1997	110	7	1/08/2107	$553.00	13/01/2005	$572.91	$5	$534
300mm DICL Water Main	15/01/2002	110	3	15/01/2112	$255,243.00	13/01/2005	$264,431.75	$2,320	$257,227
Fire Hydrant Assembly	15/01/2002	50	3	15/01/2052	$1,050.00	13/01/2005	$1,087.80	$21	$1,023
Air Valve Assembly - 80mm - Ventomat	15/01/2002	50	3	15/01/2052	$1,485.00	13/01/2005	$1,538.46	$30	$1,446
Scour Valve Assembly - 100mm	15/01/2002	50	3	15/01/2052	$3,000.00	13/01/2005	$3,108.00	$60	$2,922
300mm DICL Main	15/01/2002	110	3	15/01/2112	$3,877.00	13/01/2005	$4,016.57	$35	$3,907
Sluice Valve Assembly - 300mm	15/01/2002	50	3	15/01/2052	$3,850.00	13/01/2005	$3,988.60	$77	$3,750
300mm DICL Main	15/01/2002	110	3	15/01/2112	$2,679.00	13/01/2005	$2,775.44	$24	$2,700
Air Valve Assembly - 80mm - Ventomat	15/01/2002	50	3	15/01/2052	$495.00	13/01/2005	$512.82	$10	$482
Pipework & Fittings - Mount Miller Reservoir	1/07/1989	50	16	1/07/2039	$21,000.00	13/01/2005	$21,756.00	$420	$14,995
Concrete Reservoir & Pits - Mount Miller Reservoir	1/07/1989	110	16	1/07/2099	$570,000.00	13/01/2005	$590,520.00	$5,178	$507,109
Bitumen Seal	1/07/1989	16	16	1/07/2005	$12,480.00	13/01/2005	$12,929.28	$779	$374
Sealed Pavement	1/07/1989	50	16	1/07/2039	$57,600.00	13/01/2005	$59,673.60	$1,151	$41,130
Aluminium Roof & Access Ladders - Mount Miller Reservoir	1/07/1989	80	16	1/07/2069	$80,000.00	13/01/2005	$82,880.00	$999	$66,783
63mm OD Poly Main - Reid Road - From WTP to Sewage PS No1	7/08/1990	110	14	7/08/2100	$7,650.00	13/01/2005	$7,925.40	$69	$6,885
150mm UPVC Water Main - Reid Road Extension	1/12/2004	110	0	1/12/2114	$205,000.00	13/01/2005	$205,000.00	$1,862	$204,781
20mm Water Connection - Gasgate - Lot 144 CTN2170	1/12/1990	30	14	1/12/2020	$510.00	13/01/2005	$510.00	$17	$270
20mm Water Connection - Sewage Pump Station 2- Landing Road -Lot 130 CTN1912	1/07/1990	30	15	1/07/2020	$510.00	13/01/2005	$510.00	$17	$263
25mm Water Connection - Sewage Pump Station 1- Reid Rd/ Hanson Rd Intersection	1/10/1989	30	15	1/10/2019	$635.00	13/01/2005	$635.00	$21	$311
25mm Water Connection - Trade Waste Facility- Lot 145 CTN2170	1/12/1990	30	14	1/12/2020	$635.00	13/01/2005	$635.00	$21	$336
25mm Water Connection - QLD Rail Terminal- Lot143 CP 858040	3/03/1997	30	8	3/03/2027	$635.00	13/01/2005	$635.00	$21	$468
40mm Water Connection -Magnesium Plant - Lot 141 CP 865942	1/12/1997	30	7	1/12/2027	$1,800.00	13/01/2005	$1,800.00	$60	$1,373
50mm Water Connection -Sewage Plant - Lot 139 CTN 2130	1/10/1989	30	15	1/10/2019	$2,600.00	13/01/2005	$2,600.00	$87	$1,274
50mm Water Connection -Water Treatment Plant - Lot 140 CTN 2130	15/12/1997	30	7	15/12/2027	$2,600.00	13/01/2005	$2,600.00	$87	$1,986
150mm Water Connection -CAR	1/07/2002	30	3	1/07/2032	$7,500.00	13/01/2005	$7,500.00	$250	$6,865
200mm Water Connection - Orica - Lot 138 CTN 2123	1/07/1989	30	16	1/07/2019	$8,500.00	13/01/2005	$8,500.00	$283	$4,095
					$2,363,824.00		**$2,440,608.36**		**$1,982,675**

PROPOSED ACQUISITION OF ASSETS

ASSETS NOT ESSENTIAL TO GAWB OPERATION.

Faxed Darrid Watson 17/1/06

Appendix B

Plan of Yarwun Area – Calliope Shire Water Infrastructure

Yarwun Assets

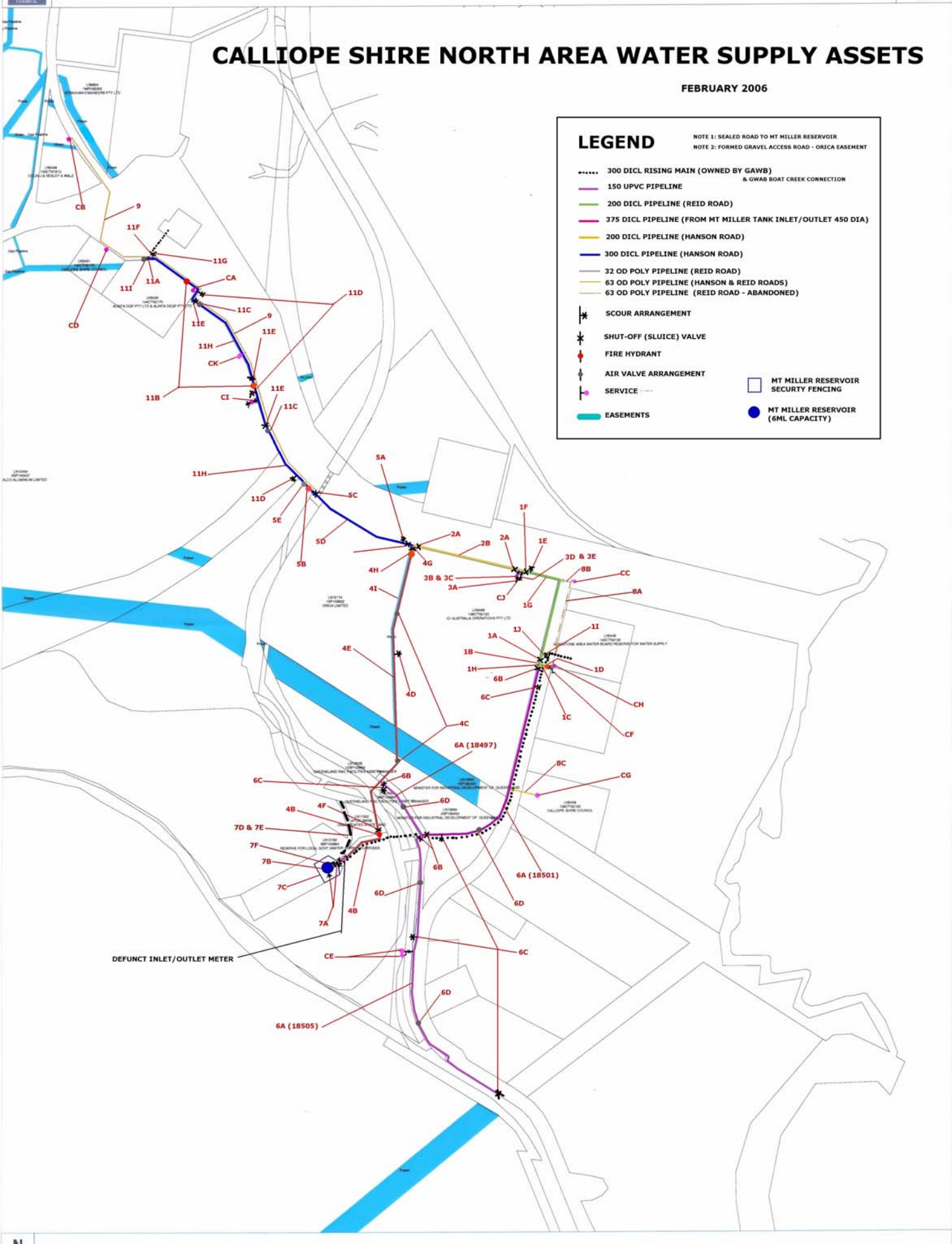
Calliope Shire Council

The information shown on this map is provided for convenience and should be considered approximate only. No responsibility will be accepted for any costs incurred as a result of inaccuracies, omissions or errors associated with this map.

2/2/2006

CALLIOPE SHIRE NORTH AREA WATER SUPPLY ASSETS

FEBRUARY 2006



Appendix C

Valuation of Verified Assets &

PV/NPV Assessment

Refer Data Base on Electronic File –

Appendix C Nth_Calliope_Treated_Water_Assets_for_Valuation_Final 15_Apr_06_PV_NPV.xls

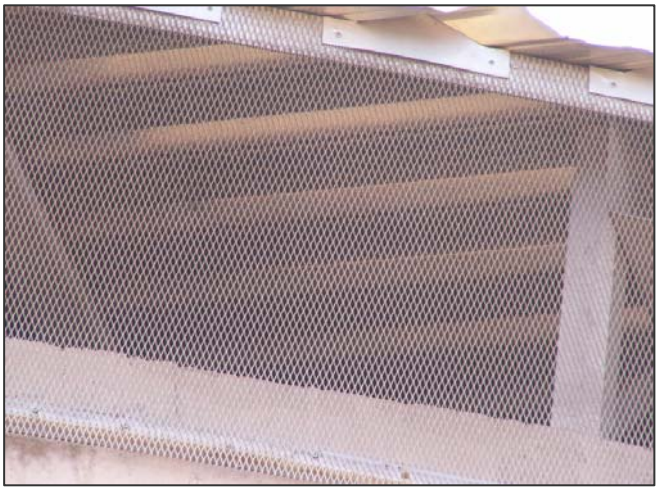
Appendix D

Photos of Key Assets & Locations

APPENDIX D

GAWB DORC VALUATION - CALLIOPE SHIRE COUNCIL WATER INFRASTUCTURE

Mt Miller Reservoir (including security fencing & access ladder) – good condition



Mt Miller Reservoir – Aluminium Roof & Ventilation Screening – good condition

Mt Miller Reservoir – Wall / Floor Seal – good condition

Mt Miller Reservoir – Well maintained & no seepage

Mt Miller Reservoir – Access Road
Well maintained & good condition

Orica Easement – Access Track
Well maintained & good condition

Typical Road Pipeline Location & Access – Well maintained

Typical Older Style Scour and Valve Pit – Good condition

Typical New 50mm Air Valve – As new

Typical New Air Valve Pit – As new

Orica Metered Service Connection with By-pass – Satisfactory Condition

Orica 200mm Meter – Satisfactory Condition

Typical 20mm Temporary Service Connection – Good condition

Comalco Service Connection, By-pass & Raw Water Supply – Good Condition

Typical Valve Markers and Valve Access Capping

Wilmott Pumping Station (PS) & Chlorinator – Good condition

Wilmott PS Electrical Switch Board – Good condition

Wilmott Pumps & Pipework – Satisfactory condition

Wilmott Chlorinator Storage Tanks, Dosing Pump & Safety Shower - Satisfactory condition

East End to Wilmott Lagoon (Mt Larcom) 100 AC Pipeline (GAWB) – Access well maintained

Appendix E

Annual & Peak Daily Demand Scenarios

Gladstone Area Water Board Assessment - 2005 **Demands - Revised QCA Base Case** (with Calliope Shire update advice 21 Feb 2005)	Year	Actual #	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
		2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	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
		ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a
		# Provided Feb 2006																					
Yarwun Water Treatment Plant																							
Orica Australia - Advised predicted 30% reduction by 2006/07		967	835	670	670	670	670	670	670	670	670	670	670	670	670	670	670	670	670	670	670	670	670
Comalco (CAR) - Advised predicted 15 l/s Stage 1 by 2005/06 & 30 l/s Stage 2 by 2009/10		354	473	473	473	710	947	947	947	947	947	947	947	947	947	947	947	947	947	947	947	947	947
Yarwun - Calliope Shire Council Domestic and Commercial incl Red Mud Industry		47	66	68	70	72	74	76	78	81	84	87	90	93	96	99	102	105	108	111	114	117	120
Mt Larcom - Calliope Shire Council domestic and commercial		43	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
East End Mine		32	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33
TOTAL YWTP		**1,443**	**1,452**	**1,289**	**1,291**	**1,530**	**1,769**	**1,771**	**1,773**	**1,776**	**1,779**	**1,782**	**1,785**	**1,788**	**1,791**	**1,794**	**1,797**	**1,800**	**1,803**	**1,806**	**1,809**	**1,812**	**1,815**

NOTE: 2004/05 Estimate based on 204 days of flow data logger
from 1-08-2004 to 20-02-2005 total delivered 849ML was ------- ---------- ---------- 1518

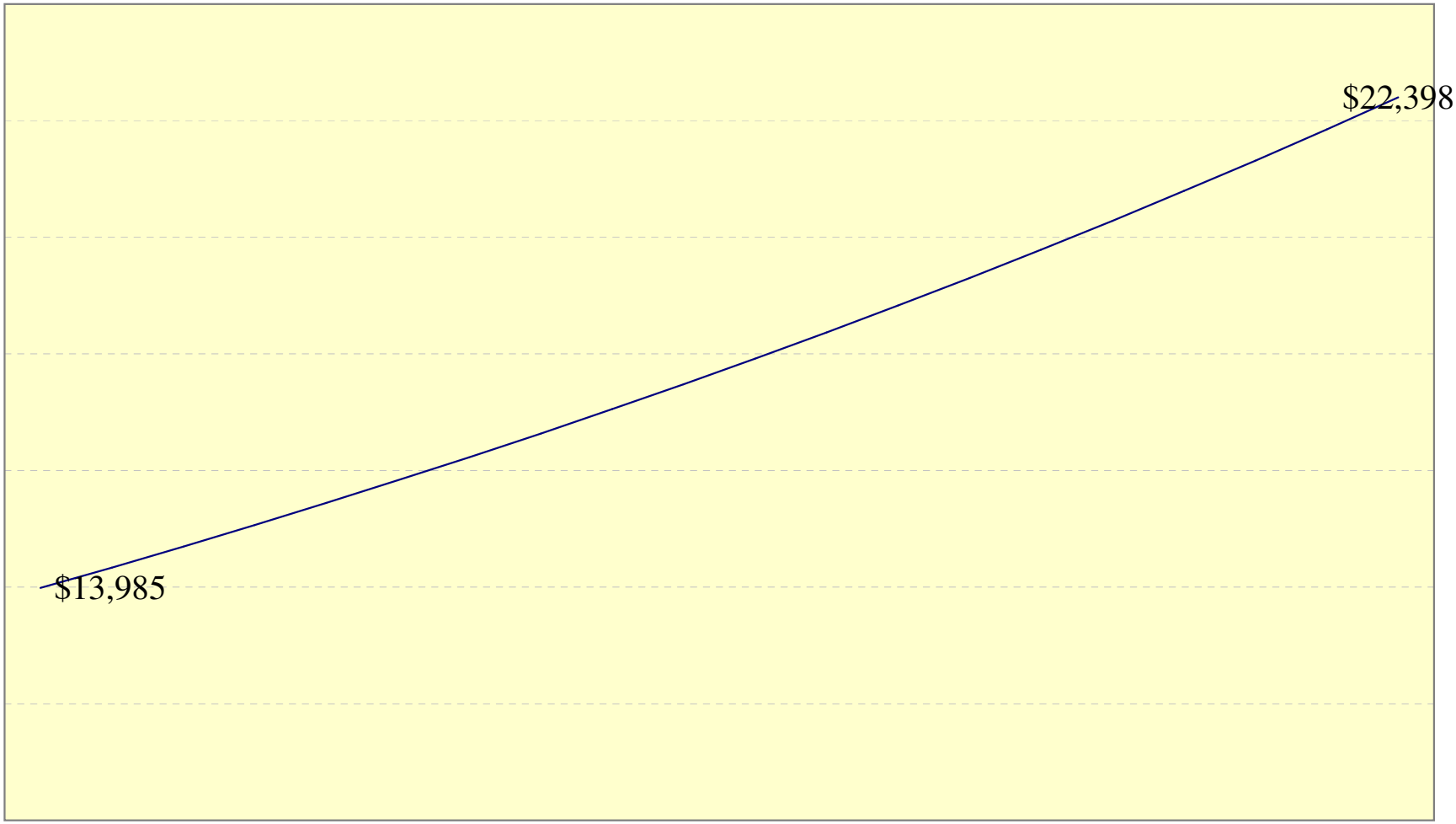
Gladstone Area Water Board Assessment - 2006 **Yarwun Treated Water Demand Forecasts** (Total for DORC valuation)	Year	Actual #	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
		2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
		ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a
Lower Case - QCA Case less Stage 2 Comalco		**1443**	**1452**	**1289**	**1291**	**1,293**	**1,295**	**1,297**	**1,299**	**1,302**	**1,305**	**1,308**	**1,311**	**1,314**	**1,317**	**1,320**	**1,323**	**1,326**	**1,329**	**1,332**	**1,335**	**1,338**	**1,341**
QCA Delayed Case - Comalco Stage 2 delayed 4 years		**1443**	**1452**	**1289**	**1291**	**1530**	**1,295**	**1,297**	**1,299**	**1,539**	**1779**	**1782**	**1785**	**1788**	**1791**	**1794**	**1797**	**1800**	**1803**	**1806**	**1809**	**1812**	**1815**
QCA Base Case - As per above 2005 Revised QCA Base Case		**1443**	**1452**	**1289**	**1291**	**1530**	**1769**	**1771**	**1773**	**1776**	**1779**	**1782**	**1785**	**1788**	**1791**	**1794**	**1797**	**1800**	**1803**	**1806**	**1809**	**1812**	**1815**
QCA Advanced Case - Comalco Stage 2 advanced 2 years		**1443**	**1452**	**1,526**	**1,765**	**1,767**	**1769**	**1771**	**1773**	**1776**	**1779**	**1782**	**1785**	**1788**	**1791**	**1794**	**1797**	**1800**	**1803**	**1806**	**1809**	**1812**	**1815**
Higher Case - QCA Case and no Orica Reduction (plus 1.0% growth in Mt Larcom past 2005/06)		**1443**	**1,584**	**1,587**	**1,590**	**1,830**	**2,070**	**2,073**	**2,076**	**2,080**	**2,084**	**2,088**	**2,092**	**2,096**	**2,100**	**2,104**	**2,108**	**2,112**	**2,116**	**2,120**	**2,124**	**2,128**	**2,132**
Higher Case for Mt Larcom - 1% growth from 2005/06)		43	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65

Gladstone Area Water Board Assessment - 2006 **Yarwun Treated Water Peak Daily Demands** Basis: GAWB Average Peak Daily Flows for Treated Bulk Water Supplies Times Factor over average annual demands: 1.65	Year	Actual #	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
		2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	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
		ML/d	ML/d	ML/d	ML/d	ML/d	ML/d	ML/d	ML/d	ML/d	ML/d	ML/d	ML/d	ML/d	ML/d	ML/d	ML/d	ML/d	ML/d	ML/d	ML/d	ML/d	ML/d
Lower Case - QCA Case less Stage 2 Comalco		**6.52**	**6.56**	**5.83**	**5.84**	**5.85**	**5.85**	**5.86**	**5.87**	**5.89**	**5.90**	**5.91**	**5.93**	**5.94**	**5.95**	**5.97**	**5.98**	**5.99**	**6.01**	**6.02**	**6.03**	**6.05**	**6.06**
	l/sec	75.50	75.97	67.44	67.55	67.65	67.76	67.86	67.97	68.12	68.28	68.44	68.59	68.75	68.91	69.06	69.22	69.38	69.53	69.69	69.85	70.01	70.16
QCA Delayed Case - Comalco Stage 2 delayed 4 years		**6.52**	**6.56**	**5.83**	**5.84**	**6.92**	**5.85**	**5.86**	**5.87**	**6.96**	**8.04**	**8.06**	**8.07**	**8.08**	**8.10**	**8.11**	**8.12**	**8.14**	**8.15**	**8.16**	**8.18**	**8.19**	**8.20**
	l/sec	75.50	75.97	67.44	67.55	80.05	67.76	67.86	67.97	80.52	93.08	93.24	93.39	93.55	93.71	93.86	94.02	94.18	94.34	94.49	94.65	94.81	94.96
QCA Base Case - As per above 2005 Revised QCA Base Case		**6.52**	**6.56**	**5.83**	**5.84**	**6.92**	**8.00**	**8.01**	**8.01**	**8.03**	**8.04**	**8.06**	**8.07**	**8.08**	**8.10**	**8.11**	**8.12**	**8.14**	**8.15**	**8.16**	**8.18**	**8.19**	**8.20**
	l/sec	75.50	75.97	67.44	67.55	80.05	92.56	92.66	92.77	92.92	93.08	93.24	93.39	93.55	93.71	93.86	94.02	94.18	94.34	94.49	94.65	94.81	94.96
QCA Advanced Case - Comalco Stage 2 advanced 2 years		**6.52**	**6.56**	**6.90**	**7.98**	**7.99**	**8.00**	**8.01**	**8.01**	**8.03**	**8.04**	**8.06**	**8.07**	**8.08**	**8.10**	**8.11**	**8.12**	**8.14**	**8.15**	**8.16**	**8.18**	**8.19**	**8.20**
	l/sec	75.50	75.97	79.84	92.35	92.45	92.56	92.66	92.77	92.92	93.08	93.24	93.39	93.55	93.71	93.86	94.02	94.18	94.34	94.49	94.65	94.81	94.96
Higher Case - QCA Case and no Orica Reduction (plus 1.0% growth in Mt Larcom past 2005/06)		**6.52**	**7.16**	**7.17**	**7.19**	**8.27**	**9.36**	**9.37**	**9.38**	**9.40**	**9.42**	**9.44**	**9.46**	**9.48**	**9.49**	**9.51**	**9.53**	**9.55**	**9.57**	**9.58**	**9.60**	**9.62**	**9.64**
	l/sec	75.50	82.88	83.03	83.19	95.75	108.30	108.46	108.62	108.83	109.04	109.25	109.46	109.67	109.87	110.08	110.29	110.50	110.71	110.92	111.13	111.34	111.55

Gladstone Area Water Board Assessment - 2006 **Yarwun Treated Water Peak Daily Demands** Basis: High Residential Peak Daily Flows for Treated Water Supplies Times Factor over average annual demands: 2.5	Year	Actual #	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
		2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	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
		ML/d	ML/d	ML/d	ML/d	ML/d	ML/d	ML/d	ML/d	ML/d	ML/d	ML/d	ML/d	ML/d	ML/d	ML/d	ML/d	ML/d	ML/d	ML/d	ML/d	ML/d	ML/d
Lower Case - QCA Case less Stage 2 Comalco		**9.88**	**9.95**	**8.83**	**8.84**	**8.86**	**8.87**	**8.88**	**8.90**	**8.92**	**8.94**	**8.96**	**8.98**	**9.00**	**9.02**	**9.04**	**9.06**	**9.08**	**9.10**	**9.12**	**9.14**	**9.16**	**9.18**
	l/sec	114.39	115.11	102.18	102.34	102.50	102.66	102.82	102.98	103.22	103.45	103.69	103.93	104.17	104.40	104.64	104.88	105.12	105.36	105.59	105.83	106.07	106.31
QCA Delayed Case - Comalco Stage 2 delayed 4 years		**9.88**	**9.95**	**8.83**	**8.84**	**10.48**	**8.87**	**8.88**	**8.90**	**10.54**	**12.18**	**12.21**	**12.23**	**12.25**	**12.27**	**12.29**	**12.31**	**12.33**	**12.35**	**12.37**	**12.39**	**12.41**	**12.43**
	l/sec	114.39	115.11	102.18	102.34	121.29	102.66	102.82	102.98	122.00	141.03	141.27	141.50	141.74	141.98	142.22	142.46	142.69	142.93	143.17	143.41	143.65	143.88
QCA Base Case - As per above 2005 Revised QCA Base Case		**9.88**	**9.95**	**8.83**	**8.84**	**10.48**	**12.12**	**12.13**	**12.14**	**12.16**	**12.18**	**12.21**	**12.23**	**12.25**	**12.27**	**12.29**	**12.31**	**12.33**	**12.35**	**12.37**	**12.39**	**12.41**	**12.43**
	l/sec	114.39	115.11	102.18	102.34	121.29	140.24	140.40	140.55	140.79	141.03	141.27	141.50	141.74	141.98	142.22	142.46	142.69	142.93	143.17	143.41	143.65	143.88
QCA Advanced Case - Comalco Stage 2 advanced 2 years		**9.88**	**9.95**	**10.45**	**12.09**	**12.10**	**12.12**	**12.13**	**12.14**	**12.16**	**12.18**	**12.21**	**12.23**	**12.25**	**12.27**	**12.29**	**12.31**	**12.33**	**12.35**	**12.37**	**12.39**	**12.41**	**12.43**
	l/sec	114.39	115.11	120.97	139.92	140.08	140.24	140.40	140.55	140.79	141.03	141.27	141.50	141.74	141.98	142.22	142.46	142.69	142.93	143.17	143.41	143.65	143.88
Higher Case - QCA Case and no Orica Reduction (plus 1.0% growth in Mt Larcom past 2005/06)		**9.88**	**10.85**	**10.87**	**10.89**	**12.53**	**14.18**	**14.20**	**14.22**	**14.25**	**14.27**	**14.30**	**14.33**	**14.36**	**14.38**	**14.41**	**14.44**	**14.47**	**14.49**	**14.52**	**14.55**	**14.58**	**14.60**
	l/sec	114.39	125.57	125.81	126.05	145.07	164.10	164.34	164.57	164.89	165.21	165.53	165.84	166.16	166.48	166.79	167.11	167.43	167.74	168.06	168.38	168.70	169.01

Appendix F

System Modelling & Optimisation


$22,398
$13,985

ID	Calliope shire Asset ID	Asset Description & Location	Dimension	Date of Acquisition	Age at 30 June 2006	Remaining Age Life (Yrs)	Condition (Service Potential) Rating (Inspection Feb 2006)	Service Potential Consumption % of Total Life	Remaining (Service Potential) Life (Yrs)	30 June 2006 Depreciated Relacement Cost based on AGE only $	30 June 2006 Depreciated Relacement Cost $	30 June 2006 Depreciated Relacement Cost $	30 June 2006 Depreciated Relacement Cost $	30 June 2006 Depreciated Relacement Cost $	Maintenance Average Annual Cost $	Maintenance Average Annual Cost $	Maintenance Average Annual Cost $	Maintenance Average Annual Cost $								
		Mt Miller Reservoir (1989)																								
7A	0	Pipework & Fittings - Mount Miller Reservoir (Defunct dual flow meter included in	Item	1989	17	13	3	25%	23	$12,003	$20,775	$20,775	$20,775	$20,775	$139	$139	$139	$139								
7B	0	Concrete Reservoir & Pits - Mount Miller Reservoir (Existing Shire Valuations inc	ML	1989	17	33	3	25%	38	$459,482	$522,138	$522,138	$522,138	$522,138	$5,221	$5,221	$5,221	$5,221								
7C	0	Security Fencing - Mount Miller Reservoir (Existing valuation Included in above a	m	1989	17	8	3	25%	19	$2,835	$6,644	$6,644	$6,644	$6,644	$177	$177	$177	$177								
7D	0	Bitumen Seal (separate seal contract)	Item	1989	17	13	3	25%	23	$5,763	$9,975	$9,975	$9,975	$9,975	$200	$200	$200	$200								
7E	0	Sealed Pavement (preparation by Shire contractor)	Item	1989	17	13	3	25%	23	$33,126	$57,334	$57,334	$57,334	$57,334	$1,147	$1,147	$1,147	$1,147								
7F	0	Aluminium Roof & Access Ladders - Mount Miller Reservoir	Item	1989	17	33	4	10%	45	$124,910	$170,332	$170,332	$170,332	$170,332	$1,419	$1,419	$1,419	$1,419								
										$638,119	**$787,198**	**$787,198**	**$787,198**	**$787,198**	**$8,303**	**$8,303**	**$8,303**	**$8,303**	**2,076**	**6,227**	**2,076**	**6,227**	**2,076**	**6,227**	**2,076**	**6,227**
		Orica Hanson Road 200mm DICL Pipeline (1989)																								
2A	0	Sluice Valves - Hanson Road	200mm	1989	17	13	4	10%	27	$1,757	$3,649	$3,649	$3,649	$3,649	$20	$20	$20	$20								
2B	8156	DICL Main - Hanson Road	200mm	1989	17	53	4	10%	63	$43,662	$51,901	$51,901	$51,901	$51,901	$288	$288	$288	$288								
										$45,419	**$55,550**	**$55,550**	**$55,550**	**$55,550**	**$309**	**$309**	**$309**	**$309**	**77**	**232**	**77**	**232**	**77**	**232**	**77**	**232**
		Orica Easement 375mm DICL Pipeline (1989)																								
4A	8133	DICL Main - Lot 142 CTN2143 (Four wheel access track not included but used by	375mm	1989	17	53	4	10%	63	$61,700	$73,342	$73,342	$73,342	$73,342	$407	$407	$407	$407								
4B	0	Fire Hydrant - Lot 142 CTN2143	Item	1989	17	13	4	10%	27	$306	$636	$636	$636	$636	$4	$4	$4	$4								
4C	0	Air Valves - Lot 1 RP612126	Item	1989	17	13	4	10%	27	$807	$1,677	$0	$0	$1,677	$9	$0	$0	$9								
4D	0	Scour Valve - Lot 1 RP612126	Item	1989	17	13	4	10%	27	$326	$677	$0	$0	$677	$4	$0	$0	$4								
4E	8141	DICL Main - Lot 1 RP612126	375mm	1989	17	53	4	10%	63	$349,833	$415,839	$314,582	$314,582	$415,839	$2,310	$1,748	$1,748	$2,310								
4F	0	Sluice Valve - Lot 1 RP612126	375mm	1989	17	13	4	10%	27	$3,083	$6,404	$0	$0	$6,404	$36	$0	$0	$36								
4I	0	Gravel Access Track in Orica Easement (Last refurbished when GAWB Mt Miller	m	2004	2	28	5	3%	29	$18,519	$19,346	$19,346	$19,346	$19,346	$99	$99	$99	$99								
4G	0	Sluice Valve - Lot 1 RP612126	375mm	2005	1	29	5	3%	29	$6,879	$6,938	$0	$0	$6,938	$36	$0	$0	$36								
4H	0	Fire Hydrant - Lot 1 RP612126	Item	2005	1	29	5	3%	29	$683	$689	$0	$0	$689	$4	$0	$0	$4								
										$442,137	**$525,548**	**$407,906**	**$407,906**	**$525,548**	**$2,908**	**$2,258**	**$2,258**	**$2,908**	**727**	**2,181**	**564**	**1,694**	**564**	**1,694**	**727**	**2,181**
		Hanson Road 300mm DICL Pipeline (1989)																								
5A	0	Scour Valves - Hanson Road	Item	1989	17	13	4	10%	27	$326	$677	$0	$0	$677	$4	$0	$0	$4								
5B	0	Fire Hydrants - Hanson Road	Item	1989	17	13	4	10%	27	$306	$636	$0	$0	$636	$4	$0	$0	$4								
5C	0	Sluice Valves - Hanson Road	300mm	1989	17	13	4	10%	27	$1,974	$4,101	$0	$0	$4,101	$23	$0	$0	$23								
5D	8148	DICL Main - Hanson Road	300mm	1989	17	53	4	10%	63	$87,638	$104,173	$59,131	$82,885	$104,173	$579	$329	$460	$579								
5E	0	Air Valves - Hanson Road	Item	1989	17	13	4	10%	27	$404	$839	$0	$0	$839	$5	$0	$0	$5								
										$90,648	**$110,425**	**$59,131**	**$82,885**	**$110,425**	**$613**	**$329**	**$460**	**$613**	**153**	**460**	**82**	**247**	**115**	**345**	**153**	**460**
		Customer Connections																								
CG	0	Water Connection -Sewage Plant - Lot 139 CTN 2130	50mm	1989	17	18	3	25%	26	$1,851	$2,700	$2,700	$2,700	$2,700	$18	$18	$18	$18	**5**	**13**	**5**	**13**	**5**	**13**	**5**	**13**
		Customer Connections																								
CJ	0	Water Connection - Orica - Lot 138 CTN 2123	200mm	1989	17	18	3	25%	26	$15,362	$22,403	$22,403	$22,403	$22,403	$149	$149	$149	$149	**37**	**112**	**37**	**112**	**37**	**112**	**37**	**112**
		Customer Connections																								
CC	0	Water Connection - Sewage Pump Station 1- Reid Rd/ Hanson Rd Intersection	25mm	1989	17	18	3	25%	26	$427	$623	$623	$623	$623	$4	$4	$4	$4	**1**	**3**	**1**	**3**	**1**	**3**	**1**	**3**
		63mm Poly Pipeline to Sewerage #2 (1990)																								
9	Not Given	OD Poly Main - Hanson Road - From Railway Overpass to Lot 130 CTN 1912 - S	63mm	1990	16	54	4	10%	63	$21,527	$25,114	$25,114	$25,114	$25,114	$140	$140	$140	$140								
										$21,527	**$25,114**	**$25,114**	**$25,114**	**$25,114**	**$140**	**$140**	**$140**	**$140**	**35**	**105**	**35**	**105**	**35**	**105**	**35**	**105**
		Customer Connections																								
CA	0	Water Connection - Gasgate - Lot 144 CTN2170	20mm	1990	16	19	3	25%	26	$361	$499	$499	$499	$499	$3	$3	$3	$3	**1**	**2**	**1**	**2**	**1**	**2**	**1**	**2**
		Customer Connections																								
CB	0	Water Connection - Sewage Pump Station 2- Landing Road -Lot 130 CTN1912	20mm	1990	16	19	3	25%	26	$361	$499	$499	$499	$499	$3	$3	$3	$3	**1**	**2**	**1**	**2**	**1**	**2**	**1**	**2**
		Customer Connections																								
CD	0	Water Connection - Trade Waste Facility- Lot 145 CTN2170	25mm	1990	16	19	3	25%	26	$451	$623	$623	$623	$623	$4	$4	$4	$4	**1**	**3**	**1**	**3**	**1**	**3**	**1**	**3**
		Old Reid Road 200mm DICL Pipeline (1997)																								
1A	0	Sluice Valve - Reid Road			9	21	4	10%	27	$1,419	$1,824	$1,824	$1,824	$1,824	$10	$10	$10	$10								
1B	8178	DICL Main - Reid Road			9	61	4	10%	63	$6,886	$7,112	$7,112	$7,112	$7,112	$40	$40	$40	$40								
1C	8192	DICL Main - Reid Road (crossconnection to Water Treatment & Magnesium Plant)			9	61	4	10%	63	$7,275	$7,514	$7,514	$7,514	$7,514	$42	$42	$42	$42								
1D	0	Fire Hydrant - Reid Road (crossconnection to Water Treatment & Magnesium Plant)			9	21	4	10%	27	$495	$636	$636	$636	$636	$4	$4	$4	$4								
1E	0	Scour Valve - Reid Road			9	21	4	10%	27	$527	$677	$677	$677	$677	$4	$4	$4	$4								
1F	0	Sluice Valve - Reid Road			9	21	4	10%	27	$1,419	$1,824	$1,824	$1,824	$1,824	$10	$10	$10	$10								
1G	8171	DICL Main - Reid Road			9	61	4	10%	63	$51,847	$53,546	$53,546	$53,546	$53,546	$297	$297	$297	$297								
1H	8185	DICL Main - Reid Road			9	61	4	10%	63	$1,952	$2,016	$2,016	$2,016	$2,016	$11	$11	$11	$11								
1I	0	Sluice Valve - Reid Road (Part of Cross Connection - From 200mm main to GAWB 300mm Rising Main)			9	21	4	10%	27	$1,419	$1,824	$1,824	$1,824	$1,824	$10	$10	$10	$10								
1J	8701	DICL Main - Reid Road (Part of Cross Connection - From 200mm main to GAWB 300mm Rising Main)			9	61	4	10%	63	$818	$845	$845	$845	$845	$5	$5	$5	$5								
										$74,056	**$77,819**	**$77,819**	**$77,819**	**$77,819**	**$432**	**$432**	**$432**	**$432**	**108**	**324**	**108**	**324**	**108**	**324**	**108**	**324**
		Orica Hanson Road 200mm DICL Pipeline (1997)																								
3A	8215	DICL Main - Lot 138 CTN 2123	200mm	1997	9	61	4	10%	63	$91	$94	$94	$94	$94	$1	$1	$1	$1								
3B	8209	DICL Main - Lot 138 CTN 2123	200mm	1997	9	61	4	10%	63	$1,068	$1,103	$1,103	$1,103	$1,103	$6	$6	$6	$6								
3C	0	Sluice Valves - Lot 138 CTN 2123	200mm	1997	9	21	4	10%	27	$2,838	$3,649	$3,649	$3,649	$3,649	$20	$20	$20	$20								
										$3,997	**$4,846**	**$4,846**	**$4,846**	**$4,846**	**$27**	**$27**	**$27**	**$27**	**7**	**20**	**7**	**20**	**7**	**20**	**7**	**20**
		Orica Hanson Road Service By-Pass 150mm DICL Pipeline (1997)																								
3D	8208	DICL Main - Lot 138 CTN 2123 (Orica Service By-pass)	150mm	1997	9	61	4	10%	63	$840	$867	$867	$867	$867	$5	$5	$5	$5								
3E	0	Sluice Valve - Lot 138 CTN 2123	150mm	1997	9	21	4	10%	27	$803	$1,032	$1,032	$1,032	$1,032	$6	$6	$6	$6								
										$1,642	**$1,899**	**$1,899**	**$1,899**	**$1,899**	**$11**	**$11**	**$11**	**$11**	**3**	**8**	**3**	**8**	**3**	**8**	**3**	**8**
		Customer Connections																								
CE	0	Water Connection - QLD Rail Terminal- Lot143 CP 858040 (PLUS 150mm Fire S	25mm	1997	9	26	4	10%	32	$617	$747	$747	$747	$747	$4	$4	$4	$4	**1**	**3**	**1**	**3**	**1**	**3**	**1**	**3**
		Customer Connections																								
CF	0	Water Connection -Magnesium Plant - Lot 141 CP 865942 (Meter removed & ser	40mm	1997	9	26	4	10%	32	$1,853	$2,246	$2,246	$2,246	$2,246	$12	$12	$12	$12	**3**	**9**	**3**	**9**	**3**	**9**	**3**	**9**
		Customer Connections																								
CH	0	Water Connection -Water Treatment Plant - Lot 140 CTN 2130	50mm	1997	9	26	4	10%	32	$2,674	$3,240	$3,240	$3,240	$3,240	$18	$18	$18	$18	**5**	**13**	**5**	**13**	**5**	**13**	**5**	**13**
		New Reid Road 300mm DICL Pipeline (2002)																								
11A	12597	DICL Main	300mm	2002	4	66	5	3%	68	$2,990	$3,092	$0	$0	$0	$16	$0	$0	$0								
11I	0	Air Valve (12597)	80mm	2002	4	26	5	3%	29	$807	$908	$908	$908	$908	$5	$5	$5	$5								
11H	12591	DICL Main	300mm	2002	4	66	5	3%	68	$270,425	$279,644	$132,707	$153,947	$178,781	$1,434	$681	$789	$917								
11B	0	Fire Hydrants (12591)	Item	2002	4	26	5	3%	29	$1,225	$1,378	$0	$0	$0	$7	$0	$0	$0								
11C	0	Air Valves (12591)	80mm	2002	4	26	5	3%	29	$1,615	$1,817	$0	$0	$0	$9	$0	$0	$0								
11D	0	Scour Valves (12591)	100mm	2002	4	26	5	3%	29	$2,289	$2,575	$0	$0	$0	$13	$0	$0	$0								
11E	0	Sluice Valves (12591)	300mm	2002	4	26	5	3%	29	$11,846	$13,327	$0	$0	$0	$68	$0	$0	$0								
11F	12595	DICL Main	300mm	2002	4	66	5	3%	68	$4,370	$4,519	$0	$0	$0	$23	$0	$0	$0								
11G	0	Sluice Valve (12595)	300mm	2002	4	26	5	3%	29	$3,949	$4,442	$0	$0	$0	$23	$0	$0	$0								
										$299,516	**$311,702**	**$133,616**	**$154,856**	**$179,689**	**$1,598**	**$685**	**$794**	**$921**	**400**	**1,198**	**171**	**514**	**199**	**595**	**230**	**691**
		63mm Poly Pipeline to Sewerage (2002)																								
8C	Not Given	OD Poly Main - Reid Road Cross Connection - From 200mm main to Sewage Tre	63mm	2002	4	66	5	3%	68	$1,969	$2,036	$2,036	$2,036	$2,036	$10	$10	$10	$10								
										$1,969	**$2,036**	**$2,036**	**$2,036**	**$2,036**	**$10**	**$10**	**$10**	**$10**	**3**	**7**	**3**	**7**	**3**	**7**	**3**	**7**
		Customer Connections																								
CI	0	Water Connection - CAR	150mm	2002	4	31	5	3%	34	$14,880	$16,380	$16,380	$16,380	$16,380	$84	$84	$84	$84	**21**	**63**	**21**	**63**	**21**	**63**	**21**	**63**
		Reid Road 150/100/50mm Poly Pipeline (2004)																								
6A	18497, 185	UPVC Main - Reid Road Extension (18497 - 287m, 18501- 996m & 18505 - 1304	150mm	2004	2	68	5	3%	68	$232,593	$233,448	$170,546	$170,546	$170,546	$1,197	$875	$875	$875								
6B	0	Sluice Valves	150mm	2004	2	28	5	3%	29	$4,281	$4,472	$0	$4,472	$4,472	$23	$0	$23	$23								
6C	0	Scour Valves	100mm	2004	2	28	5	3%	29	$4,109	$4,292	$0	$4,292	$4,292	$22	$0	$22	$22								
6D	0	Air Valves	50mm	2004	2	28	5	3%	29	$2,179	$2,276	$0	$2,276	$2,276	$12	$0	$12	$12								
										$243,162	**$244,489**	**$170,546**	**$181,587**	**$181,587**	**$1,254**	**$875**	**$931**	**$931**	**313**	**941**	**219**	**656**	**233**	**698**	**233**	**698**
		32mm Poly Pipeline to Sewerage #1 (2005)																								

8A	Not Given	OD Poly Main - Reid Road - From WTP to Sewage PS No1 (Abandoned - replac	63mm	1990	16	0	0	100%	0	$0	$0	$0	$0	$0	$0	$0	$0	$0							
8B	Not Given	OD Poly Main - Reid / Hanson Road Intersection Cross Connection - From 200m	32mm	2005	1	69	5	3%	68	$1,093	$1,082	$1,082	$1,082	$1,082	$6	$6	$6	$6							
										$1,093	**$1,082**	**$1,082**	**$1,082**	**$1,082**	**$6**	**$6**	**$6**	**$6**	**1**	**5**	**1**	**5**	**1**	**5**	**1**	**5**
		Customer Connections																							
CK	0	Water Connection - Comalco (Temporary for Construction)	20mm	2005	1	2	1	80%	1	$443	$133	$133	$133	$133	$3	$3	$3	$3	**1**	**2**	**1**	**2**	**1**	**2**	**1**	**2**
TOTAL										**$1,902,566**	**$2,197,799**	**$1,776,833**	**$1,832,868**	**$2,002,883**	**$15,915**	**$13,687**	**$13,985**	**$14,915**	**3,980**	**11,935**	**3,423**	**10,264**	**3,498**	**10,487**	**3,730**	**11,185**

2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	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
13,985	14,336	14,695	15,064	15,442	15,830	16,227	16,635	17,052	17,480	17,919	18,369	18,830	19,302	19,787	20,283	20,793	21,314	21,849	22,398
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

GAWB - YARWUN CSC ASSETS OPTIMISATION ASSESSMENT - TREATED WATER SUPPLIES

EXISTING PIPE DIAMETERS — OPTION: Gravity from Mt Miller Reservoir

QCA Case Year 20 - Peaking Factor 1.65

# at pipe end										
Equiv Dia A	0.150	0.375			0.404	Equiv Dia B					0
Equiv Dia C					0.000	Equiv Dia D					0

Pipeline: 375 Outlet			Pipeline: 150 Reids			Pipeline: 200 Reids/Hanson			Pipeline: 375 Orica		
Length of Pipeline =	476	m	Length of Pipeline =	1283	m	Length of Pipeline =	1032	m	Length of Pipeline =	1050	m
Maximum Head =	83	m AHD	Maximum Head =	82	m AHD	Maximum Head =	79	m AHD	Maximum Head =	82	m AHD
Surface Level # =	42	m AHD	Surface Level # =	25	m AHD	Surface Level # =	25	m AHD	Surface Level # =	25	m AHD
Flow in pipe =	0.095	m3/s	Flow in pipe =	0.006	m3/s	Flow per pipeline =	0.006	m3/s	Flow in pipe =	0.088	m3/s
Annual Volume	1815	ML	Annual Volume	124	ML	Annual Volume	124	ML	Annual Volume	1691	ML
Equiv. Demand # =	8.20	ML/d	Equiv. Demand # =	0.56	ML/d	Total discharge =	0.56	ML/d	Equiv. Demand # =	7.64	ML/d
Equiv. Demand # =	94.96	l/s	Equiv. Demand # =	6.48	l/s	Total discharge =	6.48	l/s	Equiv. Demand # =	88.48	l/s
Mannings n =	0.013		Mannings n =	0.013		Mannings n =	0.013		Mannings n =	0.013	
Nom. Pipe Velocity =	2.70	m/sec	Nom. Pipe Velocity =	1.15	m/sec	Nom. Pipe Velocity =	0.65	m/sec	Nom. Pipe Velocity =	2.52	m/sec

Pipeline: 300 Hanson to CAR			Pipeline: 300 Hanson CAR to Boat Ck			Pipeline: 200 to Orica		
Length of Pipeline =	920	m	Length of Pipeline =	876	m	Length of Pipeline =	475	m
Maximum Head =	79	m AHD	Maximum Head =	76	m AHD	Maximum Head =	79	m AHD
Surface Level # =	25	m AHD	Surface Level # =	35	m AHD	Surface Level # =	24	m AHD
Flow in pipe =	0.057	m3/s	Flow in pipe =	0.007	m3/s	Flow in pipe =	0.029	m3/s
Annual Volume	1085	ML	Annual Volume	138	ML	Annual Volume	546	ML
Equiv. Demand # =	4.90	ML/d	Equiv. Demand # =	0.62	ML/d	Equiv. Demand # =	2.47	ML/d
Equiv. Demand # =	56.77	l/s	Equiv. Demand # =	7.22	l/s	Equiv. Demand # =	28.57	l/s
Mannings n =	0.013		Mannings n =	0.013		Mannings n =	0.013	
Nom. Pipe Velocity =	2.52	m/sec	Nom. Pipe Velocity =	0.32	m/sec	Nom. Pipe Velocity =	2.86	m/sec

Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)
	(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)
0.150	185	41	-144	0.150	2	57	54	0.150	2	54	52	0.150	354	57	-297	0.150	128	54	-74	0.150	2	41	39	0.150	17	55	38
0.200	40	41	1	0.200	1	57	56	0.200	0	54	53.9	0.200	76	57	-20	0.200	28	54	26	0.200	0	41	40	0.200	4	55	51
0.225	21	41	20	0.225	0	57	56	0.225	0	54	54	0.225	41	57	16	0.225	15	54	39	0.225	0	41	41	0.225	2	55	53
0.250	12	41	29	0.250	0	57	56	0.250	0	54	54	0.250	23	57	33	0.250	8	54	46	0.250	0	41	41	0.250	1	55	54
0.300	5	41	36	0.300	0	57	57	0.300	0	54	54	0.300	9	57	48	0.300	3	54	51	0.300	0	41	41	0.300	0	55	55
0.375	1	41	40	0.375	0	57	57	0.375	0	54	54	0.375	3	57	53.9	0.375	1	54	53	0.375	0	41	41	0.375	0	55	55
0.450	1	41	40	0.450	0	57	57	0.450	0	54	54	0.450	1	57	56	0.450	0	54	54	0.450	0	41	41	0.450	0	55	55
0.404	1	41	40	0.404	0	57	57	0.404	0	54	54	0.404	2	57	55	0.404	1	54	53	0.404	0	41	41	0.404	0	55	55

GAWB - YARWUN CSC ASSETS ASSESSMENT - TREATED WATER SUPPLIES

EXISTING PIPE DIAMETERS — OPTION: Gravity from Mt Miller Reservoir

High Case Year 20 - Peaking Factor 2.5

# at pipe end										
Equiv Dia A	0.150	0.375			0.404	Equiv Dia B					0
Equiv Dia C					0.000	Equiv Dia D	0.15	0.2			0.25

Pipeline: 375 Outlet			Pipeline: 150 Reids			Pipeline: 200 Reids/Hanson			Pipeline: 375 Orica		
Length of Pipeline =	476	m	Length of Pipeline =	1283	m	Length of Pipeline =	1032	m	Length of Pipeline =	1050	m
Maximum Head =	83	m AHD	Maximum Head =	79	m AHD	Maximum Head =	71	m AHD	Maximum Head =	79	m AHD
Surface Level # =	42	m AHD	Surface Level # =	25	m AHD	Surface Level # =	25	m AHD	Surface Level # =	25	m AHD
Flow in pipe =	0.169	m3/s	Flow in pipe =	0.011	m3/s	Flow per pipeline =	0.011	m3/s	Flow in pipe =	0.158	m3/s
Annual Volume	2132	ML	Annual Volume	145	ML	Annual Volume	145	ML	Annual Volume	1987	ML
Equiv. Demand # =	14.60	ML/d	Equiv. Demand # =	0.99	ML/d	Total discharge =	0.99	ML/d	Equiv. Demand # =	13.61	ML/d
Equiv. Demand # =	169.01	l/s	Equiv. Demand # =	11.46	l/s	Total discharge =	11.46	l/s	Equiv. Demand # =	157.55	l/s
Mannings n =	0.013		Mannings n =	0.013		Mannings n =	0.013		Mannings n =	0.013	
Nom. Pipe Velocity =	4.81	m/sec	Nom. Pipe Velocity =	2.04	m/sec	Nom. Pipe Velocity =	1.15	m/sec	Nom. Pipe Velocity =	4.48	m/sec

Pipeline: 300 Hanson to CAR			Pipeline: 300 Hanson CAR to Boat Ck			Pipeline: 200 to Orica		
Length of Pipeline =	920	m	Length of Pipeline =	876	m	Length of Pipeline =	475	m
Maximum Head =	70	m AHD	Maximum Head =	63	m AHD	Maximum Head =	70	m AHD
Surface Level # =	25	m AHD	Surface Level # =	35	m AHD	Surface Level # =	24	m AHD
Flow in pipe =	0.088	m3/s	Flow in pipe =	0.013	m3/s	Flow in pipe =	0.065	m3/s
Annual Volume	1105	ML	Annual Volume	158	ML	Annual Volume	822	ML
Equiv. Demand # =	7.57	ML/d	Equiv. Demand # =	1.08	ML/d	Equiv. Demand # =	5.63	ML/d
Equiv. Demand # =	87.60	l/s	Equiv. Demand # =	12.53	l/s	Equiv. Demand # =	65.20	l/s
Mannings n =	0.013		Mannings n =	0.013		Mannings n =	0.013	
Nom. Pipe Velocity =	3.89	m/sec	Nom. Pipe Velocity =	0.56	m/sec	Nom. Pipe Velocity =	6.52	m/sec

Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)
	(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)
0.150	586	41	-545	0.150	7	54	46	0.150	6	46	40	0.150	1123	54	-1069	0.150	304	45	-259	0.150	6	28	22	0.150	87	46	-41
0.200	126	41	-85	0.200	2	54	52	0.200	1	46	45.1	0.200	242	54	-188	0.200	66	45	-20	0.200	1	28	26	0.200	19	46	27
0.225	67	41	-26	0.225	1	54	53	0.225	1	46	46	0.225	129	54	-76	0.225	35	45	10	0.225	1	28	27	0.225	10	46	36
0.250	38	41	3	0.250	0	54	53	0.250	0	46	46	0.250	74	54	-20	0.250	20	45	25	0.250	0	28	27	0.250	6	46	40
0.300	15	41	26	0.300	0	54	53	0.300	0	46	46	0.300	28	54	26	0.300	8	45	38	0.300	0	28	27	0.300	2	46	44
0.375	4	41	37	0.375	0	54	54	0.375	0	46	46	0.375	8	54	45.1	0.375	2	45	43	0.375	0	28	28	0.375	1	46	45
0.450	2	41	39	0.450	0	54	54	0.450	0	46	46	0.450	3	54	50	0.450	1	45	44	0.450	0	28	28	0.450	0	46	46
0.404	3	41	38	0.404	0	54	54	0.404	0	46	46	0.404	6	54	48	0.404	2	45	44	0.404	0	28	28	0.404	0	46	46

GAWB - YARWUN CSC ASSETS ASSESSMENT - TREATED WATER SUPPLIES

OPTIMISATION OF PIPE DIAMETERS — OPTION: Gravity from Mt Miller Reservoir

QCA Case Year 20 - Peaking Factor 1.65

# at pipe end										
Equiv Dia A	0.150	0.375			0.404	Equiv Dia B					0
Equiv Dia C					0.000	Equiv Dia D					0

150 - 790m past QRL service redun't

Pipeline: 375 Outlet			Pipeline: 150 Reids			Pipeline: 200 Reids/Hanson			Pipeline: 375 Orica		
Length of Pipeline =	476	m	Length of Pipeline =	1283	m	Length of Pipeline =	1032	m	Length of Pipeline =	1050	m
Maximum Head =	83	m AHD	Maximum Head =	82	m AHD	Maximum Head =	75	m AHD	Maximum Head =	82	m AHD
Surface Level # =	42	m AHD	Surface Level # =	25	m AHD	Surface Level # =	25	m AHD	Surface Level # =	25	m AHD
Flow in pipe =	0.095	m3/s	Flow in pipe =	0.011	m3/s	Flow per pipeline =	0.011	m3/s	Flow in pipe =	0.084	m3/s
Annual Volume	1815	ML	Annual Volume	211	ML	Annual Volume	211	ML	Annual Volume	1604	ML
Equiv. Demand # =	8.20	ML/d	Equiv. Demand # =	0.96	ML/d	Total discharge =	0.96	ML/d	Equiv. Demand # =	7.25	ML/d
Equiv. Demand # =	94.96	l/s	Equiv. Demand # =	11.05	l/s	Total discharge =	11.05	l/s	Equiv. Demand # =	83.91	l/s
Mannings n =	0.013		Mannings n =	0.013		Mannings n =	0.013		Mannings n =	0.013	
Nom. Pipe Velocity =	2.70	m/sec	Nom. Pipe Velocity =	1.97	m/sec	Nom. Pipe Velocity =	1.97	m/sec	Nom. Pipe Velocity =	3.73	m/sec

Pipeline: 300 Hanson to CAR			Pipeline: 300 Hanson CAR to Boat Ck			Pipeline: 200 to Orica		
Length of Pipeline =	920	m	Length of Pipeline =	876	m	Length of Pipeline =	475	m
Maximum Head =	74	m AHD	Maximum Head =	65	m AHD	Maximum Head =	74	m AHD
Surface Level # =	25	m AHD	Surface Level # =	35	m AHD	Surface Level # =	24	m AHD
Flow in pipe =	0.057	m3/s	Flow in pipe =	0.007	m3/s	Flow in pipe =	0.024	m3/s
Annual Volume	1085	ML	Annual Volume	138	ML	Annual Volume	459	ML
Equiv. Demand # =	4.90	ML/d	Equiv. Demand # =	0.62	ML/d	Equiv. Demand # =	2.07	ML/d
Equiv. Demand # =	56.77	l/s	Equiv. Demand # =	7.22	l/s	Equiv. Demand # =	24.00	l/s
Mannings n =	0.013		Mannings n =	0.013		Mannings n =	0.013	
Nom. Pipe Velocity =	3.63	m/sec	Nom. Pipe Velocity =	1.28	m/sec	Nom. Pipe Velocity =	2.40	m/sec

Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)
	(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)
0.150	185	41	-144	0.150	7	57	50	0.150	5	50	44	0.150	318	57	-262	0.150	128	49	-79	0.150	2	30	28	0.150	12	50	38
0.200	40	41	1	0.200	1	57	55	0.200	1	50	48.7	0.200	69	57	-12	0.200	28	49	21	0.200	0	30	30	0.200	3	50	47
0.225	21	41	20	0.225	1	57	56	0.225	1	50	49	0.225	37	57	20	0.225	15	49	34	0.225	0	30	30	0.225	1	50	48
0.250	12	41	29	0.250	0	57	56	0.250	0	50	49	0.250	21	57	36	0.250	8	49	40	0.250	0	30	30	0.250	1	50	49
0.300	5	41	36	0.300	0	57	56	0.300	0	50	50	0.300	8	57	48.7	0.300	3	49	46	0.300	0	30	30	0.300	0	50	49
0.375	1	41	40	0.375	0	57	57	0.375	0	50	50	0.375	2	57	54	0.375	1	49	48	0.375	0	30	30	0.375	0	50	50
0.450	1	41	40	0.450	0	57	57	0.450	0	50	50	0.450	1	57	56	0.450	0	49	48	0.450	0	30	30	0.450	0	50	50
0.404	1	41	40	0.404	0	57	57	0.404	0	50	50	0.404	2	57	55	0.404	1	49	48	0.404	0	30	30	0.404	0	50	50

GAWB - YARWUN CSC ASSETS ASSESSMENT - TREATED WATER SUPPLIES

OPTIMISATION OF PIPE DIAMETERS — OPTION: Gravity from Mt Miller Reservoir

High Case Year 20 - Peaking Factor 1.65

# at pipe end										
Equiv Dia A	0.150	0.375			0.404	Equiv Dia B				0
Equiv Dia C					0.000	Equiv Dia D				0

150 - 790m past QRL service redun't

Pipeline: 375 Outlet		Pipeline: 150 Reids		Pipeline: 200 Reids/Hanson		Pipeline: 375 Orica		Pipeline: 300 Hanson to CAR		Pipeline: 300 Hanson CAR to Boat Ck		Pipeline: 200 to Orica	
Length of Pipeline =	476 m	Length of Pipeline =	1283 m	Length of Pipeline =	1032 m	Length of Pipeline =	1050 m	Length of Pipeline =	920 m	Length of Pipeline =	876 m	Length of Pipeline =	475 m
Maximum Head =	83 m AHD	Maximum Head =	81 m AHD	Maximum Head =	78 m AHD	Maximum Head =	81 m AHD	Maximum Head =	77 m AHD	Maximum Head =	74 m AHD	Maximum Head =	77 m AHD
Surface Level # =	42 m AHD	Surface Level # =	25 m AHD	Surface Level # =	25 m AHD	Surface Level # =	25 m AHD	Surface Level # =	25 m AHD	Surface Level # =	35 m AHD	Surface Level # =	24 m AHD
Flow in pipe =	0.112 m3/s	Flow in pipe =	0.008 m3/s	Flow per pipeline =	0.008 m3/s	Flow in pipe =	0.104 m3/s	Flow in pipe =	0.058 m3/s	Flow in pipe =	0.008 m3/s	Flow in pipe =	0.043 m3/s
Annual Volume	2132 ML	Annual Volume	144 ML	Annual Volume	144 ML	Annual Volume	1988 ML	Annual Volume	1105 ML	Annual Volume	158 ML	Annual Volume	823 ML
Equiv. Demand # =	9.64 ML/d	Equiv. Demand # =	0.65 ML/d	Total discharge =	0.65 ML/d	Equiv. Demand # =	8.99 ML/d	Equiv. Demand # =	5.00 ML/d	Equiv. Demand # =	0.71 ML/d	Equiv. Demand # =	3.72 ML/d
Equiv. Demand # =	111.55 l/s	Equiv. Demand # =	7.52 l/s	Total discharge =	7.52 l/s	Equiv. Demand # =	104.03 l/s	Equiv. Demand # =	57.81 l/s	Equiv. Demand # =	8.27 l/s	Equiv. Demand # =	43.07 l/s
Mannings n =	0.013	Mannings n =	0.013	Mannings n =	0.013	Mannings n =	0.013	Mannings n =	0.013	Mannings n =	0.013	Mannings n =	0.013
Nom. Pipe Velocity =	3.17 m/sec	Nom. Pipe Velocity =	1.34 m/sec	Nom. Pipe Velocity =	1.34 m/sec	Nom. Pipe Velocity =	2.96 m/sec	Nom. Pipe Velocity =	3.70 m/sec	Nom. Pipe Velocity =	1.47 m/sec	Nom. Pipe Velocity =	4.31 m/sec

Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)
	(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)
0.150	255	41	-214	0.150	3	56	53	0.150	3	53	50	0.150	489	56	-433	0.150	132	52	-80	0.150	3	39	37	0.150	38	53	15
0.200	55	41	-14	0.200	1	56	55	0.200	1	53	52.4	0.200	106	56	-49	0.200	29	52	24	0.200	1	39	39	0.200	8	53	45
0.225	29	41	12	0.225	0	56	56	0.225	0	53	53	0.225	56	56	0	0.225	15	52	37	0.225	0	39	39	0.225	4	53	49
0.250	17	41	24	0.250	0	56	56	0.250	0	53	53	0.250	32	56	24	0.250	9	52	44	0.250	0	39	39	0.250	2	53	51
0.300	6	41	35	0.300	0	56	56	0.300	0	53	53	0.300	12	56	44	0.300	3	52	49	0.300	0	39	39	0.300	1	53	52
0.375	2	41	39	0.375	0	56	56	0.375	0	53	53	0.375	4	56	52.4	0.375	1	52	51	0.375	0	39	39	0.375	0	53	53
0.450	1	41	40	0.450	0	56	56	0.450	0	53	53	0.450	1	56	55	0.450	0	52	52	0.450	0	39	39	0.450	0	53	53
0.404	1	41	40	0.404	0	56	56	0.404	0	53	53	0.404	2	56	54	0.404	1	52	52	0.404	0	39	39	0.404	0	53	53

GAWB - YARWUN CSC ASSETS ASSESSMENT - TREATED WATER SUPPLIES

OPTIMISATION OF PIPE DIAMETERS — OPTION: Gravity from Mt Miller Reservoir

Low Case Year 20 - Peaking Factor 1.65

# at pipe end										
Equiv Dia A	0.150	0.375			0.404	Equiv Dia B				0
Equiv Dia C					0.000	Equiv Dia D				0

150 - 790m past QRL service redun't

Pipeline: 375 Outlet		Pipeline: 150 Reids		Pipeline: 200 Reids/Hanson		Pipeline: 375 Orica		Pipeline: 300 Hanson to CAR		Pipeline: 300 Hanson CAR to Boat Ck		Pipeline: 200 to Orica	
Length of Pipeline =	476 m	Length of Pipeline =	1283 m	Length of Pipeline =	1032 m	Length of Pipeline =	1050 m	Length of Pipeline =	920 m	Length of Pipeline =	876 m	Length of Pipeline =	475 m
Maximum Head =	83 m AHD	Maximum Head =	82 m AHD	Maximum Head =	79 m AHD	Maximum Head =	82 m AHD	Maximum Head =	78 m AHD	Maximum Head =	69 m AHD	Maximum Head =	78 m AHD
Surface Level # =	42 m AHD	Surface Level # =	25 m AHD	Surface Level # =	25 m AHD	Surface Level # =	25 m AHD	Surface Level # =	25 m AHD	Surface Level # =	35 m AHD	Surface Level # =	24 m AHD
Flow in pipe =	0.070 m3/s	Flow in pipe =	0.008 m3/s	Flow per pipeline =	0.008 m3/s	Flow in pipe =	0.062 m3/s	Flow in pipe =	0.032 m3/s	Flow in pipe =	0.007 m3/s	Flow in pipe =	0.027 m3/s
Annual Volume	1341 ML	Annual Volume	156 ML	Annual Volume	156 ML	Annual Volume	1185 ML	Annual Volume	611 ML	Annual Volume	138 ML	Annual Volume	514 ML
Equiv. Demand # =	6.06 ML/d	Equiv. Demand # =	0.71 ML/d	Total discharge =	0.71 ML/d	Equiv. Demand # =	5.36 ML/d	Equiv. Demand # =	2.76 ML/d	Equiv. Demand # =	0.62 ML/d	Equiv. Demand # =	2.32 ML/d
Equiv. Demand # =	70.16 l/s	Equiv. Demand # =	8.16 l/s	Total discharge =	8.16 l/s	Equiv. Demand # =	62.00 l/s	Equiv. Demand # =	31.97 l/s	Equiv. Demand # =	7.22 l/s	Equiv. Demand # =	26.90 l/s
Mannings n =	0.013	Mannings n =	0.013	Mannings n =	0.013	Mannings n =	0.013	Mannings n =	0.013	Mannings n =	0.013	Mannings n =	0.013
Nom. Pipe Velocity =	2.00 m/sec	Nom. Pipe Velocity =	1.45 m/sec	Nom. Pipe Velocity =	1.45 m/sec	Nom. Pipe Velocity =	2.76 m/sec	Nom. Pipe Velocity =	3.20 m/sec	Nom. Pipe Velocity =	1.28 m/sec	Nom. Pipe Velocity =	2.69 m/sec

Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)
	(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)
0.150	101	41	-60	0.150	4	57	54	0.150	3	54	51	0.150	174	57	-117	0.150	40	53	12	0.150	2	34	32	0.150	15	54	39
0.200	22	41	19	0.200	1	57	56	0.200	1	54	52.9	0.200	37	57	20	0.200	9	53	44	0.200	0	34	34	0.200	3	54	51
0.225	12	41	29	0.225	0	57	57	0.225	0	54	53	0.225	20	57	37	0.225	5	53	48	0.225	0	34	34	0.225	2	54	52
0.250	7	41	34	0.250	0	57	57	0.250	0	54	53	0.250	11	57	46	0.250	3	53	50	0.250	0	34	34	0.250	1	54	53
0.300	3	41	38	0.300	0	57	57	0.300	0	54	53	0.300	4	57	52.9	0.300	1	53	52	0.300	0	34	34	0.300	0	54	54
0.375	1	41	40	0.375	0	57	57	0.375	0	54	54	0.375	1	57	56	0.375	0	53	53	0.375	0	34	34	0.375	0	54	54
0.450	0	41	41	0.450	0	57	57	0.450	0	54	54	0.450	0	57	57	0.450	0	53	53	0.450	0	34	34	0.450	0	54	54
0.404	1	41	40	0.404	0	57	57	0.404	0	54	54	0.404	1	57	56	0.404	0	53	53	0.404	0	34	34	0.404	0	54	54

GAWB - YARWUN CSC ASSETS ASSESSMENT - TREATED WATER SUPPLIES

EXISTING PIPE DIAMETERS — OPTION: Yarwun Pump Crossconnection Open

QCA Case Year 20 - Peaking Factor 1.65

# at pipe end										
Equiv Dia A	0.150	0.300			0.335	Equiv Dia B				0
Equiv Dia C					0.000	Equiv Dia D				0

Pipeline: 300 Rising Main from Pump		Pipeline: 200 Reids/Hanson		Pipeline: Equiv Dia A Rising to Tank		Pipeline: 375 Orica		Pipeline: 300 Hanson to CAR		Pipeline: 300 Hanson CAR to Boat Ck		Pipeline:	
Length of Pipeline =	280 m	Length of Pipeline =	954 m	Length of Pipeline =	1514 m	Length of Pipeline =	1526 m	Length of Pipeline =	920 m	Length of Pipeline =	876 m	Length of Pipeline =	m
Maximum Head =	89 m AHD	Maximum Head =	86 m AHD	Maximum Head =	86 m AHD	Maximum Head =	82 m AHD	Maximum Head =	80 m AHD	Maximum Head =	77 m AHD	Maximum Head =	m AHD
Surface Level # =	42 m AHD	Surface Level # =	25 m AHD	Surface Level # =	25 m AHD	Surface Level # =	25 m AHD	Surface Level # =	25 m AHD	Surface Level # =	35 m AHD	Surface Level # =	m AHD
Flow in pipe =	0.095 m3/s	Flow per pipeline =	0.027 m3/s	Flow in pipe =	0.068 m3/s	Flow in pipe =	0.065 m3/s	Flow in pipe =	0.057 m3/s	Flow in pipe =	0.007 m3/s	Flow in pipe =	0.000 m3/s
Annual Volume	1815 ML	Annual Volume	509 ML	Annual Volume	1306 ML	Annual Volume	1246 ML	Annual Volume	1085 ML	Annual Volume	138 ML	Annual Volume	0 ML
Equiv. Demand # =	8.20 ML/d	Total discharge =	2.30 ML/d	Equiv. Demand # =	5.90 ML/d	Equiv. Demand # =	5.63 ML/d	Equiv. Demand # =	4.90 ML/d	Equiv. Demand # =	0.62 ML/d	Equiv. Demand # =	ML/d
Equiv. Demand # =	94.96 l/s	Total discharge =	26.62 l/s	Equiv. Demand # =	68.34 l/s	Equiv. Demand # =	65.20 l/s	Equiv. Demand # =	56.77 l/s	Equiv. Demand # =	7.22 l/s	Equiv. Demand # =	0.00 l/s
Mannings n =	0.013	Mannings n =	0.013	Mannings n =	0.013	Mannings n =	0.013	Mannings n =	0.013	Mannings n =	0.013	Mannings n =	
Nom. Pipe Velocity =	4.22 m/sec	Nom. Pipe Velocity =	2.66 m/sec	Nom. Pipe Velocity =	2.43 m/sec	Nom. Pipe Velocity =	1.85 m/sec	Nom. Pipe Velocity =	2.52 m/sec	Nom. Pipe Velocity =	0.32 m/sec	Nom. Pipe Velocity =	0.00 m/sec

Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)
	(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)
0.150	109	47	-62	0.150	29	61	32	0.150	305	61	-243	0.150	279	57	-222	0.150	128	55	-73	0.150	2	42	40	0.150	0	0	0
0.200	23	47	24	0.200	6	61	55.0	0.200	66	61	-4	0.200	60	57	-3	0.200	28	55	27	0.200	0	42	41	0.200	0	0	0
0.225	13	47	34	0.225	3	61	58	0.225	35	61	26	0.225	32	57	25	0.225	15	55	40	0.225	0	42	42	0.225	0	0	0
0.250	7	47	40	0.250	2	61	59	0.250	20	61	41	0.250	18	57	39	0.250	8	55	47	0.250	0	42	42	0.250	0	0	0
0.300	3	47	44	0.300	1	61	61	0.300	8	61	54	0.300	7	57	50	0.300	3	55	52	0.300	0	42	42	0.300	0	0	0
0.375	1	47	46	0.375	0	61	61	0.375	2	61	59	0.375	2	57	55.0	0.375	1	55	54	0.375	0	42	42	0.375	0	0	0
0.450	0	47	47	0.450	0	61	61	0.450	1	61	60	0.450	1	57	56	0.450	0	55	55	0.450	0	42	42	0.450	0	0	0
0.335	1	47	46	0.335	0	61	61	0.335	4	61	57	0.335	4	57	53	0.335	2	55	53	0.335	0	42	42	0.335	0	0	0

GAWB - YARWUN CSC ASSETS ASSESSMENT - TREATED WATER SUPPLIES

OPTIMISATION OF PIPE DIAMETERS — OPTION: Yarwun Pump Crossconnection Open — QCA Case Year 20 - Peaking Factor 1.65

# at pipe end											
Equiv Dia A	0.150	0.300			0.335	Equiv Dia B	0.200	0.300			0.360555128
Equiv Dia C	0.300	0.300			0.424	Equiv Dia D					0

150 - 790m past QRL service redun't

Pipeline: 300 Rising Main from Pump		Pipeline: 200 Reids/Hanson		Pipeline: 300 Rising to Tank (No 150)		Pipeline: 375 Orica		Pipeline: 300 Hanson to CAR		Pipeline: 300 Hanson CAR to Boat Ck		Pipeline:	
Length of Pipeline =	280 m	Length of Pipeline =	954 m	Length of Pipeline =	1514 m	Length of Pipeline =	1526 m	Length of Pipeline =	920 m	Length of Pipeline =	876 m	Length of Pipeline =	m
Maximum Head =	90 m AHD	Maximum Head =	87 m AHD	Maximum Head =	87 m AHD	Maximum Head =	82 m AHD	Maximum Head =	76 m AHD	Maximum Head =	68 m AHD	Maximum Head =	m AHD
Surface Level # =	42 m AHD	Surface Level # =	25 m AHD	Surface Level # =	25 m AHD	Surface Level # =	25 m AHD	Surface Level # =	25 m AHD	Surface Level # =	35 m AHD	Surface Level # =	m AHD
Flow in pipe =	0.095 m3/s	Flow per pipeline =	0.035 m3/s	Flow in pipe =	0.060 m3/s	Flow in pipe =	0.057 m3/s	Flow in pipe =	0.057 m3/s	Flow in pipe =	0.007 m3/s	Flow in pipe =	0.000 m3/s
Annual Volume	1815 ML	Annual Volume	675 ML	Annual Volume	1140 ML	Annual Volume	1080 ML	Annual Volume	1085 ML	Annual Volume	138 ML	Annual Volume	0 ML
Equiv. Demand # =	8.20 ML/d	Total discharge =	3.05 ML/d	Equiv. Demand # =	5.15 ML/d	Equiv. Demand # =	4.88 ML/d	Equiv. Demand # =	4.90 ML/d	Equiv. Demand # =	0.62 ML/d	Equiv. Demand # =	ML/d
Equiv. Demand # =	94.96 l/s	Total discharge =	35.30 l/s	Equiv. Demand # =	59.66 l/s	Equiv. Demand # =	56.52 l/s	Equiv. Demand # =	56.77 l/s	Equiv. Demand # =	7.22 l/s	Equiv. Demand # =	0.00 l/s
Mannings n =	0.013	Mannings n =	0.013	Mannings n =	0.013	Mannings n =	0.013	Mannings n =	0.013	Mannings n =	0.013	Mannings n =	
Nom. Pipe Velocity =	4.22 m/sec	Nom. Pipe Velocity =	3.53 m/sec	Nom. Pipe Velocity =	2.65 m/sec	Nom. Pipe Velocity =	2.51 m/sec	Nom. Pipe Velocity =	3.63 m/sec	Nom. Pipe Velocity =	1.28 m/sec	Nom. Pipe Velocity =	0.00 m/sec

Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)
	(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)
0.150	109	48	-61	0.150	51	62	11	0.150	232	62	-170	0.150	210	57	-153	0.150	128	51	-76	0.150	2	33	31	0.150	0	0	0
0.200	23	48	25	0.200	11	62	51.3	0.200	50	62	12	0.200	45	57	11	0.200	28	51	24	0.200	0	33	33	0.200	0	0	0
0.225	13	48	35	0.225	6	62	56	0.225	27	62	36	0.225	24	57	32	0.225	15	51	37	0.225	0	33	33	0.225	0	0	0
0.250	7	48	41	0.250	3	62	59	0.250	15	62	47	0.250	14	57	43	0.250	8	51	43	0.250	0	33	33	0.250	0	0	0
0.300	3	48	45	0.300	1	62	61	0.300	6	62	57	0.300	5	57	51.3	0.300	3	51	48	0.300	0	33	33	0.300	0	0	0
0.375	1	48	47	0.375	0	62	62	0.375	2	62	61	0.375	2	57	55.0	0.375	1	51	50	0.375	0	33	33	0.375	0	0	0
0.450	0	48	48	0.450	0	62	62	0.450	1	62	62	0.450	1	57	56	0.450	0	51	51	0.450	0	33	33	0.450	0	0	0
0.335	1	48	47	0.335	1	62	62	0.335	3	62	59	0.335	3	57	54	0.335	2	51	50	0.335	0	33	33	0.335	0	0	0

GAWB - YARWUN CSC ASSETS ASSESSMENT - TREATED WATER SUPPLIES

OPTIMISATION OF PIPE DIAMETERS — OPTION: Yarwun Pump Crossconnection Open — High Case Year 20 - Peaking Factor 1.65

# at pipe end											
Equiv Dia A	0.150	0.300			0.335	Equiv Dia B	0.200	0.300			0.360555128
Equiv Dia C	0.300	0.300			0.424	Equiv Dia D					0

150 - 790m past QRL service redun't

Pipeline: 300 Rising Main from Pump		Pipeline: 200 Reids/Hanson		Pipeline: 300 Rising to Tank		Pipeline: 375 Orica		Pipeline: 300 Hanson to CAR		Pipeline: 300 Hanson CAR to Boat Ck		Pipeline:	
Length of Pipeline =	280 m	Length of Pipeline =	954 m	Length of Pipeline =	1514 m	Length of Pipeline =	1526 m	Length of Pipeline =	920 m	Length of Pipeline =	876 m	Length of Pipeline =	m
Maximum Head =	90 m AHD	Maximum Head =	81 m AHD	Maximum Head =	81 m AHD	Maximum Head =	68 m AHD	Maximum Head =	61 m AHD	Maximum Head =	58 m AHD	Maximum Head =	m AHD
Surface Level # =	42 m AHD	Surface Level # =	25 m AHD	Surface Level # =	25 m AHD	Surface Level # =	25 m AHD	Surface Level # =	25 m AHD	Surface Level # =	35 m AHD	Surface Level # =	m AHD
Flow in pipe =	0.169 m3/s	Flow per pipeline =	0.048 m3/s	Flow in pipe =	0.121 m3/s	Flow in pipe =	0.118 m3/s	Flow in pipe =	0.057 m3/s	Flow in pipe =	0.007 m3/s	Flow in pipe =	0.000 m3/s
Annual Volume	3230 ML	Annual Volume	911 ML	Annual Volume	2318 ML	Annual Volume	2258 ML	Annual Volume	1085 ML	Annual Volume	138 ML	Annual Volume	0 ML
Equiv. Demand # =	14.60 ML/d	Total discharge =	4.12 ML/d	Equiv. Demand # =	10.48 ML/d	Equiv. Demand # =	10.21 ML/d	Equiv. Demand # =	4.90 ML/d	Equiv. Demand # =	0.62 ML/d	Equiv. Demand # =	ML/d
Equiv. Demand # =	168.98 l/s	Total discharge =	47.69 l/s	Equiv. Demand # =	121.30 l/s	Equiv. Demand # =	118.16 l/s	Equiv. Demand # =	56.77 l/s	Equiv. Demand # =	7.22 l/s	Equiv. Demand # =	0.00 l/s
Mannings n =	0.013	Mannings n =	0.013	Mannings n =	0.013	Mannings n =	0.013	Mannings n =	0.013	Mannings n =	0.013	Mannings n =	
Nom. Pipe Velocity =	7.51 m/sec	Nom. Pipe Velocity =	4.77 m/sec	Nom. Pipe Velocity =	5.39 m/sec	Nom. Pipe Velocity =	5.25 m/sec	Nom. Pipe Velocity =	3.63 m/sec	Nom. Pipe Velocity =	1.28 m/sec	Nom. Pipe Velocity =	0.00 m/sec

Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)
	(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)
0.150	344	48	-296	0.150	93	56	-37	0.150	959	56	-903	0.150	918	43	-874	0.150	128	36	-91	0.150	2	23	21	0.150	0	0	0
0.200	74	48	-26	0.200	20	56	36.3	0.200	207	56	-150	0.200	198	43	-155	0.200	28	36	9	0.200	0	23	23	0.200	0	0	0
0.225	40	48	8	0.225	11	56	46	0.225	110	56	-54	0.225	106	43	-62	0.225	15	36	22	0.225	0	23	23	0.225	0	0	0
0.250	23	48	25	0.250	6	56	50	0.250	63	56	-6	0.250	60	43	-17	0.250	8	36	28	0.250	0	23	23	0.250	0	0	0
0.300	9	48	39	0.300	2	56	54	0.300	24	56	33	0.300	23	43	20.5	0.300	3	36	33	0.300	0	23	23	0.300	0	0	0
0.375	3	48	45	0.375	1	56	56	0.375	7	56	49	0.375	7	43	36.3	0.375	1	36	35	0.375	0	23	23	0.375	0	0	0
0.450	1	48	47	0.450	0	56	56	0.450	3	56	54	0.450	3	43	41	0.450	0	36	36	0.450	0	23	23	0.450	0	0	0
0.335	5	48	43	0.335	1	56	55	0.335	13	56	43	0.335	13	43	31	0.335	2	36	35	0.335	0	23	23	0.335	0	0	0

GAWB - YARWUN CSC ASSETS ASSESSMENT - TREATED WATER SUPPLIES

OPTIMISATION OF PIPE DIAMETERS — OPTION: Yarwun Pump Crossconnection Open — High Case Year 20 - Peaking Factor 2.5

# at pipe end											
Equiv Dia A	0.150	0.300			0.335	Equiv Dia B	0.200	0.300			0.361
Equiv Dia C	0.300	0.300			0.424	Equiv Dia D					0.000

150 - 790m past QRL service redun't

Pipeline: Eq'v Dia C Dup from Pump		Pipeline: Eq'v Dia B Dup via Orica		Pipeline: 300 Rising to Tank (No 150)		Pipeline: 375 Orica		Pipeline: 300 Hanson to CAR		Pipeline: 300 Hanson CAR to Boat Ck		Pipeline:	
Length of Pipeline =	280 m	Length of Pipeline =	954 m	Length of Pipeline =	1514 m	Length of Pipeline =	1526 m	Length of Pipeline =	920 m	Length of Pipeline =	876 m	Length of Pipeline =	m
Maximum Head =	88 m AHD	Maximum Head =	87 m AHD	Maximum Head =	87 m AHD	Maximum Head =	82 m AHD	Maximum Head =	81 m AHD	Maximum Head =	74 m AHD	Maximum Head =	m AHD
Surface Level # =	42 m AHD	Surface Level # =	25 m AHD	Surface Level # =	25 m AHD	Surface Level # =	25 m AHD	Surface Level # =	25 m AHD	Surface Level # =	35 m AHD	Surface Level # =	m AHD
Flow in pipe =	0.169 m3/s	Flow per pipeline =	0.118 m3/s	Flow in pipe =	0.051 m3/s	Flow in pipe =	0.046 m3/s	Flow in pipe =	0.088 m3/s	Flow in pipe =	0.011 m3/s	Flow in pipe =	0.000 m3/s
Annual Volume	2132 ML	Annual Volume	1486 ML	Annual Volume	646 ML	Annual Volume	586 ML	Annual Volume	1105 ML	Annual Volume	138 ML	Annual Volume	0 ML
Equiv. Demand # =	14.60 ML/d	Total discharge =	10.18 ML/d	Equiv. Demand # =	4.42 ML/d	Equiv. Demand # =	4.01 ML/d	Equiv. Demand # =	7.57 ML/d	Equiv. Demand # =	0.95 ML/d	Equiv. Demand # =	ML/d
Equiv. Demand # =	169.01 l/s	Total discharge =	117.82 l/s	Equiv. Demand # =	51.19 l/s	Equiv. Demand # =	46.43 l/s	Equiv. Demand # =	87.60 l/s	Equiv. Demand # =	10.94 l/s	Equiv. Demand # =	0.00 l/s
Mannings n =	0.013	Mannings n =	0.013	Mannings n =	0.013	Mannings n =	0.013	Mannings n =	0.013	Mannings n =	0.013	Mannings n =	
Nom. Pipe Velocity =	3.76 m/sec	Nom. Pipe Velocity =	3.63 m/sec	Nom. Pipe Velocity =	2.28 m/sec	Nom. Pipe Velocity =	1.32 m/sec	Nom. Pipe Velocity =	3.89 m/sec	Nom. Pipe Velocity =	0.49 m/sec	Nom. Pipe Velocity =	0.00 m/sec

Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)	Pipeline Diameter	Pipe Head Loss	Static Head or Pump Head Available	Residual Head (min. 20m)
	(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)		(m)	(m)	(m)
0.150	344	46	-298	0.150	570	62	-509	0.150	171	62	-109	0.150	142	57	-84	0.150	304	56	-248	0.150	5	39	34	0.150	0	0	0
0.200	74	46	-28	0.200	123	62	-61	0.200	37	62	25	0.200	31	57	27	0.200	66	56	-9	0.200	1	39	38	0.200	0	0	0
0.225	40	46	6	0.225	66	62	-4	0.225	20	62	42	0.225	16	57	41	0.225	35	56	21	0.225	1	39	38	0.225	0	0	0
0.250	23	46	23	0.250	37	62	24	0.250	11	62	50	0.250	9	57	48	0.250	20	56	36	0.250	0	39	39	0.250	0	0	0
0.300	9	46	37	0.300	14	62	48	0.300	4	62	57	0.300	4	57	54	0.300	8	56	49	0.300	0	39	39	0.300	0	0	0
0.375	3	46	43	0.375	4	62	57	0.375	1	62	60	0.375	1	57	56.3	0.375	2	56	54	0.375	0	39	39	0.375	0	0	0
0.450	1	46	45	0.450	2	62	60	0.450	0	62	61	0.450	0	57	57	0.450	1	56	55	0.450	0	39	39	0.450	0	0	0
0.424	1	46	45	0.361	5	62	56.3	0.335	2	62	59	0.335	2	57	55	0.335	4	56	52	0.335	0	39	39	0.335	0	0	0

CALLIOPE SHIRE WATER ASSETS - YARWUN INDUSTRIAL AREA WATER SUPPLY SCHEME & SOME OTHER AREAS
(Supplied data base revised following site inspection & discussions 16 & 17 February 2006)

L VERSION

LIST OF ASSETS

CSC Valuation

Asset Description & Location	Dimension	Year Created	Expiry	Useful Life	Age	Rep Cost	Deprec'n (p.a)	Written Down Rep. Cost	Size/ No.	Offer	CSC WDV	Difference
Telemetry - M	Item	1/07/1990	1/07/2010	20	12	$8,000.00	$400	$3,099	1	3,223	3,484	261
Wind Genera	Item	1/07/1990	1/07/2010	20	12	$4,000.00	$200	$1,550	1	1,596	1,742	146
CI Pipework &	100mm	1/07/1965	1/07/2015	50	37	$5,000.00	$100	$1,275	1	1,371	1,371	0
AC Main - Wi	100mm	1/07/1965	1/07/2015	50	37	$149,225.00	$2,983	$38,046	2,985	40,914	40,914	0
Mt Elizabeth t	375mm								1,230			
AC Pipeline S	100mm								2,510			
Chlorinator In	Item								1			
Chlorinator T	Item								1			
Pump Station	9 m by 5 m	1/07/1990	1/07/2090	100	12	$33,600.00	$336	$29,483	45	29,806	29,806	0
Formed Pave	Item	1/07/1965	1/07/2065	100	37	$2,700.00	$27	$1,694	1	1,720	1,720	0
Pump No.1 -	280 Imp, 2900	1/07/1990	1/07/2015	25	12	$9,000.00	$360	$4,589	1	4,935	4,935	0
Pump No.2 -	RPM	1/07/1990	1/07/2015	25	12	$9,000.00	$360	$4,589	1	4,935	4,935	0
Pump Station	Item	1/07/1990	1/07/2010	20	12	$13,000.00	$650	$5,036	1	5,490	5,661	171
Gantry & Stee	Item	1/07/1990	1/07/2030	40	12	$4,000.00	$100	$2,775	1	2,830	2,871	41
Pipework & F	100mm	1/07/1990	1/07/2040	50	12	$8,000.00	$160	$6,040	1	6,194	6,194	0
Telemetry - W	Item	1/07/1994	1/07/2014	20	8	$8,000.00	$400	$4,699	1	4,887	5,084	197
										Wilmott Total	**61,206**	
Sluice Valve -	200mm	7/08/1997	1/08/2022	25	5	$1,650.00	$66	$1,310	1	1,373	1,373	0
DICL Main - F	200mm	7/08/1997	1/08/2077	80	5	$7,880.60	$98	$7,373	61	7,468	7,468	0
Sluice Valves	200mm	30/06/1989	1/07/2014	25	13	$1,650.00	$66	$775	2	1,644	1,678	34
DICL Main - H	200mm	30/06/1989	1/07/2069	80	13	$61,753.90	$771	$51,523	475	52,265	52,265	0
DICL Main - L	200mm	7/08/1997	1/08/2077	80	5	$104.00	$1	$97	0.8	99	99	0
DICL Main - L	200mm	7/08/1997	1/08/2077	80	5	$1,222.00	$15	$1,143	9.4	1,158	1,158	0
Sluice Valves	200mm	7/08/1997	1/08/2022	25	5	$3,300.00	$132	$2,620	2	2,747	2,747	0
DICL Main - L	375mm	30/06/1989	1/07/2069	80	13	$52,419.10	$655	$43,735	223	44,365	44,365	0
Fire Hydrant -	Item	30/06/1989	1/07/2014	25	13	$400.00	$16	$188	1	199	203	4
DICL Main - F	200mm	7/08/1997	1/08/2077	80	5	$6,717.10	$84	$6,285	52	6,365	6,365	0
Fire Hydrant -	Item	7/08/1997	1/08/2022	25	5	$400.00	$16	$318	1	318	333	15
DICL Main - L	150mm	7/08/1997	1/08/2077	80	5	$990.00	$12	$926	10	938	938	0

Sluice Valve -	150mm	7/08/1997	1/08/2022	25	5	$2,000.00	$80	$1,588	1	1,665	1,665	0
Scour Valve -	Item	7/08/1997	1/08/2022	25	5	$1,700.00	$68	$1,350	1	1,415	1,415	0
Sluice Valve -	200mm	7/08/1997	1/08/2022	25	5	$1,650.00	$66	$1,310	1	1,373	1,373	0
DICL Main - F	200mm	7/08/1997	1/08/2077	80	5	$62,242.70	$778	$58,235	479	58,983	58,983	0
Scour Valves	Item	30/06/1989	1/07/2014	25	13	$1,700.00	$68	$799	1	847	864	17
Fire Hydrants	Item	30/06/1989	1/07/2014	25	13	$400.00	$16	$188	1	199	203	4
Sluice Valves	300mm	30/06/1989	1/07/2014	25	13	$3,300.00	$132	$1,551	1	1,644	1,677	33
DICL Main - H	300mm	30/06/1989	1/07/2069	80	13	$85,742.90	$1,071	$71,538	504	72,568	72,568	0
									504			
Air Valves - H	Item	30/06/1989	1/07/2014	25	13	$600.00	$24	$282	1	299	305	6
DICL Main - F	200mm	7/08/1997	1/08/2077	80	5	$2,233.40	$28	$2,090	17	2,116	2,116	0
Air Valves - L	Item	30/06/1989	1/07/2014	25	13	$600.00	$24	$282	2	598	610	12
Scour Valve -	Item	30/06/1989	1/07/2014	25	13	$850.00	$34	$399	1	423	432	9
DICL Main - L	375mm	30/06/1989	1/07/2069	80	13	$306,277.85	$3,826	$255,537	1,303	259,216	259,216	0
									253			
									1,050			
Sluice Valve -	375mm	30/06/1989	1/07/2014	25	13	$11,200.00	$448	$5,263	1	5,578	5,693	115
Sluice Valve -	375mm	30/06/2005							1			
Fire Hydrant -	Item	30/06/2005							1			
Gravel Acces	m	1/10/2004							1,020			
Sluice Valve -	200mm	7/08/1997	1/08/2022	25	5	$1,650.00	$66	$1,310	1	1,373	1,373	0
DICL Main - F	200mm	7/08/1997	1/08/2077	80	5	$464.10	$6	$434	3.6	440	440	0
DICL Main	300mm	15/01/2002							13			
Fire Hydrants	Item	15/01/2002							2			
Air Valves (12	80mm	15/01/2002							2			
Scour Valves	100mm	15/01/2002							3			
Sluice Valves	300mm	15/01/2002							3			
DICL Main	300mm	15/01/2002							19			
Sluice Valve (	300mm	15/01/2002							1			
DICL Main	300mm	15/01/2002							1260			
									876			
									416			
Air Valve (125	80mm	15/01/2002							1			
Pipework & F	Item	1/07/1989	1/07/2039	50	13	$20,000.00	$400	$14,699	1	15,084	15,084	0
Concrete Res	ML	1/07/1989	1/07/2069	80	13	$570,000.00	$7,120	$475,585	6	482,432	482,432	0
Security Fenc	m	1/07/1989							168			
Bitumen Seal	Item	1/07/1989	1/07/2005	16	13	$9,600.00	$600	$1,649	1	1,704	2,226	522
Sealed Paver	Item	1/07/1989	1/07/2005	16	13	$55,200.00	$3,448	$9,483	1	9,796	12,799	3,003
Aluminium Ro	Item	1/07/1989	1/07/2069	80	13	$152,000.00	$1,899	$126,823	1	128,649	128,649	0
OD Poly Main	63mm	7/08/1990	7/08/2040	50	12	$6,732.00	$135	$5,096	306	5,225	5,225	0
OD Poly Main	32mm	30/06/2005							55			
OD Poly Main	63mm	15/01/2002							75			
OD Poly Main	63mm	1/07/1990	1/07/2040	50	12	$43,450.00	$869	$32,796	1,975	33,631	33,631	0
UPVC Main -	150mm	1/12/2004							2,587			

									1,797			
Sluice Valves	150mm	1/12/2004							4			
Scour Valves	100mm	1/12/2004							5			
Air Valves	50mm	1/12/2004							4			
Water Conne	20mm	1/12/1990	1/12/2020	30	12	$480.00	$16	$291	1	291	306	15
Water Conne	20mm	1/07/1990	1/07/2020	30	12	$480.00	$16	$284	1	284	299	15
Water Conne	25mm	1/10/1989	1/10/2019	30	13	$600.00	$20	$340	1	340	359	19
Water Conne	25mm	1/12/1990	1/12/2020	30	12	$600.00	$20	$363	1	363	382	19
Water Conne	25mm	3/03/1997	3/03/2027	30	6	$600.00	$20	$488	1	488	508	20
Water Conne	40mm	1/12/1997	1/12/2027	30	5	$1,800.00	$60	$1,510	1	1,510	1,568	58
Water Conne	50mm	1/10/1989	1/10/2019	30	13	$2,600.00	$87	$1,473	1	1,473	1,556	83
Water Conne	50mm	15/12/1997	15/12/2027	30	5	$2,600.00	$87	$2,184	1	2,184	2,268	84
Water Conne	150mm	1/07/2002							1			
Water Conne	200mm	1/07/1989	1/07/2019	30	13	$2,500.00	$83	$1,395	1	1,475	1,475	0
Water Conne	20mm	30/06/2005							1			
TOTAL Yawun Assets (excluding Land)						**1,490,340**	**23,545**	**1,192,907**		**1,212,604**	**1,216,692**	**4,088**
Total Yawun Assets (excluding Land) plus Wilmott Lagoon Assets										1,273,401	1,339,104	4,497
Total Yawun Assets (excluding Land) minus AC Pipeline Supply to Mount Larcom (1914) Asset										1,273,401	1,339,104	4,497
Total Yawun Assets (excluding Land) minus AC Pipeline Supply to Mount Larcom (1914) & Mt Elizabeth to Silverdale Pipeline at Calliope (859) Ass										1,273,401	1,339,104	4,497
										Mains Total	**499,882**	
Land - Mt Miller Reservoir Water Supply Purposes Reserve (ADVISED BY GAWB - NOW NOT APPLICABLE)												
Land - Easement through Orica												
(Other lands are considered by Herron Todd White as either of no value or of no interest to be vested in GAWB as part of purchase of water supply assets from Calliope Shire)												
DICL Main - H	300mm	15/01/2002				$225,000		$225,000	1,292	153,170	225,000	71,830
Concrete Res	230kl	1/07/1965	1/07/2015	50	37				1	65,122		-65,122
Steel Reserv	230kl	1/07/2001	1/07/2026	25	1				1	76,802		-76,802

NOTE 1: ALL SERVICE CONNECTION METERS NOT ON CALLIOPE ASSET REGISTER - EXPENSED

NOTE 2: LAND VALUATION SEPARATELY ASSESSED & PROVIDED BY OTHERS (LAND INDICATED ABOVE MAY NEED TO BE INCLUDED)

NOTE 3: ASSUMES DEFUNCT MT MILLER RESEVOIR INLET/OUTLET METER IS EITHER NOT REPLACED BEFORE PURCHASE OF ASSETS BY GAWB OR SEPARATELY FULLY PAID FOR BY GAW

NOTE 4: GAWB & CALLIOPE SHIRE HAVE EXISTING SEPARATE TELEMETRY OF MT MILLER RESERVOIR (CALLIOPE SHIRE WOULD REMOVE THEIR TELEMETRY UPON PURCHASE OF ASSETS

NOTE 5: NO ADDITIONAL CAPITAL EXPENDITURE REQUIRED TO DELIVER WATER SUPPLIES OVER NEXT 20 YEARS UNDER ANY PROPOSED DEMAND SENARIO FOR CALLIOPE SHIRE ASSET

NOTE 6: ALL WORDING & NUMBERS IN RED ARE ADJUSTED FROM ASSET INFORMATION PROVIDED FOLLOWING SITE INSPECTIONS & DISCUSSIONS 16 & 17 FEBRUARY 2006

CPI from ABS - Feb 2006

Year	Index Number		% Increase each yr:		Increase from:									
	Brisbane	ALL	Brisbane	ALL	Brisbane	ALL	Brisbane	ALL	Brisbane	ALL	Brisbane	ALL	Brisbane	ALL
2000-01	132.5	132.2												
2001-02	136.3	136.0	2.9%	2.9%	1.029	1.029								
2002-03	140.7	140.2	3.2%	3.1%	1.062	1.061	1.032	1.031						
2003-04	144.8	143.5	2.9%	2.4%	1.093	1.086	1.062	1.055	1.029	1.024				
2004-05	148.5	147.0	2.6%	2.4%	1.121	1.112	1.090	1.081	1.055	1.049	1.026	1.024		
2005-06 (Estimate)	153.9	152.4	3.6%	3.7%	1.162	1.153	1.129	1.121	1.094	1.087	1.063	1.062	1.036	1.037
2004-05 (Jan to Mar)	149.2	147.5												
2004-05 (Apr to June)	150.0	148.4												
2005-06 (July to Sept)	150.9	149.8												
2005-06 (Oct to Dec)	152.1	150.6												
2005-06 (Jan to Mar Estimate #)	153.0	151.5			# Based on average from Jan to Dec 2005 from period Jan to June 2006								1.006	1.006
2005-06 (Apr to June Estimate#)	153.9	152.4											1.012	1.012

GENERAL CONSTRUCTION (NON-BUILDING - ROADS & BRIDGES ETC.) from ABS - Feb 2006

Year	Index Number	% Increase each yr:	Increase from:					
	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL
2000-01	106.8							
2001-02	109.7	2.7%	1.027					
2002-03	116.0	5.7%	1.086	1.057				
2003-04	120.8	4.1%	1.131	1.101	1.041			
2004-05	125.8	4.1%	1.178	1.147	1.084	1.041		
2005-06 (Estimate)	135.3	7.5%	1.266	1.233	1.166	1.120		1.075
2004-05 (Jan to Mar)	126.4							
2004-05 (Apr to June)	127.8							
2005-06 (July to Sept)	130.2							
2005-06 (Oct to Dec)	132.1							
2005-06 (Jan to Mar Estimate #)	133.7		# Based on average from Jan to Dec 2005 from period Jan to June 2006					1.012
2005-06 (Apr to June Estimate#)	135.3							1.024

COMPARISON WITH 2001/02 CSC ASSETS VALUATION & ASSOCIATED PRICING ASSESSMENT

Asset	**A** 31 March 2002 DRC provided by CSC	Inflation to 30June 2006 (General Construction Index)	Inflated 20June 2006 DRC	Revised DRC Base Case (Age based) 30 June 2006	**B** Revised DRC Base Case (Condition based) 30 June 2006	$/ML Pricing associated with **A**	$/ML Pricing associated with **B**
	$						
Pipes	506000	1.241	628062	914890	1032757		
Reservoir	660400	1.241	819708	626116	766423		
Valves	44500	1.241	55235	51944	75985		
Telemetry	5200	1.241	6454	0	0		
Other	6000	1.241	7447	23957	33578		
Total	**1222100**	**1.241**	**1516907**	**1616907**	**1908742**	**63.06**	**98.49**
Additional assets since 31 March 2002							
Pipes				233687	234530		
Valves				18130	18667		
Other				33843	35859		
Sub Total				285660	289056		14.92
TOTAL				**1902566**	**2197799**		**113.41**
			Check	1902566	2197799		113.41
Pricing Proposal							
Assume 30 June 2005 GAWB Price (inflated) applies till next price review (5 years-2009/10)							**69.61**
Assume 30 June 2006 Price (inflated) applies after next price review (2010/11)							**113.41**

It is unclear what basis was used for the valuation in 2002 but the 2006 valuations are based on relatively current contract prices and checked against manufacturers and contractor current costs and water industry data bases. Accordingly, the 30 June 2006 valuation is considered reasonable.

Total Assets

Year	Replacement Cost 1st Replacement	2nd replacement	Total for year
2006			$ -
2007			$ -
2008			$ -
2009			$ -
2010			$ -
2011	$ 9,178.90		$ 9,178.90
2012			$ -
2013			$ -
2014			$ -
2015			$ -
2016	$ 23,064.01		$ 23,064.01
2017			$ -
2018			$ -
2019	$ 36,917.12		$ 36,917.12
2020	$ 2,432.36		$ 2,432.36
2021	$ 5,424.57	$ 11,761.24	$ 17,185.81
2022			$ -
2023			$ -
2024			$ -
2025	$ 22,918.09		$ 22,918.09
	$ 99,935.05	**$ 11,761.24**	**$ 111,696.29**

Yarwun Assets

Year	Replacement Cost 1st Replacement	2nd replacement	Total for year
2006			$ -
2007			$ -
2008			$ -
2009			$ -
2010			$ -
2011			$ -
2012			$ -
2013			$ -
2014			$ -
2015			$ -
2016			$ -
2017			$ -
2018			$ -
2019			$ -
2020			$ -
2021			$ -
2022			$ -
2023			$ -
2024			$ -
2025	$ 14,099.96		$ 14,099.96
	$ 14,099.96	**$ -**	**$ 14,099.96**

CASH FLOW - YARWUN AREA ASSETS

			Actual #	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
			2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	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
Cashflow Assumptions																								
		Assume depreciated replacement cost																						
Purchase and Installation Cost		No installation costs identified as assets are already "in use"																						
		Land Assets at Market Value																						
	Lower Demand Case	Assets - Optimised Value		$ 1,776,833.43																				
		Land -Base Value		$ 21,000.00																				
	QCA Delayed Demand Case	Assets - Optimised Value		$ 1,832,867.72																				
		Land -Base Value		$ 21,000.00																				
	QCA Base Demand Case	Assets - Optimised Value		$ 1,832,867.72																				
		Land -Base Value		$ 21,000.00																				
	QCA Advanced Demand Case	Assets - Optimised Value		$ 1,832,867.72																				
		Land -Base Value		$ 21,000.00																				
	Higher Demand Case	Assets - Optimised Value		$ 2,002,883.44																				
		Land -Base Value		$ 21,000.00																				
	QCA Base Demand Case	Assets - No Optimisation Value		$ 2,197,798.72																				
		Land -Base Value		$ 21,000.00																				
Replacement Assets		Assume all assets are replaced at end of Expected life			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 14,099.96
		No change to replacement schedule between scenarios																						
Annual Operating Costs		Estimated as a percentage of Capital as follows																						
		Lower Demand Case	Assets - Optimised Value	$ 13,687	$ 14,031	$ 14,383	$ 14,744	$ 15,114	$ 15,493	$ 15,882	$ 16,281	$ 16,689	$ 17,108	$ 17,538	$ 17,978	$ 18,429	$ 18,892	$ 19,366	$ 19,852	$ 20,350	$ 20,861	$ 21,385	$ 21,921	$ 22,472
		QCA Delayed Demand Case	Assets - Optimised Value	$ 13,985	$ 14,336	$ 14,695	$ 15,064	$ 15,442	$ 15,830	$ 16,227	$ 16,635	$ 17,052	$ 17,480	$ 17,919	$ 18,369	$ 18,830	$ 19,302	$ 19,787	$ 20,283	$ 20,793	$ 21,314	$ 21,849	$ 22,398	$ 22,960
		QCA Base Demand Case	Assets - Optimised Value	$ 13,985	$ 14,336	$ 14,695	$ 15,064	$ 15,442	$ 15,830	$ 16,227	$ 16,635	$ 17,052	$ 17,480	$ 17,919	$ 18,369	$ 18,830	$ 19,302	$ 19,787	$ 20,283	$ 20,793	$ 21,314	$ 21,849	$ 22,398	$ 22,960
		QCA Advanced Demand Case	Assets - Optimised Value	$ 13,985	$ 14,336	$ 14,695	$ 15,064	$ 15,442	$ 15,830	$ 16,227	$ 16,635	$ 17,052	$ 17,480	$ 17,919	$ 18,369	$ 18,830	$ 19,302	$ 19,787	$ 20,283	$ 20,793	$ 21,314	$ 21,849	$ 22,398	$ 22,960
		Higher Demand Case	Assets - Optimised Value	$ 14,915	$ 15,290	$ 15,673	$ 16,067	$ 16,470	$ 16,883	$ 17,307	$ 17,742	$ 18,187	$ 18,643	$ 19,111	$ 19,591	$ 20,083	$ 20,587	$ 21,104	$ 21,633	$ 22,176	$ 22,733	$ 23,303	$ 23,888	$ 24,488
		QCA Base Demand Case	Assets - No Optimisation V	$ 15,915	$ 16,314	$ 16,724	$ 17,143	$ 17,574	$ 18,015	$ 18,467	$ 18,931	$ 19,406	$ 19,893	$ 20,392	$ 20,904	$ 21,429	$ 21,967	$ 22,518	$ 23,083	$ 23,662	$ 24,256	$ 24,865	$ 25,489	$ 26,129

MAINTENANCE ANNUAL COST ESTIMATES	% of
Operations 25% & Maintenance 75%	Replace
Tanks (including roofing)	0.750%
Buildings & Fencing	2.000%
Pumps	1.500%
Pipelines & Fittings (including connections)	0.500%
Access Roads & Tracks	1.500%
Treatment (including chlorination)	10.000%
Mechanical & Electrical (including telemetry & meters)	2.500%
Note 1: Power & Chemicals not applicable for Yarwun CSC Assets	
Note 2: Calliope Shire Maintenance 2005/06 Budget (use above es	$15,000
Note 3: 225 DICL Pipe with fittings per metre (June 2005)	$133.13
Note 3: 250 DICL Pipe with fittings per metre (June 2005)	$157.37

Scrap Value

Scrap value is assumed to be zero, as fair value after 20 years
is assumed to be the written down cost less cost of sale, which
is expected to be zero or negative.

Demand

The following demands provide several scenarios. A cashflow has been prepared for each scenario

Gladstone Area Water Board Assessment - 2006		Actual #	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Yarwun Treated Water Demand Forecasts	Year	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	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
(Total for DORC valuation)		ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a
Lower Case - QCA Case less Stage 2 Comalco		1443	1452	1289	1291	1,293	1,295	1,297	1,299	1,302	1,305	1,308	1,311	1,314	1,317	1,320	1,323	1,326	1,329	1,332	1,335	1,338	1,341
QCA Delayed Case - Comalco Stage 2 delayed 4 years		1443	1452	1289	1291	1530	1,295	1,297	1,299	1,539	1779	1782	1785	1788	1791	1794	1797	1800	1803	1806	1809	1812	1815
QCA Base Case - As per above 2005 Revised QCA Base Case		1443	1452	1289	1291	1530	1769	1771	1773	1776	1779	1782	1785	1788	1791	1794	1797	1800	1803	1806	1809	1812	1815
QCA Advanced Case - Comalco Stage 2 advanced 2 years		1443	1452	1,526	1,765	1,767	1769	1771	1773	1776	1779	1782	1785	1788	1791	1794	1797	1800	1803	1806	1809	1812	1815
Higher Case - QCA Case and no Orica Reduction		1443	1,584	1,587	1,590	1,830	2,070	2,073	2,076	2,080	2,084	2,088	2,092	2,096	2,100	2,104	2,108	2,112	2,116	2,120	2,124	2,128	2,132
(plus 1.0% growth in Mt Larcom past 2005/06)																							
Higher Case for Mt Larcom - 1% growth from 2005/06)		43	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65

Price	The price per megalitre is assumed as	101.81	QCA Fixed	$ 101.81	$ 104.37	$ 106.99	$ 109.67	$ 112.43	$ 115.25	$ 118.14	$ 121.11	$ 124.15	$ 127.26	$ 130.46	$ 133.73	$ 137.09	$ 140.53	$ 144.06	$ 147.67	$ 151.38	$ 155.18	$ 159.07	$ 163.07	$ 167.16
		101.81	Next Pricing Review	$ 101.81	$ 104.37	$ 106.99	$ 109.67	$ 112.43	$ 115.25															
Overhead Costs	The addition of new customers and assets will create some additional operations costs			$ 14,050	$ 14,403	$ 14,764	$ 15,135	$ 15,515	$ 15,904	$ 16,303	$ 16,712	$ 17,132	$ 17,562	$ 18,003	$ 18,455	$ 18,918	$ 19,393	$ 19,879	$ 20,378	$ 20,890	$ 21,414	$ 21,952	$ 22,503	$ 23,068
	The addition of new customers and assets will create some additional administrative overhead			$ 5,300	$ 5,433	$ 5,569	$ 5,709	$ 5,852	$ 5,999	$ 6,150	$ 6,304	$ 6,463	$ 6,625	$ 6,791	$ 6,962	$ 7,136	$ 7,315	$ 7,499	$ 7,687	$ 7,880	$ 8,078	$ 8,281	$ 8,489	$ 8,702
Working Capital	*Increase in Current Assets - Increase in Current Liabilities*																							
	It is expected that Debtors will be 30 days. This equates to 1/12th of Annual Sales			*-$ 11,664*	*-$ 11,974*	*-$ 12,293*	*-$ 12,620*	*-$ 12,956*	*-$ 13,301*	*-$ 13,666*	*-$ 14,040*	*-$ 14,424*	*-$ 14,818*	*-$ 15,224*	*-$ 15,640*	*-$ 16,068*	*-$ 16,507*	*-$ 16,958*	*-$ 17,422*	*-$ 17,898*	*-$ 18,387*	*-$ 18,889*	*-$ 19,405*
	It is expected that no additional inventory/stores will be required			*0 $ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*
	It is expected that Creditors will increase by the additional Operating & Administrative Costs and will be paid on 30 day terms			*$ 2,822*	*$ 2,893*	*$ 2,966*	*$ 3,040*	*$ 3,116*	*$ 3,195*	*$ 3,275*	*$ 3,357*	*$ 3,441*	*$ 3,528*	*$ 3,616*	*$ 3,707*	*$ 3,800*	*$ 3,895*	*$ 3,993*	*$ 4,093*	*$ 4,196*	*$ 4,301*	*$ 4,409*	*$ 4,520*
Example Scenario 1	*Overall, we estimate the additional working capital requirements are $*			*-$ 8,842*	*-$ 9,081*	*-$ 9,328*	*-$ 9,580*	*-$ 9,840*	*-$ 10,107*	*-$ 10,391*	*-$ 10,683*	*-$ 10,983*	*-$ 11,291*	*-$ 11,608*	*-$ 11,933*	*-$ 12,268*	*-$ 12,612*	*-$ 12,965*	*-$ 13,329*	*-$ 13,702*	*-$ 14,086*	*-$ 14,480*	*-$ 14,885*
	Lower Demand Case	Assets - Optimised Value		-$ 8,842	-$ 9,081	-$ 9,328	-$ 9,580	-$ 9,840	-$ 10,107	-$ 10,391	-$ 10,683	-$ 10,983	-$ 11,291	-$ 11,608	-$ 11,933	-$ 12,268	-$ 12,612	-$ 12,965	-$ 13,329	-$ 13,702	-$ 14,086	-$ 14,480	-$ 14,885
	QCA Delayed Demand Case	Assets - Optimised Value		-$ 8,816	-$ 9,055	-$ 11,467	-$ 9,553	-$ 9,812	-$ 10,078	-$ 12,753	-$ 15,556	-$ 15,978	-$ 16,412	-$ 16,857	-$ 17,315	-$ 17,785	-$ 18,267	-$ 18,762	-$ 19,271	-$ 19,794	-$ 20,330	-$ 20,881	-$ 21,447
	QCA Base Demand Case	Assets - Optimised Value		-$ 8,816	-$ 9,055	-$ 11,467	-$ 13,994	-$ 14,364	-$ 14,745	-$ 15,145	-$ 15,556	-$ 15,978	-$ 16,412	-$ 16,857	-$ 17,315	-$ 17,785	-$ 18,267	-$ 18,762	-$ 19,271	-$ 19,794	-$ 20,330	-$ 20,881	-$ 21,447
	QCA Advanced Demand Case	Assets - Optimised Value		-$ 10,877	-$ 13,281	-$ 13,633	-$ 13,994	-$ 14,364	-$ 14,745	-$ 15,145	-$ 15,556	-$ 15,978	-$ 16,412	-$ 16,857	-$ 17,315	-$ 17,785	-$ 18,267	-$ 18,762	-$ 19,271	-$ 19,794	-$ 20,330	-$ 20,881	-$ 21,447
	Higher Demand Case	Assets - Optimised Value		-$ 11,329	-$ 11,640	-$ 14,125	-$ 16,728	-$ 17,177	-$ 17,638	-$ 18,121	-$ 18,617	-$ 19,127	-$ 19,650	-$ 20,188	-$ 20,740	-$ 21,308	-$ 21,891	-$ 22,489	-$ 23,104	-$ 23,736	-$ 24,385	-$ 25,051	-$ 25,736
	QCA Base Demand Case	Assets - No Optimisation Value		-$ 8,651	-$ 8,886	-$ 11,294	-$ 13,816	-$ 14,182	-$ 14,558	-$ 14,954	-$ 15,360	-$ 15,777	-$ 16,206	-$ 16,646	-$ 17,098	-$ 17,563	-$ 18,039	-$ 18,529	-$ 19,032	-$ 19,549	-$ 20,079	-$ 20,624	-$ 21,183
Inflation	Is estimated to be 2.69% p.a. over the 20 years	2.51%																						
Timescale	It is assumed the purchase occurs effective 30th June 2006, this is Year 0 in our Valuation																							
	Analysis conducted over 20 years based on availability of demand data																							
WACC	We have used the WACC previously calculated by the QCA on 27-Jul-2005																							
	We found the risk free rate (Rf) to be 5.45% (5.45%)																							
	WACC Rate used is provided by GAWB	7.73%																						
	PV Discount Rate used is WACC less Inflation	5.22%																						
Scenario **Cash Flow**	This was based on the QCA finding adjusted to 30/6/05																							

Lower Case - QCA Case less Stage 2 Comalco

Initial Projection of Revenue and Expenses (Lower Case)

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1 Sales		$ 139,965	$ 143,692	$ 147,518	$ 151,446	$ 155,478	$ 159,617	$ 163,986	$ 168,475	$ 173,085	$ 177,821	$ 182,686	$ 187,682	$ 192,815	$ 198,086	$ 203,501	$ 209,063	$ 214,777	$ 220,645	$ 226,672	$ 232,863
2 Cost of Goods Sold		-$ 28,433	-$ 29,147	-$ 29,878	-$ 30,628	-$ 31,397	-$ 32,185	-$ 32,993	-$ 33,821	-$ 34,670	-$ 35,540	-$ 36,432	-$ 37,347	-$ 38,284	-$ 39,245	-$ 40,230	-$ 41,240	-$ 42,275	-$ 43,336	-$ 44,424	-$ 45,539
3 Additional Admin Costs		-$ 5,433	-$ 5,569	-$ 5,709	-$ 5,852	-$ 5,999	-$ 6,150	-$ 6,304	-$ 6,463	-$ 6,625	-$ 6,791	-$ 6,962	-$ 7,136	-$ 7,315	-$ 7,499	-$ 7,687	-$ 7,880	-$ 8,078	-$ 8,281	-$ 8,489	-$ 8,702
4 Depreciation		-$ 46,670	-$ 47,842	-$ 48,809	-$ 50,035	-$ 51,290	-$ 52,578	-$ 53,897	-$ 55,250	-$ 56,637	-$ 58,059	-$ 59,516	-$ 61,010	-$ 62,541	-$ 64,111	-$ 65,720	-$ 67,370	-$ 69,061	-$ 70,794	-$ 72,571	-$ 74,728
5 Pretax Profit		$ 59,429	$ 61,135	$ 63,121	$ 64,931	$ 66,791	$ 68,704	$ 70,791	$ 72,941	$ 75,153	$ 77,431	$ 79,776	$ 82,189	$ 84,674	$ 87,231	$ 89,864	$ 92,574	$ 95,363	$ 98,234	$ 101,188	$ 103,894
6 Income Tax Equivalents @ 30% replaced with GAWB estimate which takes into account carryforward tax losses		$ -	$ -	$ -	$ -	-$ 2,914	-$ 5,464	-$ 5,626	-$ 6,258	-$ 6,996	-$ 7,631	-$ 8,416	-$ 9,079	-$ 9,532	-$ 10,190	-$ 10,888	-$ 11,658	-$ 11,788	-$ 12,655	-$ 13,756	-$ 14,123
7 Net Income		$ 59,429	$ 61,135	$ 63,121	$ 64,931	$ 63,877	$ 63,240	$ 65,165	$ 66,683	$ 68,158	$ 69,800	$ 71,360	$ 73,110	$ 75,141	$ 77,041	$ 78,976	$ 80,915	$ 83,575	$ 85,579	$ 87,433	$ 89,770

Cash Flow Analysis (Lower Case)

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1 Cash Flow from Operations	$ -	$ 106,099	$ 108,976	$ 111,931	$ 114,965	$ 115,168	$ 115,817	$ 119,062	$ 121,933	$ 124,795	$ 127,859	$ 130,876	$ 134,120	$ 137,683	$ 141,152	$ 144,696	$ 148,285	$ 152,636	$ 156,373	$ 160,004	$ 164,499
2 Change in Working Capital	$ -	-$ 8,842	-$ 9,081	-$ 9,328	-$ 9,580	-$ 9,840	-$ 10,107	-$ 10,391	-$ 10,683	-$ 10,983	-$ 11,291	-$ 11,608	-$ 11,933	-$ 12,268	-$ 12,612	-$ 12,965	-$ 13,329	-$ 13,702	-$ 14,086	-$ 14,480	-$ 14,885
3 Capital Investment/Disposal	-$ 1,797,833																				
4 Capital Replacement		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	-$ 14,100
5 Net Cash Flows	**-$ 1,797,833**	**$ 97,257**	**$ 99,895**	**$ 102,603**	**$ 105,385**	**$ 105,327**	**$ 105,711**	**$ 108,672**	**$ 111,251**	**$ 113,812**	**$ 116,568**	**$ 119,268**	**$ 122,187**	**$ 125,415**	**$ 128,541**	**$ 131,731**	**$ 134,956**	**$ 138,934**	**$ 142,287**	**$ 145,524**	**$ 135,514**
Present Value		$ 1,411,736																			
Net Present Value	-$366,943.03																				

QCA Delayed Case - Comalco Stage 2 delayed 4 years

Initial Projection of Revenue and Expenses

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1 Sales		$ 139,965	$ 143,692	$ 173,511	$ 151,446	$ 155,478	$ 159,617	$ 192,689	$ 227,321	$ 233,408	$ 239,658	$ 246,075	$ 252,662	$ 259,426	$ 266,370	$ 273,498	$ 280,817	$ 288,331	$ 296,046	$ 303,966	$ 312,097
2 Cost of Goods Sold		-$ 28,738	-$ 29,460	-$ 30,199	-$ 30,957	-$ 31,734	-$ 32,530	-$ 33,347	-$ 34,184	-$ 35,042	-$ 35,922	-$ 36,823	-$ 37,747	-$ 38,695	-$ 39,666	-$ 40,662	-$ 41,682	-$ 42,729	-$ 43,801	-$ 44,901	-$ 46,028
3 Additional Admin Costs		-$ 5,433	-$ 5,569	-$ 5,709	-$ 5,852	-$ 5,999	-$ 6,150	-$ 6,304	-$ 6,463	-$ 6,625	-$ 6,791	-$ 6,962	-$ 7,136	-$ 7,315	-$ 7,499	-$ 7,687	-$ 7,880	-$ 8,078	-$ 8,281	-$ 8,489	-$ 8,702
4 Depreciation		-$ 46,670	-$ 47,842	-$ 48,809	-$ 50,035	-$ 51,290	-$ 52,578	-$ 53,897	-$ 55,250	-$ 56,637	-$ 58,059	-$ 59,516	-$ 61,010	-$ 62,541	-$ 64,111	-$ 65,720	-$ 67,370	-$ 69,061	-$ 70,794	-$ 72,571	-$ 74,728
5 Pretax Profit		$ 59,124	$ 60,822	$ 88,794	$ 64,602	$ 66,454	$ 68,358	$ 99,140	$ 131,424	$ 135,104	$ 138,887	$ 142,774	$ 146,769	$ 150,874	$ 155,093	$ 159,429	$ 163,885	$ 168,464	$ 173,170	$ 178,006	$ 182,639
6 Income Tax Equivalents @ 30% replaced with GAWB estimate which takes into account carryforward tax losses		$ -	$ -	$ -	$ -	-$ 2,914	-$ 5,464	-$ 5,626	-$ 6,258	-$ 6,996	-$ 7,631	-$ 8,416	-$ 9,079	-$ 9,532	-$ 10,190	-$ 10,888	-$ 11,658	-$ 11,788	-$ 12,655	-$ 13,756	-$ 14,114
7 Net Income		$ 59,124	$ 60,822	$ 88,794	$ 64,602	$ 63,540	$ 62,894	$ 93,514	$ 125,166	$ 128,109	$ 131,256	$ 134,358	$ 137,690	$ 141,342	$ 144,904	$ 148,542	$ 152,227	$ 156,676	$ 160,515	$ 164,250	$ 168,526

Cash Flow Analysis

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1 Cash Flow from Operations	$ -	$ 105,794	$ 108,663	$ 137,603	$ 114,637	$ 114,831	$ 115,472	$ 147,411	$ 180,416	$ 184,746	$ 189,314	$ 193,874	$ 198,700	$ 203,883	$ 209,015	$ 214,262	$ 219,596	$ 225,737	$ 231,309	$ 236,821	$ 243,254
2 Change in Working Capital		-$ 8,816	-$ 9,055	-$ 11,467	-$ 9,553	-$ 9,812	-$ 10,078	-$ 12,753	-$ 15,556	-$ 15,978	-$ 16,412	-$ 16,857	-$ 17,315	-$ 17,785	-$ 18,267	-$ 18,762	-$ 19,271	-$ 19,794	-$ 20,330	-$ 20,881	-$ 21,447
3 Capital Investment/Disposal	-$ 1,853,868																				
4 Capital Replacement		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	-$ 14,100
5 Net Cash Flows	**-$ 1,853,868**	**$ 96,978**	**$ 99,608**	**$ 126,136**	**$ 105,083**	**$ 105,019**	**$ 105,394**	**$ 134,658**	**$ 164,860**	**$ 168,767**	**$ 172,902**	**$ 177,017**	**$ 181,385**	**$ 186,098**	**$ 190,747**	**$ 195,499**	**$ 200,325**	**$ 205,943**	**$ 210,979**	**$ 215,940**	**$ 207,707**
Present Value		$ 1,847,439																			
Net Present Value	-$6,109.64																				

QCA Base Case - As per above 2005 Revised QCA Base Case

Initial Projection of Revenue and Expenses

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1 Sales		$ 139,965	$ 143,692	$ 173,511	$ 204,737	$ 210,106	$ 215,616	$ 221,391	$ 227,321	$ 233,408	$ 239,658	$ 246,075	$ 252,662	$ 259,426	$ 266,370	$ 273,498	$ 280,817	$ 288,331	$ 296,046	$ 303,966	$ 312,097
2 Cost of Goods Sold		-$ 28,738	-$ 29,460	-$ 30,199	-$ 30,957	-$ 31,734	-$ 32,530	-$ 33,347	-$ 34,184	-$ 35,042	-$ 35,922	-$ 36,823	-$ 37,747	-$ 38,695	-$ 39,666	-$ 40,662	-$ 41,682	-$ 42,729	-$ 43,801	-$ 44,901	-$ 46,028
3 Additional Admin Costs		-$ 5,433	-$ 5,569	-$ 5,709	-$ 5,852	-$ 5,999	-$ 6,150	-$ 6,304	-$ 6,463	-$ 6,625	-$ 6,791	-$ 6,962	-$ 7,136	-$ 7,315	-$ 7,499	-$ 7,687	-$ 7,880	-$ 8,078	-$ 8,281	-$ 8,489	-$ 8,702
4 Depreciation		-$ 46,670	-$ 47,842	-$ 48,809	-$ 50,035	-$ 51,290	-$ 52,578	-$ 53,897	-$ 55,250	-$ 56,637	-$ 58,059	-$ 59,516	-$ 61,010	-$ 62,541	-$ 64,111	-$ 65,720	-$ 67,370	-$ 69,061	-$ 70,794	-$ 72,571	-$ 74,728
5 Pretax Profit		$ 59,124	$ 60,822	$ 88,794	$ 117,893	$ 121,082	$ 124,358	$ 127,842	$ 131,424	$ 135,104	$ 138,887	$ 142,774	$ 146,769	$ 150,874	$ 155,093	$ 159,429	$ 163,885	$ 168,464	$ 173,170	$ 178,006	$ 182,639
6 Income Tax Equivalents @ 30% replaced with GAWB estimate which takes into account carryforward tax losses		$ -	$ -	$ -	$ -	-$ 2,914	-$ 5,464	-$ 5,626	-$ 6,258	-$ 6,996	-$ 7,631	-$ 8,416	-$ 9,079	-$ 9,532	-$ 10,190	-$ 10,888	-$ 11,658	-$ 11,788	-$ 12,655	-$ 13,756	-$ 14,114
7 Net Income		$ 59,124	$ 60,822	$ 88,794	$ 117,893	$ 118,169	$ 118,894	$ 122,216	$ 125,166	$ 128,109	$ 131,256	$ 134,358	$ 137,690	$ 141,342	$ 144,904	$ 148,542	$ 152,227	$ 156,676	$ 160,515	$ 164,250	$ 168,526

Cash Flow Analysis

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1 Cash Flow from Operations	$ -	$ 105,794	$ 108,663	$ 137,603	$ 167,927	$ 169,459	$ 171,472	$ 176,113	$ 180,416	$ 184,746	$ 189,314	$ 193,874	$ 198,700	$ 203,883	$ 209,015	$ 214,262	$ 219,596	$ 225,737	$ 231,309	$ 236,821	$ 243,254
2 Change in Working Capital		-$ 8,816	-$ 9,055	-$ 11,467	-$ 13,994	-$ 14,364	-$ 14,745	-$ 15,145	-$ 15,556	-$ 15,978	-$ 16,412	-$ 16,857	-$ 17,315	-$ 17,785	-$ 18,267	-$ 18,762	-$ 19,271	-$ 19,794	-$ 20,330	-$ 20,881	-$ 21,447
3 Capital Investment/Disposal	-$ 1,853,868																				
4 Capital Replacement		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	-$ 14,100
5 Net Cash Flows	**-$ 1,853,868**	**$ 96,978**	**$ 99,608**	**$ 126,136**	**$ 153,933**	**$ 155,095**	**$ 156,727**	**$ 160,968**	**$ 164,860**	**$ 168,767**	**$ 172,902**	**$ 177,017**	**$ 181,385**	**$ 186,098**	**$ 190,747**	**$ 195,499**	**$ 200,325**	**$ 205,943**	**$ 210,979**	**$ 215,940**	**$ 207,707**
Present Value		$ 1,982,374																			
Net Present Value	$122,130.90																				

QCA Advanced Case - Comalco Stage 2 advanced 2 years

Initial Projection of Revenue and Expenses

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1 Sales		$ 164,701	$ 194,405	$ 199,504	$ 204,737	$ 210,106	$ 215,616	$ 221,391	$ 227,321	$ 233,408	$ 239,658	$ 246,075	$ 252,662	$ 259,426	$ 266,370	$ 273,498	$ 280,817	$ 288,331	$ 296,046	$ 303,966	$ 312,097
2 Cost of Goods Sold		-$ 28,738	-$ 29,460	-$ 30,199	-$ 30,957	-$ 31,734	-$ 32,530	-$ 33,347	-$ 34,184	-$ 35,042	-$ 35,922	-$ 36,823	-$ 37,747	-$ 38,695	-$ 39,666	-$ 40,662	-$ 41,682	-$ 42,729	-$ 43,801	-$ 44,901	-$ 46,028
3 Additional Admin Costs		-$ 5,433	-$ 5,569	-$ 5,709	-$ 5,852	-$ 5,999	-$ 6,150	-$ 6,304	-$ 6,463	-$ 6,625	-$ 6,791	-$ 6,962	-$ 7,136	-$ 7,315	-$ 7,499	-$ 7,687	-$ 7,880	-$ 8,078	-$ 8,281	-$ 8,489	-$ 8,702
4 Depreciation		-$ 46,670	-$ 47,842	-$ 48,809	-$ 50,035	-$ 51,290	-$ 52,578	-$ 53,897	-$ 55,250	-$ 56,637	-$ 58,059	-$ 59,516	-$ 61,010	-$ 62,541	-$ 64,111	-$ 65,720	-$ 67,370	-$ 69,061	-$ 70,794	-$ 72,571	-$ 74,728
5 Pretax Profit		$ 83,860	$ 111,535	$ 114,787	$ 117,893	$ 121,082	$ 124,358	$ 127,842	$ 131,424	$ 135,104	$ 138,887	$ 142,774	$ 146,769	$ 150,874	$ 155,093	$ 159,429	$ 163,885	$ 168,464	$ 173,170	$ 178,006	$ 182,639
6 Income Tax Equivalents @ 30% replaced with GAWB estimate which takes into account carryforward tax losses		$ -	$ -	$ -	$ -	-$ 2,914	-$ 5,464	-$ 5,626	-$ 6,258	-$ 6,996	-$ 7,631	-$ 8,416	-$ 9,079	-$ 9,532	-$ 10,190	-$ 10,888	-$ 11,658	-$ 11,788	-$ 12,655	-$ 13,756	-$ 14,114
7 Net Income		$ 83,860	$ 111,535	$ 114,787	$ 117,893	$ 118,169	$ 118,894	$ 122,216	$ 125,166	$ 128,109	$ 131,256	$ 134,358	$ 137,690	$ 141,342	$ 144,904	$ 148,542	$ 152,227	$ 156,676	$ 160,515	$ 164,250	$ 168,526

Cash Flow Analysis

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1 Cash Flow from Operations	$ -	$ 130,530	$ 159,376	$ 163,596	$ 167,927	$ 169,459	$ 171,472	$ 176,113	$ 180,416	$ 184,746	$ 189,314	$ 193,874	$ 198,700	$ 203,883	$ 209,015	$ 214,262	$ 219,596	$ 225,737	$ 231,309	$ 236,821	$ 243,254
2 Change in Working Capital		-$ 10,877	-$ 13,281	-$ 13,633	-$ 13,994	-$ 14,364	-$ 14,745	-$ 15,145	-$ 15,556	-$ 15,978	-$ 16,412	-$ 16,857	-$ 17,315	-$ 17,785	-$ 18,267	-$ 18,762	-$ 19,271	-$ 19,794	-$ 20,330	-$ 20,881	-$ 21,447
3 Capital Investment/Disposal	-$ 1,853,868																				
4 Capital Replacement		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	-$ 14,100
5 Net Cash Flows	**-$ 1,853,868**	**$ 119,652**	**$ 146,095**	**$ 149,963**	**$ 153,933**	**$ 155,095**	**$ 156,727**	**$ 160,968**	**$ 164,860**	**$ 168,767**	**$ 172,902**	**$ 177,017**	**$ 181,385**	**$ 186,098**	**$ 190,747**	**$ 195,499**	**$ 200,325**	**$ 205,943**	**$ 210,979**	**$ 215,940**	**$ 207,707**
Present Value		$ 2,066,366																			
Net Present Value	$201,955.83																				

Higher Case - QCA Case and no Orica Reduction

Initial Projection of Revenue and Expenses

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1 Sales		$ 171,067	$ 175,682	$ 206,414	$ 238,577	$ 244,911	$ 251,413	$ 258,208	$ 265,185	$ 272,351	$ 279,708	$ 287,264	$ 295,023	$ 302,990	$ 311,171	$ 319,572	$ 328,199	$ 337,058	$ 346,154	$ 355,495	$ 365,086

2 Cost of Goods Sold	-$ 29,692	-$ 30,437	-$ 31,201	-$ 31,985	-$ 32,787	-$ 33,610	-$ 34,454	-$ 35,319	-$ 36,205	-$ 37,114	-$ 38,046	-$ 39,001	-$ 39,979	-$ 40,983	-$ 42,012	-$ 43,066	-$ 44,147	-$ 45,255	-$ 46,391	-$ 47,556
3 Additional Admin Costs	-$ 5,433	-$ 5,569	-$ 5,709	-$ 5,852	-$ 5,999	-$ 6,150	-$ 6,304	-$ 6,463	-$ 6,625	-$ 6,791	-$ 6,962	-$ 7,136	-$ 7,315	-$ 7,499	-$ 7,687	-$ 7,880	-$ 8,078	-$ 8,281	-$ 8,489	-$ 8,702
4 Depreciation	-$ 46,670	-$ 47,842	-$ 48,809	-$ 50,035	-$ 51,290	-$ 52,578	-$ 53,897	-$ 55,250	-$ 56,637	-$ 58,059	-$ 59,516	-$ 61,010	-$ 62,541	-$ 64,111	-$ 65,720	-$ 67,370	-$ 69,061	-$ 70,794	-$ 72,571	-$ 74,728
5 Pretax Profit	$ 89,272	$ 91,834	$ 120,694	$ 150,706	$ 154,834	$ 159,075	$ 163,552	$ 168,154	$ 172,883	$ 177,745	$ 182,741	$ 187,876	$ 193,154	$ 198,578	$ 204,153	$ 209,883	$ 215,772	$ 221,824	$ 228,044	$ 234,101
6 Income Tax Equivalents @ 30% replaced with GAWB estimate which takes into account carryforward tax losses	$ -	$ -	$ -	$ -	-$ 2,914	-$ 5,464	-$ 5,626	-$ 6,258	-$ 6,996	-$ 7,631	-$ 8,416	-$ 9,079	-$ 9,532	-$ 10,190	-$ 10,888	-$ 11,658	-$ 11,788	-$ 12,655	-$ 13,756	-$ 14,121
7 Net Income	$ 89,272	$ 91,834	$ 120,694	$ 150,706	$ 151,920	$ 153,611	$ 157,926	$ 161,896	$ 165,888	$ 170,114	$ 174,325	$ 178,797	$ 183,622	$ 188,389	$ 193,266	$ 198,225	$ 203,984	$ 209,169	$ 214,289	$ 219,980

Cash Flow Analysis

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1 Cash Flow from Operations	$ -	$ 135,942	$ 139,675	$ 169,503	$ 200,740	$ 203,211	$ 206,189	$ 211,823	$ 217,146	$ 222,525	$ 228,172	$ 233,841	$ 239,807	$ 246,163	$ 252,499	$ 258,986	$ 265,594	$ 273,045	$ 279,963	$ 286,860	$ 294,708
2 Change in Working Capital	-$	11,329	-$ 11,640	-$ 14,125	-$ 16,728	-$ 17,177	-$ 17,638	-$ 18,121	-$ 18,617	-$ 19,127	-$ 19,650	-$ 20,188	-$ 20,740	-$ 21,308	-$ 21,891	-$ 22,489	-$ 23,104	-$ 23,736	-$ 24,385	-$ 25,051	-$ 25,736
3 Capital Investment/Disposal	-$ 2,023,883																				
4 Capital Replacement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	-$ 14,100
5 Net Cash Flows	**-$ 2,023,883**	**$ 124,614**	**$ 128,036**	**$ 155,378**	**$ 184,012**	**$ 186,034**	**$ 188,551**	**$ 193,702**	**$ 198,529**	**$ 203,398**	**$ 208,522**	**$ 213,653**	**$ 219,066**	**$ 224,855**	**$ 230,609**	**$ 236,496**	**$ 242,490**	**$ 249,309**	**$ 255,578**	**$ 261,808**	**$ 254,873**

Present Value	$ 2,409,390
Net Present Value	$366,381.62

QCA Base Case - As per above 2005 Revised QCA Base Case - No Optimising

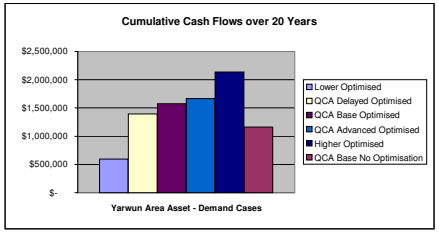
Initial Projection of Revenue and Expenses

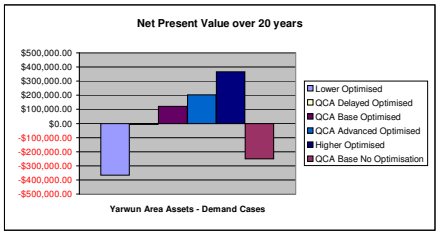
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1 Sales		$ 139,965	$ 143,692	$ 173,511	$ 204,737	$ 210,106	$ 215,616	$ 221,391	$ 227,321	$ 233,408	$ 239,658	$ 246,075	$ 252,662	$ 259,426	$ 266,370	$ 273,498	$ 280,817	$ 288,331	$ 296,046	$ 303,966	$ 312,097
2 Cost of Goods Sold		-$ 30,717	-$ 31,488	-$ 32,278	-$ 33,088	-$ 33,919	-$ 34,770	-$ 35,643	-$ 36,538	-$ 37,455	-$ 38,395	-$ 39,359	-$ 40,346	-$ 41,359	-$ 42,397	-$ 43,461	-$ 44,552	-$ 45,671	-$ 46,817	-$ 47,992	-$ 49,197
3 Additional Admin Costs		-$ 5,433	-$ 5,569	-$ 5,709	-$ 5,852	-$ 5,999	-$ 6,150	-$ 6,304	-$ 6,463	-$ 6,625	-$ 6,791	-$ 6,962	-$ 7,136	-$ 7,315	-$ 7,499	-$ 7,687	-$ 7,880	-$ 8,078	-$ 8,281	-$ 8,489	-$ 8,702
4 Depreciation		-$ 46,670	-$ 47,842	-$ 48,809	-$ 50,035	-$ 51,290	-$ 52,578	-$ 53,897	-$ 55,250	-$ 56,637	-$ 58,059	-$ 59,516	-$ 61,010	-$ 62,541	-$ 64,111	-$ 65,720	-$ 67,370	-$ 69,061	-$ 70,794	-$ 72,571	-$ 74,728
5 Pretax Profit		$ 57,145	$ 58,794	$ 86,714	$ 115,761	$ 118,897	$ 122,118	$ 125,546	$ 129,070	$ 132,691	$ 136,413	$ 140,239	$ 144,170	$ 148,210	$ 152,362	$ 156,630	$ 161,015	$ 165,522	$ 170,154	$ 174,914	$ 179,470
6 Income Tax Equivalents @ 30% replaced with GAWB estimate which takes into account carryforward tax losses		$ -	$ -	$ -	$ -	-$ 2,914	-$ 5,464	-$ 5,626	-$ 6,258	-$ 6,996	-$ 7,631	-$ 8,416	-$ 9,079	-$ 9,532	-$ 10,190	-$ 10,888	-$ 11,658	-$ 11,788	-$ 12,655	-$ 13,756	-$ 14,114
7 Net Income		$ 57,145	$ 58,794	$ 86,714	$ 115,761	$ 115,984	$ 116,654	$ 119,920	$ 122,812	$ 125,696	$ 128,782	$ 131,823	$ 135,091	$ 138,678	$ 142,172	$ 145,742	$ 149,357	$ 153,734	$ 157,499	$ 161,158	$ 165,356

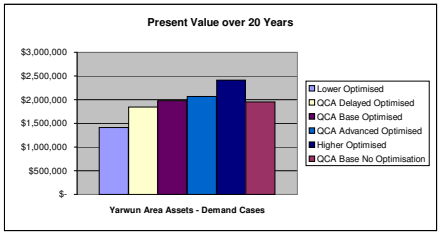
Cash Flow Analysis

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1 Cash Flow from Operations	$ -	$ 103,815	$ 106,635	$ 135,524	$ 165,796	$ 167,274	$ 169,232	$ 173,817	$ 178,063	$ 182,333	$ 186,841	$ 191,339	$ 196,101	$ 201,219	$ 206,283	$ 211,462	$ 216,726	$ 222,795	$ 228,293	$ 233,730	$ 240,085
2 Change in Working Capital	-$	8,651	-$ 8,886	-$ 11,294	-$ 13,816	-$ 14,182	-$ 14,558	-$ 14,954	-$ 15,360	-$ 15,777	-$ 16,206	-$ 16,646	-$ 17,098	-$ 17,563	-$ 18,039	-$ 18,529	-$ 19,032	-$ 19,549	-$ 20,079	-$ 20,624	-$ 21,183
3 Capital Investment/Disposal	-$ 2,218,799																				
4 Capital Replacement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	-$ 14,100
5 Net Cash Flows	**-$ 2,218,799**	**$ 95,164**	**$ 97,749**	**$ 124,230**	**$ 151,979**	**$ 153,092**	**$ 154,674**	**$ 158,864**	**$ 162,702**	**$ 166,556**	**$ 170,635**	**$ 174,692**	**$ 179,002**	**$ 183,656**	**$ 188,244**	**$ 192,933**	**$ 197,694**	**$ 203,247**	**$ 208,214**	**$ 213,106**	**$ 204,801**

Present Value	$ 1,955,161
Net Present Value	-$250,558.25


Cumulative Cash Flows over 20 Years
$2,500,000
$2,000,000
$1,500,000
$1,000,000
$500,000
$-
Lower Optimised
QCA Delayed Optimised
QCA Base Optimised
QCA Advanced Optimised
Higher Optimised
QCA Base No Optimisation
Yarwun Area Asset - Demand Cases


Net Present Value over 20 years
$500,000.00
$400,000.00
$300,000.00
$200,000.00
$100,000.00
$0.00
-$100,000.00
-$200,000.00
-$300,000.00
-$400,000.00
-$500,000.00
Lower Optimised
QCA Delayed Optimised
QCA Base Optimised
QCA Advanced Optimised
Higher Optimised
QCA Base No Optimisation
Yarwun Area Assets - Demand Cases


Present Value over 20 Years
$3,000,000
$2,500,000
$2,000,000
$1,500,000
$1,000,000
$500,000
$-
Lower Optimised
QCA Delayed Optimised
QCA Base Optimised
QCA Advanced Optimised
Higher Optimised
QCA Base No Optimisation
Yarwun Area Assets - Demand Cases

Summary Cashflows Yarwun Area Assets

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Lower Case - QCA Case less Stage 2 Comalco	-$ 1,797,833	$ 97,257	$ 99,895	$ 102,603	$ 105,385	$ 105,327	$ 105,711	$ 108,672	$ 111,251	$ 113,812	$ 116,568	$ 119,268	$ 122,187	$ 125,415	$ 128,541	$ 131,731	$ 134,956	$ 138,934	$ 142,287	$ 145,524	$ 135,514
QCA Delayed Case - Comalco Stage 2 delayed 4 years	-$ 1,853,868	$ 96,978	$ 99,608	$ 126,136	$ 105,083	$ 105,019	$ 105,394	$ 134,658	$ 164,860	$ 168,767	$ 172,902	$ 177,017	$ 181,385	$ 186,098	$ 190,747	$ 195,499	$ 200,325	$ 205,943	$ 210,979	$ 215,940	$ 207,707
QCA Base Case - As per above 2005 Revised QCA Base Case	-$ 1,853,868	$ 96,978	$ 99,608	$ 126,136	$ 153,933	$ 155,095	$ 156,727	$ 160,968	$ 164,860	$ 168,767	$ 172,902	$ 177,017	$ 181,385	$ 186,098	$ 190,747	$ 195,499	$ 200,325	$ 205,943	$ 210,979	$ 215,940	$ 207,707
QCA Case Advanced - Comalco Stage 2 advanced 2 years	-$ 1,853,868	$ 119,652	$ 146,095	$ 149,963	$ 153,933	$ 155,095	$ 156,727	$ 160,968	$ 164,860	$ 168,767	$ 172,902	$ 177,017	$ 181,385	$ 186,098	$ 190,747	$ 195,499	$ 200,325	$ 205,943	$ 210,979	$ 215,940	$ 207,707
Higher Case - QCA Case and no Orica Reduction	-$ 2,023,883	$ 124,614	$ 128,036	$ 155,378	$ 184,012	$ 186,034	$ 188,551	$ 193,702	$ 198,529	$ 203,398	$ 208,522	$ 213,653	$ 219,066	$ 224,855	$ 230,609	$ 236,496	$ 242,490	$ 249,309	$ 255,578	$ 261,808	$ 254,873
QCA Base Case - No Optimisation	-$ 2,218,799	$ 95,164	$ 97,749	$ 124,230	$ 151,979	$ 153,092	$ 154,674	$ 158,864	$ 162,702	$ 166,556	$ 170,635	$ 174,692	$ 179,002	$ 183,656	$ 188,244	$ 192,933	$ 197,694	$ 203,247	$ 208,214	$ 213,106	$ 204,801
Cumulative Cashflows																					
Lower Case - QCA Case less Stage 2 Comalco	-$ 1,797,833	-$ 1,700,576	-$ 1,600,681	-$ 1,498,078	-$ 1,392,693	-$ 1,287,366	-$ 1,181,655	-$ 1,072,984	-$ 961,733	-$ 847,921	-$ 731,353	-$ 612,085	-$ 489,898	-$ 364,484	-$ 235,943	-$ 104,212	$ 30,744	$ 169,678	$ 311,965	$ 457,489	$ 593,002
QCA Delayed Case - Comalco Stage 2 delayed 4 years	-$ 1,853,868	-$ 1,756,890	-$ 1,657,282	-$ 1,531,145	-$ 1,426,062	-$ 1,321,043	-$ 1,215,649	-$ 1,080,991	-$ 916,131	-$ 747,364	-$ 574,462	-$ 397,445	-$ 216,061	-$ 29,962	$ 160,785	$ 356,285	$ 556,610	$ 762,553	$ 973,532	$ 1,189,471	$ 1,397,178
QCA Base Case - As per above 2005 Revised QCA Base Case	-$ 1,853,868	-$ 1,756,890	-$ 1,657,282	-$ 1,531,145	-$ 1,377,212	-$ 1,222,118	-$ 1,065,391	-$ 904,422	-$ 739,562	-$ 570,795	-$ 397,893	-$ 220,876	-$ 39,492	$ 146,607	$ 337,354	$ 532,854	$ 733,179	$ 939,122	$ 1,150,101	$ 1,366,040	$ 1,573,747
QCA Case Advanced - Comalco Stage 2 advanced 2 years	-$ 1,853,868	-$ 1,734,216	-$ 1,588,121	-$ 1,438,158	-$ 1,284,224	-$ 1,129,130	-$ 972,403	-$ 811,434	-$ 646,574	-$ 477,807	-$ 304,905	-$ 127,889	$ 53,496	$ 239,595	$ 430,342	$ 625,841	$ 826,166	$ 1,032,110	$ 1,243,088	$ 1,459,028	$ 1,666,735
Higher Case - QCA Case and no Orica Reduction	-$ 2,023,883	-$ 1,899,270	-$ 1,771,234	-$ 1,615,856	-$ 1,431,845	-$ 1,245,811	-$ 1,057,260	-$ 863,558	-$ 665,028	-$ 461,630	-$ 253,108	-$ 39,455	$ 179,611	$ 404,466	$ 635,075	$ 871,571	$1,114,061	$ 1,363,370	$ 1,618,948	$ 1,880,757	$ 2,135,629
QCA Base Case - No Optimisation	-$ 2,218,799	-$ 2,123,635	-$ 2,025,886	-$ 1,901,656	-$ 1,749,676	-$ 1,596,584	-$ 1,441,911	-$ 1,283,047	-$ 1,120,344	-$ 953,789	-$ 783,154	-$ 608,461	-$ 429,459	-$ 245,803	-$ 57,559	$ 135,374	$ 333,069	$ 536,315	$ 744,529	$ 957,635	$ 1,162,436
Net Present Values																					
Lower Case - QCA Case less Stage 2 Comalco	-$366,943.03																				
QCA Delayed Case - Comalco Stage 2 delayed 4 years	-$6,109.64																				
QCA Base Case - As per above 2005 Revised QCA Base Case	$122,130.90																				
QCA Case Advanced - Comalco Stage 2 advanced 2 years	$201,955.83																				
Higher Case - QCA Case and no Orica Reduction	$366,381.62																				
QCA Base Case - No Optimisation	-$250,558.25																				
Present Values																					
Lower Case - QCA Case less Stage 2 Comalco	$ 1,411,736																				
QCA Delayed Case - Comalco Stage 2 delayed 4 years	$ 1,847,439																				
QCA Base Case - As per above 2005 Revised QCA Base Case	$ 1,982,374																				
QCA Case Advanced - Comalco Stage 2 advanced 2 years	$ 2,066,366																				
Higher Case - QCA Case and no Orica Reduction	$ 2,409,390																				
QCA Base Case - No Optimisation	$ 1,955,161																				

CASH FLOW - YARWUN AREA ASSETS

			Actual #	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
			2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	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
Cashflow Assumptions																								
Purchase and Installation Cost		Assume depreciated replacement cost No installation costs identified as assets are already "in use" Land Assets at Market Value																						
	Lower Demand Case	Assets - Optimised Value		$ 1,776,833.43																				
		Land -Base Value		$ 21,000.00																				
	QCA Delayed Demand Case	Assets - Optimised Value		$ 1,832,867.72																				
		Land -Base Value		$ 21,000.00																				
	QCA Base Demand Case	Assets - Optimised Value		$ 1,832,867.72																				
		Land -Base Value		$ 21,000.00																				
	QCA Advanced Demand Case	Assets - Optimised Value		$ 1,832,867.72																				
		Land -Base Value		$ 21,000.00																				
	Higher Demand Case	Assets - Optimised Value		$ 2,002,883.44																				
		Land -Base Value		$ 21,000.00																				
	QCA Base Demand Case	Assets - No Optimisation Value		$ 2,197,798.72																				
		Land -Base Value		$ 21,000.00																				
Replacement Assets		Assume all assets are replaced at end of Expected life No change to replacement schedule between scenarios			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 14,099.96
Annual Operating Costs		Estimated as a percentage of Capital as follows																						
		Lower Demand Case Assets - Optimised Value		$ 13,687	$ 14,031	$ 14,383	$ 14,744	$ 15,114	$ 15,493	$ 15,882	$ 16,281	$ 16,689	$ 17,108	$ 17,538	$ 17,978	$ 18,429	$ 18,892	$ 19,366	$ 19,852	$ 20,350	$ 20,861	$ 21,385	$ 21,921	$ 22,472
		QCA Delayed Demand Case Assets - Optimised Value		$ 13,985	$ 14,336	$ 14,695	$ 15,064	$ 15,442	$ 15,830	$ 16,227	$ 16,635	$ 17,052	$ 17,480	$ 17,919	$ 18,369	$ 18,830	$ 19,302	$ 19,787	$ 20,283	$ 20,793	$ 21,314	$ 21,849	$ 22,398	$ 22,960
		QCA Base Demand Case Assets - Optimised Value		$ 13,985	$ 14,336	$ 14,695	$ 15,064	$ 15,442	$ 15,830	$ 16,227	$ 16,635	$ 17,052	$ 17,480	$ 17,919	$ 18,369	$ 18,830	$ 19,302	$ 19,787	$ 20,283	$ 20,793	$ 21,314	$ 21,849	$ 22,398	$ 22,960
		QCA Advanced Demand Case Assets - Optimised Value		$ 13,985	$ 14,336	$ 14,695	$ 15,064	$ 15,442	$ 15,830	$ 16,227	$ 16,635	$ 17,052	$ 17,480	$ 17,919	$ 18,369	$ 18,830	$ 19,302	$ 19,787	$ 20,283	$ 20,793	$ 21,314	$ 21,849	$ 22,398	$ 22,960
		Higher Demand Case Assets - Optimised Value		$ 14,915	$ 15,290	$ 15,673	$ 16,067	$ 16,470	$ 16,883	$ 17,307	$ 17,742	$ 18,187	$ 18,643	$ 19,111	$ 19,591	$ 20,083	$ 20,587	$ 21,104	$ 21,633	$ 22,176	$ 22,733	$ 23,303	$ 23,888	$ 24,488
		QCA Base Demand Case Assets - No Optimisation V		$ 15,915	$ 16,314	$ 16,724	$ 17,143	$ 17,574	$ 18,015	$ 18,467	$ 18,931	$ 19,406	$ 19,893	$ 20,392	$ 20,904	$ 21,429	$ 21,967	$ 22,518	$ 23,083	$ 23,662	$ 24,256	$ 24,865	$ 25,489	$ 26,129

MAINTENANCE ANNUAL COST ESTIMATES	% of
Operations 25% & Maintenance 75%	Replace
Tanks (including roofing)	0.750%
Buildings & Fencing	2.000%
Pumps	1.500%
Pipelines & Fittings (including connections)	0.500%
Access Roads & Tracks	1.500%
Treatment (including chlorination)	10.000%
Mechanical & Electrical (including telemetry & meters)	2.500%
Note 1: Power & Chemicals not applicable for Yarwun CSC Assets	
Note 2: Calliope Shire Maintenance 2005/06 Budget (use above es	$15,000
Note 3: 225 DICL Pipe with fittings per metre (June 2005)	$133.13
Note 3: 250 DICL Pipe with fittings per metre (June 2005)	$157.37

Scrap Value

Scrap value is assumed to be zero, as fair value after 20 years
is assumed to be the written down cost less cost of sale, which
is expected to be zero or negative.

Demand

The following demands provide several scenarios. A cashflow has been prepared for each scenario

Gladstone Area Water Board Assessment - 2006	Year	Actual #	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Yarwun Treated Water Demand Forecasts		2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	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
(Total for DORC valuation)		ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a	ML/a
Lower Case - QCA Case less Stage 2 Comalco		1443	1452	1289	1291	1293	1295	1297	1299	1302	1305	1308	1311	1314	1317	1320	1323	1326	1329	1332	1335	1338	1341
QCA Delayed Case - Comalco Stage 2 delayed 4 years		1443	1452	1289	1291	1530	1295	1297	1299	1539	1779	1782	1785	1788	1791	1794	1797	1800	1803	1806	1809	1812	1815
QCA Base Case - As per above 2005 Revised QCA Base Case		1443	1452	1289	1291	1530	1769	1771	1773	1776	1779	1782	1785	1788	1791	1794	1797	1800	1803	1806	1809	1812	1815
QCA Advanced Case - Comalco Stage 2 advanced 2 years		1443	1452	1,526	1,765	1,767	1769	1771	1773	1776	1779	1782	1785	1788	1791	1794	1797	1800	1803	1806	1809	1812	1815
Higher Case - QCA Case and no Orica Reduction (plus 1.0% growth in Mt Larcom past 2005/06)		1443	1,584	1,587	1,590	1,830	2,070	2,073	2,076	2,080	2,084	2,088	2,092	2,096	2,100	2,104	2,108	2,112	2,116	2,120	2,124	2,128	2,132
Higher Case for Mt Larcom - 1% growth from 2005/06)		43	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65

Price

Overhead Costs	The addition of new customers and assets will create some additional operations costs	$	14,050	$ 14,403	$ 14,764	$ 15,135	$ 15,515	$ 15,904	$ 16,303	$ 16,712	$ 17,132	$ 17,562	$ 18,003	$ 18,455	$ 18,918	$ 19,393	$ 19,879	$ 20,378	$ 20,890	$ 21,414	$ 21,952	$ 22,503	$ 23,068
	The addition of new customers and assets will create some additional administrative overhead	$	5,300	$ 5,433	$ 5,569	$ 5,709	$ 5,852	$ 5,999	$ 6,150	$ 6,304	$ 6,463	$ 6,625	$ 6,791	$ 6,962	$ 7,136	$ 7,315	$ 7,499	$ 7,687	$ 7,880	$ 8,078	$ 8,281	$ 8,489	$ 8,702
Working Capital	*Increase in Current Assets - Increase in Current Liabilities*																							
	It is expected that Debtors will be 30 days. This equates to 1/12th of Annual Sales		*-$*	*13,957*	*-$*	*14,329*	*-$*	*14,712*	*-$*	*15,104*	*-$*	*15,507*	*-$*	*15,921*	*-$*	*16,358*	*-$*	*16,808*	*-$*	*17,269*	*-$*	*17,743*	*-$*	*18,230*	*-$*	*18,730*	*-$*	*19,244*	*-$*	*19,772*	*-$*	*20,314*	*-$*	*20,871*	*-$*	*21,444*	*-$*	*22,031*	*-$*	*22,635*	*-$*	*23,255*
	It is expected that no additional inventory/stores will be required	*$*	*0*	*$*	-	*$*	-	*$*	-	*$*	-	*$*	-	*$*	-	*$*	-	*$*	-	*$*	-	*$*	-	*$*	-	*$*	-	*$*	-	*$*	-	*$*	-	*$*	-	*$*	-	*$*	-	*$*	-	*$*	-
	It is expected that Creditors will increase by the additional Operating & Administrative Costs and will be paid on 30 day terms			*$*	*2,822*	*$*	*2,893*	*$*	*2,966*	*$*	*3,040*	*$*	*3,116*	*$*	*3,195*	*$*	*3,275*	*$*	*3,357*	*$*	*3,441*	*$*	*3,528*	*$*	*3,616*	*$*	*3,707*	*$*	*3,800*	*$*	*3,895*	*$*	*3,993*	*$*	*4,093*	*$*	*4,196*	*$*	*4,301*	*$*	*4,409*	*$*	*4,520*
Example Scenario 1	*Overall, we estimate the additional working capital requirements are $*		*-$*	*11,135*	*-$*	*11,436*	*-$*	*11,746*	*-$*	*12,064*	*-$*	*12,391*	*-$*	*12,727*	*-$*	*13,084*	*-$*	*13,451*	*-$*	*13,828*	*-$*	*14,216*	*-$*	*14,614*	*-$*	*15,023*	*-$*	*15,444*	*-$*	*15,877*	*-$*	*16,321*	*-$*	*16,778*	*-$*	*17,247*	*-$*	*17,730*	*-$*	*18,226*	*-$*	*18,735*
	Lower Demand Case Assets - Optimised Value		-$	11,135	-$	11,436	-$	11,746	-$	12,064	-$	12,391	-$	12,727	-$	13,084	-$	13,451	-$	13,828	-$	14,216	-$	14,614	-$	15,023	-$	15,444	-$	15,877	-$	16,321	-$	16,778	-$	17,247	-$	17,730	-$	18,226	-$	18,735
	QCA Delayed Demand Case Assets - Optimised Value		-$	8,756	-$	8,994	-$	11,481	-$	9,490	-$	9,748	-$	10,013	-$	12,772	-$	15,662	-$	16,088	-$	16,526	-$	16,975	-$	17,437	-$	17,911	-$	18,398	-$	18,898	-$	19,411	-$	19,939	-$	20,480	-$	21,036	-$	21,608
	QCA Base Demand Case Assets - Optimised Value		-$	8,119	-$	8,340	-$	10,686	-$	13,144	-$	13,493	-$	13,851	-$	14,228	-$	14,616	-$	15,014	-$	15,422	-$	15,842	-$	16,273	-$	16,716	-$	17,171	-$	17,638	-$	18,118	-$	18,610	-$	19,116	-$	19,636	-$	20,170
	QCA Advanced Demand Case Assets - Optimised Value		-$	9,706	-$	11,965	-$	12,283	-$	12,609	-$	12,943	-$	13,287	-$	13,649	-$	14,021	-$	14,403	-$	14,795	-$	15,198	-$	15,612	-$	16,037	-$	16,474	-$	16,922	-$	17,383	-$	17,856	-$	18,342	-$	18,840	-$	19,353
	Higher Demand Case Assets - Optimised Value		-$	9,395	-$	9,654	-$	11,855	-$	14,160	-$	14,541	-$	14,932	-$	15,343	-$	15,765	-$	16,199	-$	16,644	-$	17,102	-$	17,572	-$	18,055	-$	18,551	-$	19,060	-$	19,584	-$	20,121	-$	20,674	-$	21,241	-$	21,824
	QCA Base Demand Case Assets - No Optimisation Value		-$	9,743	-$	10,008	-$	12,744	-$	15,612	-$	16,026	-$	16,450	-$	16,898	-$	17,357	-$	17,829	-$	18,313	-$	18,811	-$	19,322	-$	19,847	-$	20,386	-$	20,940	-$	21,509	-$	22,093	-$	22,693	-$	23,308	-$	23,941
Inflation	Is estimated to be 2.69% p.a. over the 20 years	2.51%																						
Timescale	It is assumed the purchase occurs effective 30th June 2006, this is Year 0 in our Valuation Analysis conducted over 20 years based on availability of demand data																							
WACC	We have used the WACC previously calculated by the QCA on 27-Jul-2005 We found the risk free rate (Rf) to be 5.45% (5.45%) WACC Rate less inflation used is	5.22%																						

Scenario	**Cash Flow**																							
Lower Case - QCA Case less Stage 2 Comalco	**Initial Projection of Revenue and Expenses (Lower Case)**	The price per megalitre is assumed as	126.75 $/ML to Achieve NPV Zero	$	126.75	$ 129.93	$ 133.19	$ 136.54	$ 139.96	$ 143.48	$ 147.08	$ 150.77	$ 154.55	$ 158.43	$ 162.41	$ 166.49	$ 170.66	$ 174.95	$ 179.34	$ 183.84	$ 188.46	$ 193.19	$ 198.03	$ 203.00	$ 208.10

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1 Sales		$ 167,482	$ 171,952	$ 176,541	$ 181,252	$ 186,088	$ 191,053	$ 196,301	$ 201,692	$ 207,230	$ 212,918	$ 218,762	$ 224,765	$ 230,931	$ 237,266	$ 243,773	$ 250,457	$ 257,323	$ 264,376	$ 271,620	$ 279,062
2 Cost of Goods Sold		-$ 28,433	-$ 29,147	-$ 29,878	-$ 30,628	-$ 31,397	-$ 32,185	-$ 32,993	-$ 33,821	-$ 34,670	-$ 35,540	-$ 36,432	-$ 37,347	-$ 38,284	-$ 39,245	-$ 40,230	-$ 41,240	-$ 42,275	-$ 43,336	-$ 44,424	-$ 45,539
3 Additional Admin Costs		-$ 5,433	-$ 5,569	-$ 5,709	-$ 5,852	-$ 5,999	-$ 6,150	-$ 6,304	-$ 6,463	-$ 6,625	-$ 6,791	-$ 6,962	-$ 7,136	-$ 7,315	-$ 7,499	-$ 7,687	-$ 7,880	-$ 8,078	-$ 8,281	-$ 8,489	-$ 8,702
4 Depreciation		-$ 46,670	-$ 47,842	-$ 48,809	-$ 50,035	-$ 51,290	-$ 52,578	-$ 53,897	-$ 55,250	-$ 56,637	-$ 58,059	-$ 59,516	-$ 61,010	-$ 62,541	-$ 64,111	-$ 65,720	-$ 67,370	-$ 69,061	-$ 70,794	-$ 72,571	-$ 74,728
5 Pretax Profit		$ 86,945	$ 89,394	$ 92,144	$ 94,737	$ 97,401	$ 100,140	$ 103,106	$ 106,158	$ 109,298	$ 112,528	$ 115,852	$ 119,272	$ 122,791	$ 126,411	$ 130,135	$ 133,967	$ 137,909	$ 141,965	$ 146,137	$ 150,093
6 Income Tax Equivalents @ 30% replaced with GAWB estimate which takes into account carryforward tax losses		$ -	$ -	$ -	$ -	-$ 2,914	-$ 5,464	-$ 5,626	-$ 6,258	-$ 6,996	-$ 7,631	-$ 8,416	-$ 9,079	-$ 9,532	-$ 10,190	-$ 10,888	-$ 11,658	-$ 11,788	-$ 12,655	-$ 13,756	-$ 14,123
7 Net Income		$ 86,945	$ 89,394	$ 92,144	$ 94,737	$ 94,488	$ 94,676	$ 97,480	$ 99,900	$ 102,302	$ 104,897	$ 107,436	$ 110,193	$ 113,258	$ 116,221	$ 119,247	$ 122,308	$ 126,121	$ 129,310	$ 132,381	$ 135,970

Cash Flow Analysis (Lower Case)

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1 Cash Flow from Operations	$ -	$ 133,615	$ 137,235	$ 140,953	$ 144,771	$ 145,778	$ 147,254	$ 151,377	$ 155,150	$ 158,939	$ 162,956	$ 166,952	$ 171,203	$ 175,799	$ 180,332	$ 184,968	$ 189,678	$ 195,182	$ 200,104	$ 204,952	$ 210,698
2 Change in Working Capital	$ -	-$ 11,135	-$ 11,436	-$ 11,746	-$ 12,064	-$ 12,391	-$ 12,727	-$ 13,084	-$ 13,451	-$ 13,828	-$ 14,216	-$ 14,614	-$ 15,023	-$ 15,444	-$ 15,877	-$ 16,321	-$ 16,778	-$ 17,247	-$ 17,730	-$ 18,226	-$ 18,735
3 Capital Investment/Disposal	-$ 1,797,833																				
4 Capital Replacement		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	-$ 14,100
5 Net Cash Flows	**-$ 1,797,833**	**$ 122,481**	**$ 125,799**	**$ 129,207**	**$ 132,707**	**$ 133,387**	**$ 134,528**	**$ 138,294**	**$ 141,700**	**$ 145,111**	**$ 148,740**	**$ 152,338**	**$ 156,179**	**$ 160,355**	**$ 164,455**	**$ 168,646**	**$ 172,900**	**$ 177,934**	**$ 182,374**	**$ 186,727**	**$ 177,863**
Present Value		$ 1,797,838																			
Net Present Value	**$4.04**																				

QCA Delayed Case - Comalco Stage 2 delayed 4 years

Initial Projection of Revenue and Expenses

The price per megalitre is assumed as ..... 105.38 $/ML to Achieve NPV Zero

	$ 105.38	$ 108.03	$ 110.74	$ 113.52	$ 116.37	$ 119.29	$ 122.28	$ 125.35	$ 128.50	$ 131.72	$ 135.03	$ 138.42	$ 141.89	$ 145.45	$ 149.10	$ 152.85	$ 156.68	$ 160.61	$ 164.65	$ 168.78	$ 173.01
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1 Sales		$ 139,244	$ 142,961	$ 173,679	$ 150,693	$ 154,714	$ 158,842	$ 192,913	$ 228,594	$ 234,726	$ 241,023	$ 247,488	$ 254,126	$ 260,941	$ 267,938	$ 275,121	$ 282,497	$ 290,069	$ 297,844	$ 305,826	$ 314,022
2 Cost of Goods Sold		-$ 28,738	-$ 29,460	-$ 30,199	-$ 30,957	-$ 31,734	-$ 32,530	-$ 33,347	-$ 34,184	-$ 35,042	-$ 35,922	-$ 36,823	-$ 37,747	-$ 38,695	-$ 39,666	-$ 40,662	-$ 41,682	-$ 42,729	-$ 43,801	-$ 44,901	-$ 46,028
3 Additional Admin Costs		-$ 5,433	-$ 5,569	-$ 5,709	-$ 5,852	-$ 5,999	-$ 6,150	-$ 6,304	-$ 6,463	-$ 6,625	-$ 6,791	-$ 6,962	-$ 7,136	-$ 7,315	-$ 7,499	-$ 7,687	-$ 7,880	-$ 8,078	-$ 8,281	-$ 8,489	-$ 8,702
4 Depreciation		-$ 46,670	-$ 47,842	-$ 48,809	-$ 50,035	-$ 51,290	-$ 52,578	-$ 53,897	-$ 55,250	-$ 56,637	-$ 58,059	-$ 59,516	-$ 61,010	-$ 62,541	-$ 64,111	-$ 65,720	-$ 67,370	-$ 69,061	-$ 70,794	-$ 72,571	-$ 74,728
5 Pretax Profit		$ 58,403	$ 60,090	$ 88,962	$ 63,849	$ 65,690	$ 67,584	$ 99,364	$ 132,697	$ 136,423	$ 140,252	$ 144,187	$ 148,232	$ 152,389	$ 156,661	$ 161,052	$ 165,565	$ 170,202	$ 174,968	$ 179,866	$ 184,564
6 Income Tax Equivalents @ 30% replaced with GAWB estimate which takes into account carryforward tax losses		$ -	$ -	$ -	$ -	-$ 2,914	-$ 5,464	-$ 5,626	-$ 6,258	-$ 6,996	-$ 7,631	-$ 8,416	-$ 9,079	-$ 9,532	-$ 10,190	-$ 10,888	-$ 11,658	-$ 11,788	-$ 12,655	-$ 13,756	-$ 14,114
7 Net Income		$ 58,403	$ 60,090	$ 88,962	$ 63,849	$ 62,776	$ 62,120	$ 93,737	$ 126,439	$ 129,427	$ 132,621	$ 135,772	$ 139,153	$ 142,857	$ 146,472	$ 150,165	$ 153,906	$ 158,414	$ 162,313	$ 166,111	$ 170,450

Cash Flow Analysis

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1 Cash Flow from Operations	$ -	$ 105,073	$ 107,932	$ 137,771	$ 113,883	$ 114,067	$ 114,697	$ 147,635	$ 181,689	$ 186,064	$ 190,679	$ 195,287	$ 200,163	$ 205,398	$ 210,583	$ 215,885	$ 221,276	$ 227,475	$ 233,107	$ 238,682	$ 245,179
2 Change in Working Capital	-$	8,756	-$ 8,994	-$ 11,481	-$ 9,490	-$ 9,748	-$ 10,013	-$ 12,772	-$ 15,662	-$ 16,088	-$ 16,526	-$ 16,975	-$ 17,437	-$ 17,911	-$ 18,398	-$ 18,898	-$ 19,411	-$ 19,939	-$ 20,480	-$ 21,036	-$ 21,608
3 Capital Investment/Disposal	-$ 1,853,868																				
4 Capital Replacement		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	-$ 14,100
5 Net Cash Flows	**-$ 1,853,868**	**$ 96,317**	**$ 98,938**	**$ 126,290**	**$ 104,393**	**$ 104,318**	**$ 104,684**	**$ 134,863**	**$ 166,027**	**$ 169,976**	**$ 174,154**	**$ 178,312**	**$ 182,726**	**$ 187,487**	**$ 192,185**	**$ 196,987**	**$ 201,865**	**$ 207,536**	**$ 212,627**	**$ 217,645**	**$ 209,471**
Present Value		$ 1,854,028																			
Net Present Value	**$152.35**																				

QCA Base Case - As per above 2005 Revised QCA Base Case

Initial Projection of Revenue and Expenses

The price per megalitre is assumed as ..... 99.59 $/ML to Achieve NPV Zero

	$ 99.59	$ 102.09	$ 104.65	$ 107.28	$ 109.97	$ 112.73	$ 115.56	$ 118.46	$ 121.44	$ 124.48	$ 127.61	$ 130.81	$ 134.09	$ 137.46	$ 140.91	$ 144.45	$ 148.07	$ 151.79	$ 155.60	$ 159.50	$ 163.51
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1 Sales		$ 131,594	$ 135,106	$ 164,137	$ 194,540	$ 199,648	$ 204,891	$ 210,389	$ 216,034	$ 221,830	$ 227,780	$ 233,890	$ 240,163	$ 246,603	$ 253,216	$ 260,005	$ 266,975	$ 274,132	$ 281,479	$ 289,023	$ 296,768
2 Cost of Goods Sold		-$ 28,738	-$ 29,460	-$ 30,199	-$ 30,957	-$ 31,734	-$ 32,530	-$ 33,347	-$ 34,184	-$ 35,042	-$ 35,922	-$ 36,823	-$ 37,747	-$ 38,695	-$ 39,666	-$ 40,662	-$ 41,682	-$ 42,729	-$ 43,801	-$ 44,901	-$ 46,028
3 Additional Admin Costs		-$ 5,433	-$ 5,569	-$ 5,709	-$ 5,852	-$ 5,999	-$ 6,150	-$ 6,304	-$ 6,463	-$ 6,625	-$ 6,791	-$ 6,962	-$ 7,136	-$ 7,315	-$ 7,499	-$ 7,687	-$ 7,880	-$ 8,078	-$ 8,281	-$ 8,489	-$ 8,702
4 Depreciation		-$ 46,670	-$ 47,842	-$ 48,809	-$ 50,035	-$ 51,290	-$ 52,578	-$ 53,897	-$ 55,250	-$ 56,637	-$ 58,059	-$ 59,516	-$ 61,010	-$ 62,541	-$ 64,111	-$ 65,720	-$ 67,370	-$ 69,061	-$ 70,794	-$ 72,571	-$ 74,728
5 Pretax Profit		$ 50,752	$ 52,236	$ 79,419	$ 107,696	$ 110,624	$ 113,632	$ 116,840	$ 120,137	$ 123,526	$ 127,009	$ 130,589	$ 134,269	$ 138,052	$ 141,940	$ 145,936	$ 150,043	$ 154,265	$ 158,603	$ 163,063	$ 167,310
6 Income Tax Equivalents @ 30% replaced with GAWB estimate which takes into account carryforward tax losses		$ -	$ -	$ -	-$ 2,914	-$ 5,464	-$ 5,626	-$ 6,258	-$ 6,996	-$ 7,631	-$ 8,416	-$ 9,079	-$ 9,532	-$ 10,190	-$ 10,888	-$ 11,658	-$ 11,788	-$ 12,655	-$ 13,756	-$ 14,114	
7 Net Income		$ 50,752	$ 52,236	$ 79,419	$ 107,696	$ 107,711	$ 108,168	$ 111,213	$ 113,879	$ 116,530	$ 119,378	$ 122,174	$ 125,190	$ 128,520	$ 131,750	$ 135,048	$ 138,385	$ 142,477	$ 145,948	$ 149,307	$ 153,197

Cash Flow Analysis

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1 Cash Flow from Operations	$ -	$ 97,422	$ 100,077	$ 128,229	$ 157,730	$ 159,001	$ 160,746	$ 165,111	$ 169,129	$ 173,167	$ 177,437	$ 181,690	$ 186,200	$ 191,061	$ 195,861	$ 200,768	$ 205,754	$ 211,537	$ 216,743	$ 221,878	$ 227,925
2 Change in Working Capital	-$	8,119	-$ 8,340	-$ 10,686	-$ 13,144	-$ 13,493	-$ 13,851	-$ 14,228	-$ 14,616	-$ 15,014	-$ 15,422	-$ 15,842	-$ 16,273	-$ 16,716	-$ 17,171	-$ 17,638	-$ 18,118	-$ 18,610	-$ 19,116	-$ 19,636	-$ 20,170
3 Capital Investment/Disposal	-$ 1,853,868																				
4 Capital Replacement		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	-$ 14,100
5 Net Cash Flows	**-$ 1,853,868**	**$ 89,304**	**$ 91,737**	**$ 117,543**	**$ 144,586**	**$ 145,508**	**$ 146,895**	**$ 150,883**	**$ 154,514**	**$ 158,154**	**$ 162,014**	**$ 165,847**	**$ 169,927**	**$ 174,345**	**$ 178,690**	**$ 183,130**	**$ 187,637**	**$ 192,927**	**$ 197,626**	**$ 202,242**	**$ 193,655**
Present Value		$ 1,853,999																			
Net Present Value	**$125.07**																				

QCA Advanced Case - Comalco Stage 2 advanced 2 years

Initial Projection of Revenue and Expenses

The price per megalitre is assumed as ..... 96.30 $/ML to Achieve NPV Zero

	$ 96.30	$ 98.72	$ 101.19	$ 103.73	$ 106.34	$ 109.01	$ 111.74	$ 114.55	$ 117.42	$ 120.37	$ 123.39	$ 126.49	$ 129.66	$ 132.92	$ 136.26	$ 139.68	$ 143.18	$ 146.78	$ 150.46	$ 154.24	$ 158.11
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1 Sales		$ 150,642	$ 178,609	$ 183,300	$ 188,113	$ 193,053	$ 198,122	$ 203,438	$ 208,897	$ 214,501	$ 220,256	$ 226,163	$ 232,229	$ 238,457	$ 244,851	$ 251,416	$ 258,156	$ 265,076	$ 272,181	$ 279,475	$ 286,964
2 Cost of Goods Sold		-$ 28,738	-$ 29,460	-$ 30,199	-$ 30,957	-$ 31,734	-$ 32,530	-$ 33,347	-$ 34,184	-$ 35,042	-$ 35,922	-$ 36,823	-$ 37,747	-$ 38,695	-$ 39,666	-$ 40,662	-$ 41,682	-$ 42,729	-$ 43,801	-$ 44,901	-$ 46,028
3 Additional Admin Costs		-$ 5,433	-$ 5,569	-$ 5,709	-$ 5,852	-$ 5,999	-$ 6,150	-$ 6,304	-$ 6,463	-$ 6,625	-$ 6,791	-$ 6,962	-$ 7,136	-$ 7,315	-$ 7,499	-$ 7,687	-$ 7,880	-$ 8,078	-$ 8,281	-$ 8,489	-$ 8,702
4 Depreciation		-$ 46,670	-$ 47,842	-$ 48,809	-$ 50,035	-$ 51,290	-$ 52,578	-$ 53,897	-$ 55,250	-$ 56,637	-$ 58,059	-$ 59,516	-$ 61,010	-$ 62,541	-$ 64,111	-$ 65,720	-$ 67,370	-$ 69,061	-$ 70,794	-$ 72,571	-$ 74,728
5 Pretax Profit		$ 69,801	$ 95,739	$ 98,582	$ 101,269	$ 104,029	$ 106,864	$ 109,890	$ 113,000	$ 116,197	$ 119,484	$ 122,863	$ 126,336	$ 129,905	$ 133,575	$ 137,346	$ 141,223	$ 145,208	$ 149,305	$ 153,515	$ 157,507
6 Income Tax Equivalents @ 30% replaced with GAWB estimate which takes into account carryforward tax losses		$ -	$ -	$ -	$ -	-$ 2,914	-$ 5,464	-$ 5,626	-$ 6,258	-$ 6,996	-$ 7,631	-$ 8,416	-$ 9,079	-$ 9,532	-$ 10,190	-$ 10,888	-$ 11,658	-$ 11,788	-$ 12,655	-$ 13,756	-$ 14,114
7 Net Income		$ 69,801	$ 95,739	$ 98,582	$ 101,269	$ 101,115	$ 101,400	$ 104,263	$ 106,742	$ 109,202	$ 111,853	$ 114,447	$ 117,257	$ 120,373	$ 123,385	$ 126,459	$ 129,565	$ 133,421	$ 136,650	$ 139,759	$ 143,393

Cash Flow Analysis

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1 Cash Flow from Operations	$ -	$ 116,471	$ 143,580	$ 147,391	$ 151,304	$ 152,406	$ 153,977	$ 158,161	$ 161,993	$ 165,839	$ 169,912	$ 173,963	$ 178,266	$ 182,914	$ 187,496	$ 192,179	$ 196,935	$ 202,481	$ 207,444	$ 212,330	$ 218,121
2 Change in Working Capital	-$	9,706	-$ 11,965	-$ 12,283	-$ 12,609	-$ 12,943	-$ 13,287	-$ 13,649	-$ 14,021	-$ 14,403	-$ 14,795	-$ 15,198	-$ 15,612	-$ 16,037	-$ 16,474	-$ 16,922	-$ 17,383	-$ 17,856	-$ 18,342	-$ 18,840	-$ 19,353
3 Capital Investment/Disposal	-$ 1,853,868																				
4 Capital Replacement		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	-$ 14,100
5 Net Cash Flows	**-$ 1,853,868**	**$ 106,765**	**$ 131,615**	**$ 135,109**	**$ 138,695**	**$ 139,462**	**$ 140,691**	**$ 144,512**	**$ 147,972**	**$ 151,436**	**$ 155,117**	**$ 158,765**	**$ 162,654**	**$ 166,877**	**$ 171,022**	**$ 175,257**	**$ 179,552**	**$ 184,626**	**$ 189,102**	**$ 193,490**	**$ 184,668**
Present Value		$ 1,854,068																			
Net Present Value	**$190.18**																				

Higher Case - QCA Case and no Orica Reduction

Initial Projection of Revenue and Expenses

The price per megalitre is assumed as ..... 90.89 $/ML to Achieve NPV Zero

	$ 90.89	$ 93.17	$ 95.51	$ 97.91	$ 100.36	$ 102.88	$ 105.47	$ 108.11	$ 110.83	$ 113.61	$ 116.46	$ 119.38	$ 122.38	$ 125.45	$ 128.60	$ 131.83	$ 135.14	$ 138.53	$ 142.01	$ 145.57	$ 149.22
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1 Sales		$ 147,863	$ 151,861	$ 179,170	$ 207,755	$ 213,278	$ 218,948	$ 224,876	$ 230,964	$ 237,215	$ 243,635	$ 250,228	$ 256,998	$ 263,951	$ 271,090	$ 278,422	$ 285,951	$ 293,682	$ 301,622	$ 309,775	$ 318,147
2 Cost of Goods Sold		-$ 29,692	-$ 30,437	-$ 31,201	-$ 31,985	-$ 32,787	-$ 33,610	-$ 34,454	-$ 35,319	-$ 36,205	-$ 37,114	-$ 38,046	-$ 39,001	-$ 39,979	-$ 40,983	-$ 42,012	-$ 43,066	-$ 44,147	-$ 45,255	-$ 46,391	-$ 47,556
3 Additional Admin Costs		-$ 5,433	-$ 5,569	-$ 5,709	-$ 5,852	-$ 5,999	-$ 6,150	-$ 6,304	-$ 6,463	-$ 6,625	-$ 6,791	-$ 6,962	-$ 7,136	-$ 7,315	-$ 7,499	-$ 7,687	-$ 7,880	-$ 8,078	-$ 8,281	-$ 8,489	-$ 8,702

4 Depreciation	-$ 46,670	-$ 47,842	-$ 48,809	-$ 50,035	-$ 51,290	-$ 52,578	-$ 53,897	-$ 55,250	-$ 56,637	-$ 58,059	-$ 59,516	-$ 61,010	-$ 62,541	-$ 64,111	-$ 65,720	-$ 67,370	-$ 69,061	-$ 70,794	-$ 72,571	-$ 74,728
5 Pretax Profit	$ 66,068	$ 68,012	$ 93,450	$ 119,883	$ 123,201	$ 126,610	$ 130,220	$ 133,932	$ 137,748	$ 141,671	$ 145,705	$ 149,852	$ 154,115	$ 158,497	$ 163,003	$ 167,635	$ 172,397	$ 177,292	$ 182,324	$ 187,162
6 Income Tax Equivalents @ 30% replaced with GAWB estimate which takes into account carryforward tax losses	$ -	$ -	$ -	$ -	-$ 2,914	-$ 5,464	-$ 5,626	-$ 6,258	-$ 6,996	-$ 7,631	-$ 8,416	-$ 9,079	-$ 9,532	-$ 10,190	-$ 10,888	-$ 11,658	-$ 11,788	-$ 12,655	-$ 13,756	-$ 14,121
7 Net Income	$ 66,068	$ 68,012	$ 93,450	$ 119,883	$ 120,287	$ 121,146	$ 124,594	$ 127,674	$ 130,753	$ 134,040	$ 137,289	$ 140,773	$ 144,582	$ 148,308	$ 152,115	$ 155,976	$ 160,609	$ 164,637	$ 168,569	$ 173,041

Cash Flow Analysis

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1 Cash Flow from Operations	$ -	$ 112,738	$ 115,854	$ 142,260	$ 169,918	$ 171,578	$ 173,724	$ 178,491	$ 182,924	$ 187,390	$ 192,099	$ 196,805	$ 201,782	$ 207,124	$ 212,418	$ 217,835	$ 223,346	$ 229,670	$ 235,431	$ 241,140	$ 247,769
2 Change in Working Capital	-$	9,395	-$ 9,654	-$ 11,855	-$ 14,160	-$ 14,541	-$ 14,932	-$ 15,343	-$ 15,765	-$ 16,199	-$ 16,644	-$ 17,102	-$ 17,572	-$ 18,055	-$ 18,551	-$ 19,060	-$ 19,584	-$ 20,121	-$ 20,674	-$ 21,241	-$ 21,824
3 Capital Investment/Disposal	-$ 2,023,883																				
4 Capital Replacement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	-$ 14,100
5 Net Cash Flows	**-$ 2,023,883**	**$ 103,343**	**$ 106,199**	**$ 130,405**	**$ 155,758**	**$ 157,037**	**$ 158,791**	**$ 163,148**	**$ 167,159**	**$ 171,191**	**$ 175,455**	**$ 179,703**	**$ 184,211**	**$ 189,069**	**$ 193,868**	**$ 198,775**	**$ 203,762**	**$ 209,548**	**$ 214,757**	**$ 219,898**	**$ 211,845**
Present Value	$ 2,023,895																				
Net Present Value	**$11.46**																				

QCA Base Case - As per above 2005 Revised QCA Base Case - No Optimising

Initial Projection of Revenue and Expenses

The price per megalitre is assumed as ..... 115.84 $/ML to Achieve NPV Zero

	$ 115.84	$ 118.75	$ 121.73	$ 124.78	$ 127.92	$ 131.13	$ 134.42	$ 137.79	$ 141.25	$ 144.80	$ 148.43	$ 152.16	$ 155.97	$ 159.89	$ 163.90	$ 168.02	$ 172.23	$ 176.56	$ 180.99	$ 185.53	$ 190.19
	0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
1 Sales		$ 153,066	$ 157,151	$ 190,919	$ 226,283	$ 232,225	$ 238,322	$ 244,718	$ 251,284	$ 258,025	$ 264,947	$ 272,054	$ 279,350	$ 286,842	$ 294,533	$ 302,430	$ 310,537	$ 318,862	$ 327,408	$ 336,183	$ 345,191
2 Cost of Goods Sold		-$ 30,717	-$ 31,488	-$ 32,278	-$ 33,088	-$ 33,919	-$ 34,770	-$ 35,643	-$ 36,538	-$ 37,455	-$ 38,395	-$ 39,359	-$ 40,346	-$ 41,359	-$ 42,397	-$ 43,461	-$ 44,552	-$ 45,671	-$ 46,817	-$ 47,992	-$ 49,197
3 Additional Admin Costs		-$ 5,433	-$ 5,569	-$ 5,709	-$ 5,852	-$ 5,999	-$ 6,150	-$ 6,304	-$ 6,463	-$ 6,625	-$ 6,791	-$ 6,962	-$ 7,136	-$ 7,315	-$ 7,499	-$ 7,687	-$ 7,880	-$ 8,078	-$ 8,281	-$ 8,489	-$ 8,702
4 Depreciation		-$ 46,670	-$ 47,842	-$ 48,809	-$ 50,035	-$ 51,290	-$ 52,578	-$ 53,897	-$ 55,250	-$ 56,637	-$ 58,059	-$ 59,516	-$ 61,010	-$ 62,541	-$ 64,111	-$ 65,720	-$ 67,370	-$ 69,061	-$ 70,794	-$ 72,571	-$ 74,728
5 Pretax Profit		$ 70,246	$ 72,252	$ 104,122	$ 137,307	$ 141,016	$ 144,824	$ 148,873	$ 153,033	$ 157,309	$ 161,702	$ 166,218	$ 170,858	$ 175,626	$ 180,526	$ 185,561	$ 190,735	$ 196,052	$ 201,516	$ 207,131	$ 212,565
6 Income Tax Equivalents @ 30% replaced with GAWB estimate which takes into account carryforward tax losses		$ -	$ -	$ -	$ -	-$ 2,914	-$ 5,464	-$ 5,626	-$ 6,258	-$ 6,996	-$ 7,631	-$ 8,416	-$ 9,079	-$ 9,532	-$ 10,190	-$ 10,888	-$ 11,658	-$ 11,788	-$ 12,655	-$ 13,756	-$ 14,114
7 Net Income		$ 70,246	$ 72,252	$ 104,122	$ 137,307	$ 138,102	$ 139,360	$ 143,246	$ 146,775	$ 150,313	$ 154,071	$ 157,802	$ 161,779	$ 166,094	$ 170,336	$ 174,673	$ 179,077	$ 184,265	$ 188,861	$ 193,375	$ 198,451

Cash Flow Analysis

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1 Cash Flow from Operations	$ -	$ 116,916	$ 120,094	$ 152,931	$ 187,342	$ 189,393	$ 191,938	$ 197,144	$ 202,026	$ 206,950	$ 212,130	$ 217,318	$ 222,788	$ 228,635	$ 234,447	$ 240,393	$ 246,446	$ 253,325	$ 259,655	$ 265,946	$ 273,179
2 Change in Working Capital	-$	9,743	-$ 10,008	-$ 12,744	-$ 15,612	-$ 16,026	-$ 16,450	-$ 16,898	-$ 17,357	-$ 17,829	-$ 18,313	-$ 18,811	-$ 19,322	-$ 19,847	-$ 20,386	-$ 20,940	-$ 21,509	-$ 22,093	-$ 22,693	-$ 23,308	-$ 23,941
3 Capital Investment/Disposal	-$ 2,218,799																				
4 Capital Replacement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	-$ 14,100
5 Net Cash Flows	**-$ 2,218,799**	**$ 107,173**	**$ 110,086**	**$ 140,187**	**$ 171,730**	**$ 173,367**	**$ 175,488**	**$ 180,246**	**$ 184,669**	**$ 189,121**	**$ 193,817**	**$ 198,507**	**$ 203,466**	**$ 208,787**	**$ 214,060**	**$ 219,453**	**$ 224,938**	**$ 231,233**	**$ 236,963**	**$ 242,638**	**$ 235,138**
Present Value	$ 2,218,834																				
Net Present Value	**$33.76**																				

PRICING PROVIDED BY GAWB - APRIL 2006

North_Industrial

	Year Index	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	Year	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	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
Assumptions																					
Inflation	2.51%																				
WACC (Nominal Post-T	7.73%																				
Return on Investment																					
Asset Value for ROI Calculation		1,847,765	1,853,868	1,859,798	1,864,070	1,867,389	1,870,439	1,871,717	1,871,886	1,871,679	1,869,477	1,865,990	1,862,006	1,855,780	1,848,073	1,839,732	1,828,874	1,816,318	1,802,972	1,786,806	1,768,698
Return on Investment		142,832	143,304	143,762	144,093	144,349	144,585	144,684	144,697	144,681	144,511	144,241	143,933	143,452	142,856	142,211	141,372	140,401	139,370	138,120	136,720
less Capital gain on RAB		-46,287	-46,439	-46,588	-46,695	-46,778	-46,854	-46,887	-46,891	-46,886	-46,830	-46,743	-46,643	-46,487	-46,294	-46,085	-45,813	-45,499	-45,164	-44,759	-44,306
Required ROI from Tariffs		96,546	96,865	97,174	97,398	97,571	97,730	97,797	97,806	97,795	97,680	97,498	97,290	96,964	96,562	96,126	95,559	94,903	94,205	93,361	92,414
Summary																					
Return on Investment		96,546	96,865	97,174	97,398	97,571	97,730	97,797	97,806	97,795	97,680	97,498	97,290	96,964	96,562	96,126	95,559	94,903	94,205	93,361	92,414
Revenue Carryover from Previous Period																					
Depreciation		40,184	41,191	42,316	43,376	44,462	45,576	46,718	47,888	49,088	50,317	51,578	52,870	54,194	55,552	56,943	58,370	59,832	61,331	62,867	64,442
Operating & Maintenance		28,035	28,789	29,563	30,358	31,175	32,014	32,875	33,759	34,667	35,600	36,557	37,541	38,551	39,588	40,653	41,746	42,869	44,022	45,206	46,422
Total Allowed Revenue (Before Tax)		164,765	166,844	169,053	171,132	173,208	175,320	177,390	179,453	181,550	183,597	185,633	187,701	189,709	191,701	193,722	195,675	197,604	199,558	201,434	203,279
less Other Income		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Allowed Tariff Revenue (Before Tax)		164,765	166,844	169,053	171,132	173,208	175,320	177,390	179,453	181,550	183,597	185,633	187,701	189,709	191,701	193,722	195,675	197,604	199,558	201,434	203,279
Tax Allocation		0	0	0	0	0	2,914	5,464	5,626	6,258	6,996	7,631	8,416	9,079	9,532	10,190	10,888	11,658	11,788	12,655	13,756
Allowed Tariff Revenue (incl Tax)		164,765	166,844	169,053	171,132	173,208	178,234	182,854	185,080	187,808	190,593	193,264	196,116	198,788	201,234	203,912	206,562	209,262	211,346	214,089	217,035
Present Value of Allowed Tariff Revenue		1,989,018																			
Return on Investment Proportion		53%																			
Revenue Carryover Proportion		0%																			
Depreciation Proportion		26%																			
Operating & Maintenance Cost Proportion		19%																			
Tax Proportion		3%																			
		100%																			
Pricing Zone Volume (ML)		1,342	1,177	1,177	1,373	1,599	1,599	1,599	1,599	1,599	1,599	1,599	1,599	1,599	1,599	1,599	1,599	1,599	1,599	1,599	1,599
Constant Real Zone Tariff		102	104	107	110	112	115	118	121	124	127	130	134	137	140	144	148	151	155	159	163
Forecast Revenue		136,634	122,837	125,914	150,561	179,736	184,239	188,854	193,585	198,434	203,405	208,500	213,723	219,077	224,565	230,190	235,956	241,867	247,926	254,136	260,502
Present Value of Revenue Recovered		1,989,018																			
Variable Price Estimate 1: LRMC																					
Capacity Enhancing New Facilities Opening DORC		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Capacity Enhancing New Facilities Capex		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Capacity Enhancing New Facilities RAB		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Return on Investment		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
less Capital Gain		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Return on New Facilities Investment from Tariffs		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annualised Cost of New Facilities																					
Return on Investment		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Asset-Related Operations & Maintenance		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Volume-Related Operations & Maintenance		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tax		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	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Present Value of Annualised Cost of New Facilities		0																			
Pricing Zone Incremental Volume (ML)			0	0	31	257	257	257	257	257	257	257	257	257	257	257	257	257	257	257	257
Estimated Real Zone LRMC		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Forecast Revenue		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Present Value of Revenue Recovered		0																			
Variable Price Estimate 2: SRAC																					
Volume-Related O&M divided by Volume		0																			
Volumetric Price		**0**																			
Access Price		**101.81**																			
		102																			

WATER ASSETS - YARWUN INDUSTRIAL AREA WATER SUPPLY SCHEME & Mt LARCOM

							CW Valuation			
Asset Description & Location	**Dimension**	**Year Created**	**Expiry**	**Useful Life**	**Age**	**Size/ No.**	**Rate from '97 CW Val'n**	**Escalation**	**CW Rep Cost**	**CW WDV**
Telemetry - Mount Larcom Reservoir	Item	1/07/1990	1/07/2010	20	12	1	$ 8,000	1.04	$ 8,320	3,223
Wind Generator & Solar Cells - Mount Larcom Reservoir	Item	1/07/1990	1/07/2010	20	12	1	$ 4,000	1.03	$ 4,120	1,596
CI Pipework & Fittings - Mount Larcom Reservoir	100mm	1/07/1965	1/07/2015	50	37	1	$ 5,000	1.09	$ 5,450	1,390
Pump Station Building - Wilmott Pump Station	9 m by 5 m	1/07/1990	1/07/2090	100	12	45	$ 747	1.16	$ 38,993	34,216
Formed Pavement	Item	1/07/1965	1/07/2065	100	37	1	$ 2,700	1.03	$ 2,781	1,745
Pump No.1 - Wilmott Pump Station	Ajax 65-40-3.5, 280 Imp, 2900 RPM	1/07/1990	1/07/2015	25	12	1	$ 9,000	1.22	$ 10,980	5,599
Pump No.2 - Wilmott Pump Station		1/07/1990	1/07/2015	25	12	1	$ 9,000	1.22	$ 10,980	5,599
Pump Station Switchboard & Electrics - Wilmott Pump Station	Item	1/07/1990	1/07/2010	20	12	1	$ 13,000	1.09	$ 14,170	5,490
Gantry & Steel Work - Wilmott Pump Station	Item	1/07/1990	1/07/2030	40	12	1	$ 4,000	1.02	$ 4,080	2,830
Pipework & Fittings - Wilmott Pump Station	100mm	1/07/1990	1/07/2040	50	12	1	$ 8,000	1.09	$ 8,720	6,583
Telemetry - Wilmott Pump Station	Item	1/07/1994	1/07/2014	20	8	1	$ 8,000	1.04	$ 8,320	4,887
AC Main - Willmott Road	100mm	1/07/1965	1/07/2015	50	37	2,985	$ 50	1.13	$ 168,624	42,992
Sluice Valve - Reid Road	200mm	7/08/1997	1/08/2022	25	5	1	$ 1,650	1.06	$ 1,749	1,388
DI Main - Reid Road	200mm	7/08/1997	1/08/2077	80	5	61	$ 130	1.22	$ 9,614	8,995
Sluice Valve - Hanson Road	200mm	30/06/1989	1/07/2014	25	13	1	$ 1,650	1.06	$ 1,749	822
DICL Main - Hanson Road	200mm	30/06/1989	1/07/2069	80	13	475	$ 130	1.22	$ 75,340	62,858
DI Main - Lot 138 CTN 2123	200mm	7/08/1997	1/08/2077	80	5	0.8	$ 130	1.22	$ 127	119
DI Main - Lot 138 CTN 2123	200mm	7/08/1997	1/08/2077	80	5	9.4	$ 130	1.22	$ 1,491	1,395
Sluice Valve - Lot 138 CTN 2123	200mm	7/08/1997	1/08/2022	25	5	2	$ 1,650	1.06	$ 3,498	2,777
DICL Main - Lot 142 CTN2143	375mm	30/06/1989	1/07/2069	80	13	223	$ 235	1.22	$ 63,951	53,357
Hydrant Set - Lot 142 CTN2143	375mm	30/06/1989	1/07/2014	25	13	1	$ 400	1.06	$ 424	199
DI Main - Reid Road	200mm	7/08/1997	1/08/2077	80	5	52	$ 130	1.22	$ 8,195	7,667
Hydrant - Reid Road	200mm	7/08/1997	1/08/2022	25	5	1	$ 2,560	1.06	$ 400	318
DI Main - Lot 138 CTN 2123	150mm	7/08/1997	1/08/2077	80	5	10	$ 100	1.22	$ 1,208	1,130
Sluice Valve - Lot 138 CTN 2123	150mm	7/08/1997	1/08/2022	25	5	1	$ 2,000	1.06	$ 2,120	1,683
Scour Valve - Reid Road	200mm	7/08/1997	1/08/2022	25	5	1	$ 1,700	1.06	$ 1,802	1,431
Sluice Valve - Reid Road	200mm	7/08/1997	1/08/2022	25	5	1	$ 1,650	1.06	$ 1,749	1,388
DI Main - Reid Road	200mm	7/08/1997	1/08/2077	80	5	479	$ 130	1.22	$ 75,936	71,047
Scour Valve - Hanson Road	Item	30/06/1989	1/07/2014	25	13	1	$ 1,700	1.06	$ 1,802	847
Fire Hydrant - Hanson Road	300mm	30/06/1989	1/07/2014	25	13	1	$ 400	1.06	$ 424	199
Sluice Valve - Hanson Road	300mm	30/06/1989	1/07/2014	25	13	1	$ 3,300	1.06	$ 3,498	1,644
DICL Main - Hanson Road	300mm	30/06/1989	1/07/2069	80	13	504	$ 170	1.22	$ 104,864	87,491
Air Valve - Hanson Road	Item	30/06/1989	1/07/2014	25	13	1	$ 600	1.06	$ 636	299
DI Main - Reid Road	200mm	7/08/1997	1/08/2077	80	5	17	$ 130	1.22	$ 2,725	2,549
Air Valve - Lot 1 RP612126	Item	30/06/1989	1/07/2014	25	13	1	$ 600	1.06	$ 636	299
Scour Valve - Lot 1 RP612126	Item	30/06/1989	1/07/2014	25	13	1	$ 850	1.06	$ 901	423
DICL Main - Lot 1 RP612126	375mm	30/06/1989	1/07/2069	80	13	1,303	$ 235	1.22	$ 373,659	311,755
Sluice Valve - Lot 1 RP612126	375mm	30/06/1989	1/07/2014	25	13	1	$ 11,200	1.06	$ 11,872	5,578
Sluice Valve - Reid Road	200mm	7/08/1997	1/08/2022	25	5	1	$ 1,650	1.06	$ 1,749	1,388
DI Main - Reid Road	200mm	7/08/1997	1/08/2077	80	5	3.57	$ 130	1.22	$ 566	530
Pipework & Fittings - Mount Miller Reservoir	Item	1/07/1989	1/07/2039	50	13	1	$ 20,000	1.09	$ 21,796	16,019
Concrete Reservoir & Pits - Mount Miller Reservoir	Item	1/07/1989	1/07/2069	80	13	6	$ 95,000	1.04	$ 591,660	493,657
Bitumen Seal	Item	1/07/1989	1/07/2005	16	13	1	$ 9,600	1.03	$ 9,917	1,704
Sealed Pavement	Item	1/07/1989	1/07/2005	16	13	1	$ 55,200	1.03	$ 57,022	9,796
Aluminium Roof & Access Ladders - Mount Miller Reservoir	Item	1/07/1989	1/07/2069	80	13	1	$ 152,000	1.02	$ 154,855	129,204
OD Poly Main - Reid Road - From WTP to Sewage PS No1	63mm	7/08/1990	7/08/2040	50	12	306	$ 22	1.09	$ 7,337	5,554
OD Poly Main - Hanson Road (1975m) - From Railway Overp	63mm	1/07/1990	1/07/2040	50	12	1,975	$ 22	1.09	$ 47,352	35,741
Water Connection - Gasgate - Lot 144 CTN2170	20mm	1/12/1990	1/12/2020	30	12	1	< $5,000	1.00	$ 480	291
Water Connection - Sewage Pump Station 2- Landing Road -	20mm	1/07/1990	1/07/2020	30	12	1		1.00	$ 480	284
Water Connection - Sewage Pump Station 1- Reid Rd/ Hanso	25mm	1/10/1989	1/10/2019	30	13	1		1.00	$ 600	340
Water Connection - Trade Waste Facility- Lot 145 CTN2170	25mm	1/12/1990	1/12/2020	30	12	1		1.00	$ 600	363
Water Connection - QLD Rail Terminal- Lot143 CP 858040	25mm	3/03/1997	3/03/2027	30	6	1		1.00	$ 600	488
Water Connection -Magnesium Plant - Lot 141 CP 865942	40mm	1/12/1997	1/12/2027	30	5	1		1.00	$ 1,800	1,510
Water Connection -Sewage Plant - Lot 139 CTN 2130	50mm	1/10/1989	1/10/2019	30	13	1		1.00	$ 2,600	1,473
Water Connection -Water Treatment Plant - Lot 140 CTN 213	50mm	15/12/1997	########	30	5	1		1.00	$ 2,600	2,184
Water Connection - Orica - Lot 138 CTN 2123	200mm	1/07/1989	1/07/2019	30	13	1	$ 21,570	1.14	$ 24,590	13,721
DICL Main - Hanson Road (Currently under construction)	300mm					1,292	$ 174	1.22	$ 274,502	153,170
									$2,237,012	**$1,611,226**
									$1,951,474	$1,495,076