

# SEQ Interim Price Monitoring

ALLCONNEX WATER

CAPEX OPEX REVIEW

Rev 3

- Final
- 30 January 2012



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## Limitation Statement

The sole purpose of this report and the associated services performed by Sinclair Knight Merz Pty Ltd (SKM) is to assist the Queensland Competition Authority (the Authority) in its price monitoring of the three South East Queensland (SEQ) water and wastewater distribution and retail entities in accordance with the scope of services set out in the contract between SKM and the Authority. That scope of services, as described in this report, was developed with the Authority.

In preparing this report, SKM has relied upon, and presumed accurate, any information (or confirmation of the absence thereof) provided by the Authority, the water distribution and retail entities and/or from other sources. Except as otherwise stated in the report, SKM has not attempted to verify the accuracy or completeness of any such information. If the information is subsequently determined to be false, inaccurate or incomplete then it is possible that our observations and conclusions as expressed in this report may change.

SKM derived the data in this report from information sourced from the Authority, the water distribution and retail entities and/or available in the public domain at the time or times outlined in this report. The passage of time, manifestation of latent conditions or impacts of future events may require further examination of the project and subsequent data analysis, and re-evaluation of the data, findings, observations and conclusions expressed in this report. SKM has prepared this report in accordance with the usual care and thoroughness of the consulting profession, for the sole purpose described above and by reference to applicable standards, guidelines, procedures and practices at the date of issue of this report. For the reasons outlined above, however, no other warranty or guarantee, whether expressed or implied, is made as to the data, observations and findings expressed in this report, to the extent permitted by law.

This report should be read in full and no excerpts are to be taken as representative of the findings. No responsibility is accepted by SKM for use of any part of this report in any other context.

This report has been prepared within the time restraints imposed by the project program. These time restraints have imposed constraints on SKM's ability to obtain and review information from the entities.

This report has been prepared on behalf of, and for the exclusive use of, the Authority, and is subject to, and issued in accordance with, the provisions of the agreement between SKM and the Authority. SKM accepts no liability or responsibility whatsoever for, or in respect of, any use of, or reliance upon, this report by any third party.



# 1. Executive Summary

The Queensland Competition Authority (the Authority) commissioned Sinclair Knight Merz Pty Ltd (SKM) to review the prudence and efficiency of capital expenditure and operating expenditure of the three SEQ water and wastewater distribution and retail entities – Allconnex Water, Queensland Urban Utilities, and Unitywater. This review forms part of the Authority's process to undertake interim price monitoring for these monopoly utilities.

We have produced a report for each of the entities. This report pertains to the prudence and efficiency of capital and operating expenditure forecasts of Allconnex Water servicing Gold Coast, Logan and Redlands (southern areas).

In addition, the Authority commissioned us to undertake a review of the water supply and wastewater treatment demand forecasts of the three entities. Our review of the demand forecasts is documented in a separate report to the capital and operating expenditure reports<sup>1</sup>.

## 1.1. Introduction and background

On 1 July 2010, as a part of water reforms in SEQ, three new water and wastewater distribution and retail businesses commenced operation. These businesses were formed by amalgamating various council-based-and-owned water utilities into three larger water utilities. These entities own the water and sewerage distribution infrastructure and sell water and wastewater disposal services to customers in their respective areas.

This is the second year of price monitoring of the SEQ water distribution entities undertaken by the Authority. The aim of the price monitoring process is to assess the prudence and efficiency of capital and operating costs, and ultimately the charges to customers within the monopoly distribution and retail businesses, to encourage sustainable water practices within the SEQ water industry.

To aid this process, the Authority appointed SKM to review the capital and operating expenditure forecasts and associated information for regulated services over the regulatory period from the 1<sup>st</sup> July 2011 to 30<sup>th</sup> June 2014. In addition to reviewing capital and operating expenditure forecasts, the Authority has asked us to review the policies and procedures implemented by the entities to develop operating and capital expenditure budgets. Finally the Authority has asked us to review the entities' progress in implementing the Authority supported initiatives identified in its 2010/11 price monitoring.

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<sup>1</sup> *Review of Demand Projections for South East Queensland*, SKM MMA, October 2011



This interim price monitoring is being carried out against a backdrop of:

- Entities in the second year of an establishment phase
- Much of historic data drawn from information provided by previous service providers (councils)
- Entities implementing newly developed processes and systems for:
  - Capital works evaluation, approval and budgeting
  - Operational expenditure budgeting

In addition to the above, on the 7<sup>th</sup> April 2011 the Premier of Queensland announced proposals to provide for councils to opt out of their water distributor-retailer and re-establish a council-owned and operated water and wastewater business. Draft legislation in the form of the *South East Queensland Water (Distribution and Retail Restructuring) and Other Legislation Amendment Bill 2011* has been developed to facilitate this. The participating councils and shareholders of Allconnex Water have subsequently voted to opt out of Allconnex Water and to re-establish council-owned water and wastewater businesses leading to the disestablishment of Allconnex Water. In recognition of the above, Allconnex Water has put on hold many of its planned and partially implemented initiatives and projects associated with the establishment and ongoing operation of a single water and wastewater utility to service efficiently the Gold Coast, Redland and Logan regions.

In undertaking our assessment of capital and operating expenditure, we have taken cognisance of the demand forecasts produced by the entities and our assessment and recasting of those forecast undertaken on behalf of the Authority.

## **1.2. Overview of information adequacy**

Allconnex Water has supplied comprehensive supporting information to enable us to complete an assessment of the prudence and efficiency for a sample of operating costs and capital expenditure of selected projects. The exception to this is the information supplied on the Operational Management Project, for which we had insufficient information to determine that the project is efficient, however Allconnex Water has advised that this project is not proceeding.

Supply of adequate information has, in the past, been impacted by the availability of information from Allconnex Water's participating councils. We would normally expect that as time progresses and as Allconnex Water establishes its own information and communications technology (ICT) services, this limitation of participating council information and information systems to have less impact on Allconnex Water's ability to provide necessary information for regulatory purposes. However, given the recent decision to disestablish Allconnex Water, this expectation is no longer appropriate.



### **1.3. Policies and procedures**

#### **1.3.1. Issues identified in the Authority's 2010/11 report**

The Authority's final report on SEQ Price Monitoring for 2010/11 noted a number of issues to be assessed in future reviews in addition to prudence and efficiency of budgeted expenditure. These include: a whole of entity perspective to capital project prudence and efficiency considerations; only commissioned capital expenditure to be included in the RAB; a standardised approach to cost estimating; a summary document prepared for major capital projects; an implementation strategy and gateway review process for capital projects; and a consistent approach to indexation across SEQ.

There is clear evidence that Allconnex Water is adopting a region wide (whole of entity) perspective to capital expenditure where appropriate as is demonstrated by the rationalisation of water catchments in the area of the proposed Stapylton, Beenleigh and Loganholme wastewater treatment plants. The policy for applying capital expenditure to the RAB is consistent with that of the Authority and consistent across all the entities. From our review of the sample of operating and capital project costs Allconnex Water has yet to implement a processes to ensure a consistent approach to cost estimation for capital projects.

A standard summary document is prepared for major projects which will both assist with prudent decision making and regulatory reporting. All but three of the projects reviewed had such a document. From documentation reviewed and from discussions with Allconnex Water's staff there is evidence that Allconnex Water is establishing processes and procedures with a view to ensuring a consistent approach to implementation strategies for capital projects, however this has not been evidenced in the documentation for the projects reviewed. The implementation of a gateway framework for project approval and management has been suspended due to the decision to disestablish Allconnex Water.

Finally, the indexation factor applied by Allconnex Water is consistent with that applied by the Authority for other recent investigations and that used by Queensland Urban Utilities.

#### **1.3.2. Good industry practice in budget development**

Most utilities use two basic forecasting approaches to develop capital expenditure and operating costs budget forecasts for their regulated businesses. The first approach – “base year” forecast – involves extrapolating historical expenditure for a particular expenditure category. It generally requires justification that the base year expenditure is reasonable and efficient. The second approach – “bottom-up” forecast – is developed by forecasting work units or quantities and standard unit rates.



Allconnex Water has predominantly used an extrapolation from base year approach to operating expenditure, taking into account cost indexation and change in demand. As such Allconnex Water's processes for operating expenditure budgeting generally adhere to good industry practice. However, there is no clear evidence that the base year used has been validated as representing efficient operating expenditure.

Allconnex Water's capital project budgeting process, which is based on a 'zero based' bottom up approach does represent good industry practice.

### **1.3.3. Standards of service**

In accordance with the 2011 Customer Water and Waste Water Code, Allconnex Water has produced a single consolidated customer service standards document based on an amalgamation of participating council customer and planning standards. This consolidated service standard will be included within Allconnex Water's Water NetServ Plan which is required to be in place by July 2013. The development of this plan is underway with a draft for consultation targeted for July 2012.

The service standards developed are largely comparable to those developed by the two other water distributors in SEQ.

### **1.3.4. Asset management and condition assessment**

Allconnex Water has developed an Asset Management Strategy document which sets out, at a high level, the objectives to be achieved through appropriate asset management. One of the key initiatives identified in the strategy is the development of a reliability (condition and criticality) based planned maintenance program. Such programs are representative of good utility industry practice. However, the method for the implementation of the strategy is not addressed, nor is how the assessment of asset condition is to be conducted and utilised in asset management and planning.

### **1.3.5. Procurement**

Allconnex Water provided its Procurement Policy document for review which we consider to be comprehensive and the policies set out to accord with good industry practice but with a few exceptions. We also believe that the Procurement Policy document should include reference to the need for a review process for significant procurement activities to ensure that any issues arising from a procurement process or from a particular supplier are recorded and lessons learnt documented for future procurement activities of that type or with that supplier.



### 1.3.6. Cost allocation

Our review of the information provided, indicates that there are varied and occasionally inaccurate determination of the drivers for capital project expenditure and operating expenditure categories which results in incorrect cost allocation.

The current wastewater/trade waste allocation method adopted by Allconnex Water is based on relative volume levels. Allocation of costs between wastewater and trade waste is complicated by the inconsistency of trade waste information which is collected and made available from the three districts that make up Allconnex Water. Allconnex Water recognises that volume is not the only driver and was in the process of implementing a cost allocation method that takes account of additional drivers such as biological oxygen demand until the decision to disestablish Allconnex Water was made. Such a method would represent best industry practice.

### 1.3.7. Asset Lives

Information on asset lives for major assets, such as reservoirs, treatment and pump stations have been provided in the Authority's information templates. We have compared the provided asset lives to available benchmarks and between the three entities. Whilst the assumed asset lives for passive assets such as reservoirs and pipelines are relatively consistent between all entities, there are a number of significant differences between the asset lives for the active assets (e.g. pump stations and treatment plants). This in part is due to the variable nature of such plant in terms of processes and plant used.

We generally consider the asset lives adopted by Allconnex Water to be reasonable.

## 1.4. Operating expenditure

Our review of operating expenditure was undertaken in line with the Authority's requirement to assess the prudence and efficiency of operating costs.

For the purposes of reviewing prudence and efficiency of operating costs we have adopted the following definitions:

Operating expenditure is prudent if it addresses one or more of the following drivers:

- Legal obligations
- New growth
- Operation and maintenance of existing infrastructure
- Achievement of an increase in the standard of service that is explicitly endorsed by customers, external agencies or participating councils





Operating expenditure is efficient if the level of expenditure meets one or more of the following assessment criteria:

- In line with conditions prevailing in relevant markets
- Consistent with historical trends in operating expenditure
- Incorporates efficiency gains or economies of scale
- In line with relevant interstate and international benchmarks

The following sample operational expenditure costs and cost forecasts have been reviewed:

- Corporate costs
- Employee expenses
- Electricity costs
- Chemical costs
- Sludge handling costs

**Table 1** presents an overview of the prudence and efficiency reviews of Allconnex Water's operating expenditure together with revised operating costs for 2011/12 which take into account changes arising from both our assessment of prudence and efficiency and from our recommended changes in water and wastewater volume growth projections.

■ **Table 1 Summary of prudence and efficiency of operating costs (\$000s)**

Category	Cost 2011/12 \$ ('000)	Prudent	Efficient	Revised cost 2011/12 \$('000)
Corporate costs	30,376.2	Prudent	Efficient <sup>1</sup>	30,376.2
Employee expenses	79,655.0	Prudent	Efficient <sup>1</sup>	79,655.0
Electricity costs	14,429.8	Prudent	Efficient	14,193.1
Chemical costs	4,549.1	Prudent	Efficient	4,476.1
Sludge handling	5,853.4	Prudent	Efficient	5,965.4

1. Our assessment of efficiency takes into account the maturity of the business and legislative constraints that are imposed on the business (eg Workforce Framework Agreement).

From our analysis we have determined that all of the items within the operating costs sample are both prudent and efficient.

In addition to reviewing the sample operating costs, we benchmarked Allconnex Water's aggregate operating costs against other SEQ water distribution and retail entities and peers from around Australia. We conclude from this that Allconnex Water's operating costs for water services are higher than comparable water distributors and retailers in Australia and consistent with the two



other water distribution and retail entities in South East Queensland. However we consider that this is driven largely by costs for bulk water which are higher than those of similar sized water suppliers. Finally, our benchmarking of operating costs associated with waste water services shows that Allconnex Water's operating costs for wastewater services are greater than those of national peer organisations and other South East Queensland water distribution and retail entities.

### **1.5. Capital expenditure**

Our review of capital expenditure was undertaken in line with the Authority's requirement to assess the prudence and efficiency of capital costs.

Prudence was evaluated against the following drivers:

- Growth – capital expenditure associated with increasing the capacity of assets or construction of new assets, to meet growth in demand or provide additional security of supply, should be included in growth
- Renewal of infrastructure – capital expenditure associated with replacing assets and generally maintaining service levels should be included in renewal of infrastructure
- Improvements – capital expenditure associated with improving service levels and reliability to meet customer preferences should be included in improvements
- Compliance – capital expenditure associated with meeting price monitoring or legislative obligations should be included in compliance

Efficiency was evaluated by assessing:

- The scope of work, which involved the consideration and inclusion of options identification, investigation and assessment
- The standards of work, which involved the consideration and inclusion of technical, design and construction requirements, industry and other relevant standards
- The market conditions, which involved comparing projected costs with industry benchmarks and with our in-house knowledge of the cost of constructing water and wastewater projects

Our review was undertaken on a project/capital works programme sample basis. The sample selection was discussed and agreed with the Authority to include:

- The single largest project on an expenditure basis
- The eight largest commissioned expenditures in 2011/12
- A small project to be commissioned in 2011/12



The principal objective being to review projects that would be commissioned and enter the regulated asset base (RAB) in 2011/12.

**Table 2** presents an overview of prudence and efficiency reviews of Allconnex Water’s capital expenditure.

■ **Table 2 Summary of prudence and efficiency of capital expenditure projects (\$000s)**

Project	Cost 2011/12	Prudent	Efficient
Alfred Street to Loganholme WPCCC Rising Main Augmentation	\$9,600	Prudent	Efficient
ERP Base Infrastructure Program <sup>1</sup>	\$9,123	Prudent	Efficient
Billing System (tactical)	\$8,267	Prudent	Efficient
Burleigh WWPS B47 RM & GM upgrade	\$7,600	Prudent	Efficient
Meter Renewals program	\$4,880	Prudent	Efficient
Operational Management Program <sup>1</sup>	\$4,734	Prudent	Insufficient Information to assess efficiency
Alliance Program Management	\$3,933	Prudent	Efficient
Round Mountain Reservoir and Link Mains	\$5,000	Prudent	Efficient
Logan Village Treatment and Effluent Reuse Upgrade	\$576	Prudent	Efficient
Currumbin Waters - Water Supply District Upgrade	\$670	Prudent	Efficient

1. Not proceeding.

All capital projects reviewed have been assessed as being prudent and efficient with the exception of the Operational Management Project, for which we had insufficient information to determine that the project is efficient, however Allconnex Water has advised that this project, as well as the Enterprise Resource Planning Base Infrastructure Program, is not proceeding.

**1.6. Interaction between capital expenditure, operating expenditure and demand forecasting**

Many operating costs, such as electricity, chemicals are volume related and hence budget forecasts take into account demand projections for water and wastewater. Similarly, capital project expenditure can be triggered by growth in demand, although this tends to be based on local demand growth (eg in the catchment area of a sewerage treatment plant). Where appropriate, we have taken demand forecasts into account in our review.



## 1.7. Summary and conclusions

Allconnex Water has supplied comprehensive supporting information to enable us to complete an assessment of the prudence and efficiency of a sample of operating costs and capital expenditure of selected capital projects. The exceptions to this are the information supplied on the Operational Management Project, for which we had insufficient information to determine that the project is efficient, however as the project is not proceeding it is not applicable.

All other capital projects reviewed have been assessed as being both prudent and efficient. All operating expenditure items reviewed have been assessed as being prudent and efficient.

Our review of the information received regarding cost allocation indicates that there is occasional varied and inaccurate determination of the drivers and consequently cost allocation for capital projects. The current wastewater/trade waste cost allocation method adopted by Allconnex Water is based on relative volume levels. Such allocation is complicated by the inconsistency of trade waste information. Allconnex Water recognises that volume is not the only driver for trade waste cost allocation and is seeking to take account of additional drivers such as biological oxygen demand.

We consider that Allconnex Water has made significant progress since its inception in putting in place robust systems for capital project planning and budgeting, procurement, asset management and development of consolidated standards of service across its regions and in implementing the initiatives identified by the Authority. Many of these initiatives have now been put on hold indefinitely following participating councils' decision to disestablish Allconnex Water.



## 2. Introduction

The Queensland Competition Authority (the Authority) is continuing the process of monitoring the prices for water and wastewater services provided by the three water distribution and retail entities within SEQ:

- Queensland Urban Utilities
- Allconnex Water
- Unitywater

The three entities own, operate and maintain the local water and sewerage distribution infrastructure and are responsible for the retail sale of water supply and sewerage services to customers. The purpose of the monitoring is to review the costs and revenues associated with the provision of water and wastewater services by the three entities. The three entities are monopoly providers in neighbouring areas. The aim of the price monitoring process is to ensure efficiency of costs within the monopoly distribution and retail businesses and to ensure sustainable water practices within the SEQ water industry.

To assist this process, the Authority appointed SKM to review the capital and operating expenditure forecasts and expected demand for regulated services over the period from July 2011 – June 2014.

The consultancy consists of three components:

- Component 1 – Assessment of capital expenditure
- Component 2 – Assessment of operating costs
- Component 3 – Assessment of projected demand

Under the terms of our appointment, we are also required to assess:

- a) Whether the entities' policies and procedures for capital expenditure represent good industry practice. In particular, the policies and procedures must reflect strategic development plans, integrate risk and asset management planning, support corporate directives, be consistent with external drivers, and incorporate robust procurement practices
- b) The deliverability and timing of the capital expenditure program, with regard to the policies and procedures for capital expenditure approvals



- c) Whether the capital expenditure forecasts encompass any efficiency gains or economies of scale, and identify a prudent and efficient level of these gains with reference to appropriate benchmarks
- d) Whether corporate or overhead costs have been appropriately assigned to capital expenditure projects

In addition, the Authority has asked us to review the entities' progress in implementing the Authority supported initiatives identified in its 2010/11 final interim price monitoring report of:

- A standardised approach to cost estimating, including a standardised approach to estimates for items such as contingency, preliminary and general items, design fees and contractor margins, so that there is a uniformity of cost estimating across all proposed major projects
- A summary document to be prepared for identified major projects so as to facilitate standardised reporting
- An implementation strategy to be developed for each major project that includes recommendation on delivery method, programme and risk review process
- A consistent approach to indexation on capital expenditure across SEQ

We have prepared Component 1 and 2 reports for each of the three water distribution and retail entities (Queensland Urban Utilities, Allconnex Water and Unitywater). This report addresses our review of the prudence and efficiency of the operating costs and capital expenditure for Allconnex Water. The final component is addressed in a separate report.<sup>2</sup>

## 2.1. Terms of reference

We have undertaken the assessment of the prudence and efficiency of operating and capital expenditure based on the terms of reference issued by the Authority. The full terms of reference are included in **Appendix A**. We have set out the key activities contained in the terms of reference in **Table 3** and **Table 4** below, with each activity cross referenced to the appropriate sections in the report addressing that activity.

### ■ Table 3 Terms of Reference – Assessment of Operating Costs

Terms of Reference	Relevant report section
<b>Component 1 – Sample Selection</b>	
Sample Selection	Section 6.5 Sample selection
<b>Component 2 – Reasonableness of Operating Costs from 1 July 2011</b>	
a) assess whether the entities' policies and procedures for operational expenditure represent good industry practice;	Section 5 Policies and Procedures

<sup>2</sup> Review of Demand Projections for South East Queensland, SKM MMA, October 2011



Terms of Reference	Relevant report section
b) assess the scale and cause of variances between forecasts provided in the entity's 2010/11 and 2011/12 returns;	Section 6.2 Historical costs and variances
c) assess the operating costs in aggregate, and for the sample of major operating expenditures that comprise a significant portion of retail and distribution operating costs identified in component 1	Section 6.4 Costs in aggregate
d) accept the operational constraints imposed by the SEQ Urban Water Arrangements Reform Workforce Framework 2010, and identify the related costs in doing so compared to more competitive arrangements;	Section 6.7 Employee expenses
e) liaise with the Authority's consultants appointed for the review of demand and capital expenditure to ensure that consistent advice is provided to the Authority.	Section 8 Interactions between capital expenditure, operating expenditure and demand forecasting
f) identify the value of an expenditure considered not to be reasonable;	Section 9 Proposed revised templates
g) provide a revised set of information templates to the Authority that contain only reasonable operating costs with all adjustments to the entities' submissions clearly indicated (focussing on Schedule 5.11.1 (operating costs)).	Section 9 Proposed revised templates
<b>Component 3 – Cost Allocation</b>	
a) assess the methods adopted by the entities to allocate operating costs between services, against relevant benchmarks. This will involve an assessment of cost drivers, the approaches adopted by each entity, and approaches approved by economic regulators in other jurisdictions;	Section 5.6 Cost allocation
b) report on the entities' progress in achieving the systems and information needed for informed pricing and reporting; and whether the information systems being put in place by the entities allow for a highly disaggregated and appropriately allocated system of cost recording.	Section 4 Overview of Information Adequacy

■ **Table 4 Terms of Reference – Assessment of Capital Expenditure**

Terms of Reference	Relevant report section
<b>Component 1 – Sample Selection</b>	
Sample Selection	Section 7.5 Sample selection
<b>Component 2 – Prudence and Efficiency of Capital Expenditure for 1 July 2011</b>	
a) assess whether the entities' policies and procedures for capital expenditure represent good industry practice. In particular, the policies and procedures must reflect strategic development plans, integrate risk and asset management planning, corporate directives, be consistent with external drivers, and incorporate robust procurement practices;	Section 5 Policies and Procedures
b) assess entities' progress in addressing the issues identified in the Authority's 2010/11 report	Section 5.1 Issues identified in the Authority's 2010/11 report
c) assess whether the representative sample of capital expenditure projects is prudent and efficient.	Section 7. Prudence and Efficiency for each project assessed
d) assess the deliverability and timing of capital expenditure program, and chart the capex historically delivered by participating councils from 1 July 2008 to 30 June 2010; the entities' forecasts made in 2010/11 of the period 1 July 2010 to 30 June 2013; and entities' current forecasts to 30 June 2014. Assess the scale and cause of variances between forecasts provided	Section 7.3 Historical Delivery Section 7 Timing and Deliverability for each project assessed



Terms of Reference	Relevant report section
in the entities' 2010/11 and 201/12 returns;	
e) liaise with the Authority's consultants appointed for the review of demand and operating expenditure to ensure that consistent advice is provided to the Authority.	Section 8 Interactions between capital expenditure, operating expenditure and demand forecasting
f) take into account any previous reviews of relevant assets provided by the entities, such as Priority Infrastructure Plans;	Section 7 Capital Expenditure
g) identify whether the capital expenditure forecasts encompass any efficiency gains or economies of scale, and identify a prudent and efficient level of these gains with reference to appropriate benchmarks;	Section 7.7.8 Efficiency Gains for each project assessed
h) identify the value of any expenditure considered not to be prudent or efficient;	Section 9 Proposed revised templates
i) assess the regulatory asset lives for capital expenditure in 5.8.1.1, and the tax asset lives for capital expenditure in 5.8.1.2, against relevant benchmarks;	Section 6.7 Asset Lives
j) provide a revised set of information templates to the Authority that contain only the prudent and efficient capital expenditure and useful asset lives, with all adjustments to the entities' submission clearly indicated in the relevant worksheets and also separately logged (focusing on Schedules 5.6.1 & 5.6.2 (Capital Expenditure) and 5.8.1.1 (Asset Lives (RAB))).	Section 9 Proposed revised templates
<b>Component 3 – Cost Allocation</b>	
a) assess the methods adopted by the entities to allocate existing and future capital costs between services, against relevant benchmarks. This will involve an assessment of cost drivers, the approaches adopted by each entity, and approaches approved by economic regulators in other jurisdictions;	Section 5.6 Cost allocation
b) report on the entities' progress in achieving the systems and information needed for informed pricing and reporting; and whether the information systems being put in place by the entities allow for a highly disaggregated system of cost recording.	Section 4 Overview of Information Adequacy

## 2.2. Prudency and efficiency

For the purposes of this consultancy, we have adopted the following definitions prudency and efficiency as discussed and agreed with the Authority:

- **Operating expenditure is prudent** if it is required as a result of a legal obligation, new growth, operation and maintenance of existing infrastructure, or it achieves an increase in the reliability or quality of supply that is explicitly endorsed or required by customers, external agencies or participating councils.
- **Operating expenditure is efficient** if it is undertaken in a least-cost manner over the life of the relevant assets and is consistent with relevant benchmarks, having regard to the conditions prevailing in relevant markets, historical trends in operating expenditure and the potential for efficiency gains or economies of scale





We have adopted the following definitions of prudence and efficiency of capital expenditure generally as set out by the Authority its terms of reference:

- **Capital expenditure is prudent** if it is required as a result of a legal obligation, growth in demand, renewal of existing infrastructure that is currently used and useful, or it achieves an increase in the reliability or the quality of supply that is explicitly endorsed or desired by customers, external agencies or participating councils
- **Capital expenditure is efficient** if:
  - i. The scope of the works (which reflects the general characteristics of the capital item) is the best means of achieving the desired outcomes after having regard to the options available, including more cost effective regional solutions having regard to a regional (whole of entity) perspective, the substitution possibilities between capital expenditure and operating expenditure and non-network alternatives, such as demand management
  - ii. The standard of the works conforms to technical, design and construction requirements in legislation, industry and other standards, codes and manuals. Compatibility with existing and adjacent infrastructure is relevant as is consideration of modern engineering equivalents and technologies
  - iii. The cost of the defined scope and standard of works is consistent with conditions prevailing in the markets for engineering, equipment supply and construction

### 2.3. Scope exclusions

The following items are outside of the scope of our review:

- Discussion of the allowable operation costs (including the Queensland Water Commission and the Authority's charges, finance charges, treatment of depreciation, working capital, asset valuation methodology)
- Discussion of the application of the standard building block method for calculating Maximum Allowable Revenue
- Review of capital costs before 2011/12 and after 2013/14 associated with projects that have been reviewed
- Review of other parts of a project for which a review of a specific part is being undertaken as part of the commission, ie the review of a supply contract when we are reviewing the installation contracts of these supplied goods.
- Development of detailed budget cost estimates for the capital projects under review

### 2.4. Report overview

This report is structured as follows:



- Background
- Overview of information adequacy
- Policy and procedure review
- Prudence and efficiency of operating expenditure
- Prudence and efficiency of capital expenditure
- Interactions between capital expenditure, operating expenditure and demand forecasting
- Proposed revised information templates
- Conclusions and recommendations

## **2.5. Application of assessment**

Our assessment of prudence and efficiency of capital expenditure applies to Allconnex Water's proposed expenditure from 1 July 2011 to 30 June 2014 and our assessment of prudence and efficiency of proposed operational costs forecasts from 1 July 2011. The underlying information used to make this determination may only be relevant to the particular circumstances and activities that will be undertaken in 2011/12. Hence, the acceptance of expenditure as being prudent and efficient in this assessment should not be used a precedent for regulatory assessments in the future. This applies to both recurring operating expenditure and capital projects where capital expenditure will be spread over a number of years.



## 3. Background

### 3.1. Entities

On 1 July 2010, the Queensland Government implemented a series of reforms in the SEQ water industry. The result of this was the formation of three new water distribution and retail entities. These entities were formed by amalgamating various council based and owned water utilities into three larger water entities. The entities now own the water and sewerage distribution infrastructure and sell water and sewage disposal services to customers in their respective areas. The three distribution and retail entities are:

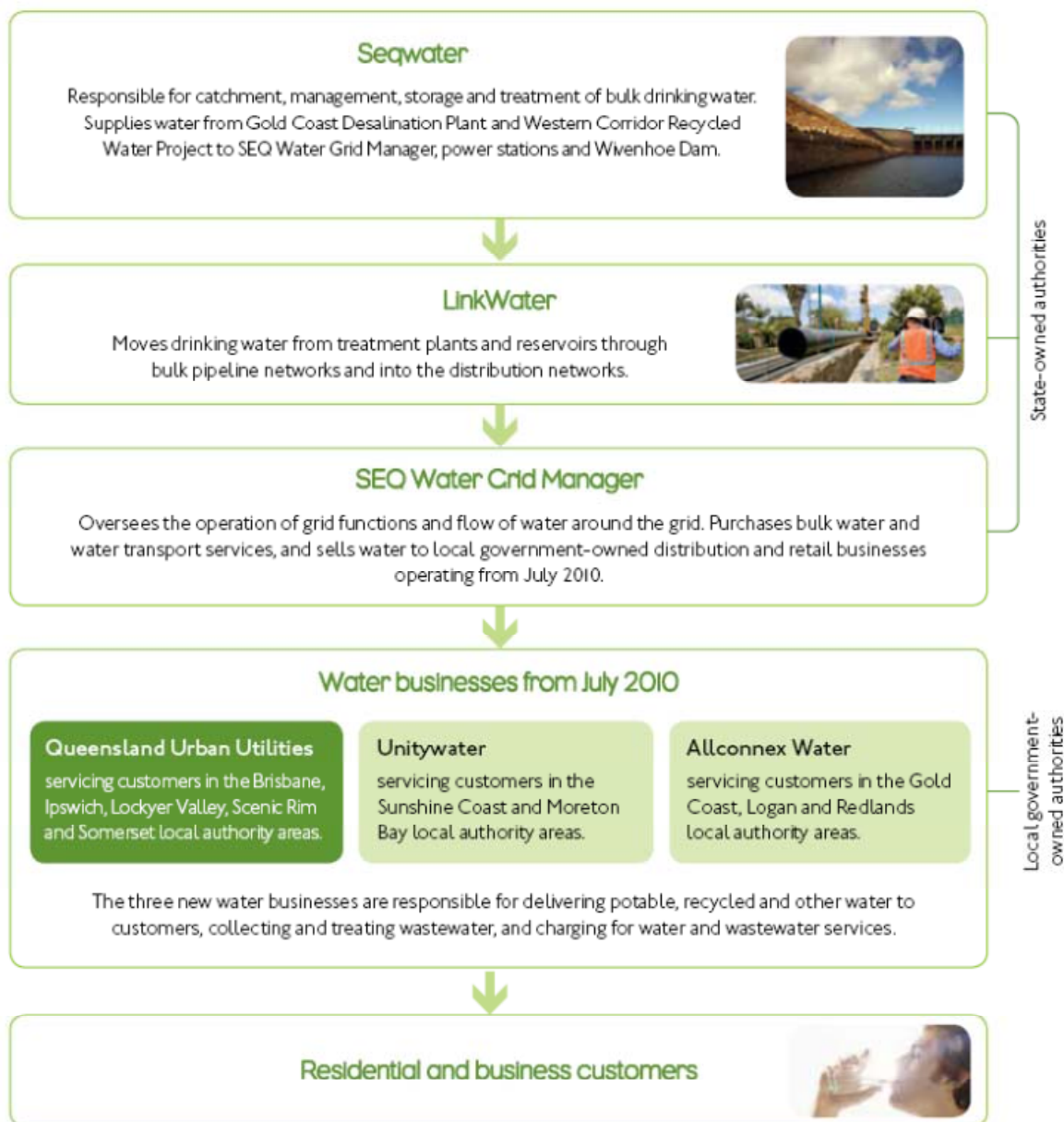
- Queensland Urban Utilities – servicing the Brisbane, Scenic Rim, Ipswich, Somerset and Lockyer Valley areas
- Unitywater – servicing the Sunshine Coast and Moreton Bay areas
- Allconnex Water – servicing the Gold Coast, Logan and Redland areas

In addition to the retail distribution entities, four new bulk water entities that own and operate the SEQ Water Grid were established.

This interim price monitoring is being carried out against a backdrop of:

- Entities in the second year of an establishment phase
- Much of historic data drawn from information provided by previous service providers (councils)
- Entities implementing newly developed processes and systems for:
  - Capital works evaluation, approval and budgeting
  - Operational expenditure budgeting

In addition to the above, on the 7<sup>th</sup> April 2011 the Premier of Queensland announced proposals to provide for councils to opt out of their water distributor-retailer and re-establish a council-owned and operated water and wastewater business. Draft legislation in the form of the *South East Queensland Water (Distribution and Retail Restructuring) and Other Legislation Amendment Bill 2011* has been developed to facilitate this. The participating councils and shareholders of Allconnex Water have subsequently voted to opt out of and disestablish Allconnex Water and to re-establish council-owned water and wastewater businesses. In recognition of the above, Allconnex Water has put on hold many of its planned and partially implemented initiatives and projects associated with the establishment and ongoing operation of a single water and wastewater utility and the targeting of efficiency savings following amalgamation of the Gold Coast, Redland and Logan regions.



Source: Queensland Urban Utilities Information Return 2011/12 (Queensland Urban Utilities, 2011)

■ **Figure 1 Contractual and Operational Characteristics of the Water Grid**

### 3.2. The role of the Authority

The Authority is an independent Statutory Authority established by the Queensland Competition Authority Act 1997 and is given the task of regulating prices, access and other matters relating to regulated industries in Queensland.



Under the Queensland Competition Authority Act, the Authority's roles in relation to the water industry are to:

- Investigate and report on the pricing practices of certain declared monopoly or near monopoly business activities of State and local governments
- Receive, investigate and report on competitive neutrality complaints
- Mediate and/or arbitrate access disputes and water supply disputes
- Investigate and report on matters relevant to the implementation of competition policy

In July 2010 the Premier and the Treasurer referred the monopoly distribution and retail water and wastewater activities of Queensland Urban Utilities, Allconnex Water, and Unitywater to the Authority for a price monitoring investigation. The Authority's price monitoring role has been set out in the Authority's *Final Report, SEQ Interim Price Monitoring Framework*, dated April 2010. The role requires the Authority to monitor and report on prices and revenues. This is the second year of price monitoring of the entities.

From 1 July 2010 until the recent enactment of the Fairer Water Prices for SEQ Amendment Act 2011 (FWP Act) the QCA's role was to shift from one of price monitoring to one of price determination from 1 July 2013. The FWP Act removed the price determination role of the QCA that was to apply from 1 July 2013 by amending the QCA Act. This removal of the price determination role gives participating councils responsibility and accountability for the water and sewerage services within their individual boundaries.

In addition to this amendment the FWP Act amended the SEQ Water (Distribution and Retail Restructuring) Act 2009 (DRR Act) to provide for:

- annual increases in tariffs for water and wastewater for the next two years being capped at inflation, as measured by the consumer price index for Brisbane
- the requirement that participating councils prepare and adopt a price mitigation plan

In conjunction with these legislative changes the State Government gazetted a change to the required date for submission of the QCA SEQ Interim Revenue Monitoring - Information Requirement Template and information submission from 1 July 2011 to 31 August 2011.

### **3.3. Role of the SEQ Water Grid Manager**

The SEQ Water Grid Manager is responsible for directing the physical operation of the SEQ Water Grid to ensure regional water supply security and efficiency objectives are met. By acting as the single buyer of bulk water services and the single seller of bulk water for urban purposes, the SEQ Water Grid Manager provides a mechanism to share the costs of the SEQ Water Grid. It sells a



wholesale “pool” product, which reflects the portfolio cost of supplying retailers with a defined security and quality of supply at a defined bulk supply node.

The SEQ Water Grid Manager sells potable water to the three water distribution and retail entities of Allconnex Water, Queensland Urban Utilities and Unitywater and various industrial and rural customers at a price determined under the SEQ Bulk Water Price Path. A 10-year price path has been projected for bulk water prices. The Bulk Water Price Path is intended to reach full cost recovery by 2017/18. The bulk water costs make up a significant proportion of the water distribution and retail entities’ operating costs.



## 4. Overview of Information Adequacy

### 4.1. Summary of information received

Allconnex Water has provided information on its capital expenditure program and operating expenditure budget forecasts within its submission to the Authority in response to the Information Request, including:

- A completed Information Requirement Template (2011/12 Information Template)
- Supporting documentation, including a written submission, *Price Monitoring Submission - 2011/12* (Allconnex Water, 2011) (2011/12 Submission) and other documents. (collectively 2011/12 Information Return)

A full list of information presented for each operating cost category assessed is presented in Section 6 and for each capital expenditure project assessed is presented in Section 7.

### 4.2. Operational expenditure

The information requirements are set out in the Authority's information requirement document. This has been reproduced below:

The entity must provide details, allocated between the deemed categories (activity, geographic area, core service) of:

- a) *Actual operating costs for the year ending 30 June 2009 and for the year ending 30 June 2010*
- b) *Forecast operating expenditure from July 2010 to 30 June 2014*

*According to:*

- *Bulk water costs*
- *Employee expenses*
- *Contractor expenses*
- *GSL payments*
- *Electricity charges*
- *Sludge handling costs*
- *Chemical costs*
- *Other material and services*
- *License and regulatory fees*
- *Non-recurrent costs*
- *Corporate costs*



- *Indirect taxes*

Entities are also required to provide details of third party transactions and related party transactions (name of party, description of services, value of payment, description how the value of payment was determined) together with a description of how the payment is reflected in the information returns.

We note the following points with respect to the adequacy of data provided:

- Details of third party transactions are included in the information return
- Details of related party transactions are included in the information return

#### **4.3. Capital expenditure**

Overall the provision of information is acceptable. However the absence of some information has not enabled the assessment to be completed to a sufficient extent to allow an assessment of either prudence or efficiency for one project and for efficiency of a second project in the project sample.

The review of the sample projects focused on projects that were to be commissioned in 2011/12, and therefore to be entered into the regulatory asset base (RAB) in 2011/12. Many infrastructure projects, particularly those of significant capital expenditure and therefore likely to be reviewed, have a multi-year period from initiation to commissioning. Given the recent restructuring of Gold Coast Water, Logan Water and Redland Water into Allconnex Water, many of the projects reviewed were initiated by their participating council. Consequently the procedures used and documentation produced were variable and do not necessarily represent current Allconnex Water procedures or documentation practices.

The structure of the 2011/12 Submission document was appropriate and the interviews with Allconnex Water staff were conducive to progressing the review in the timeframe allowed.

#### **4.4. Information systems and process**

The Information and Communication Technology (ICT) services at present are delivered by Gold Coast, Logan and Redland City Councils through service level agreements (SLAs).

From the projects that we have reviewed it is apparent that business information (eg asset information, billing information) is not stored within a single information system and is not centrally located and it has been difficult in some cases for Allconnex Water to extract the relevant information. This can be ascribed to the fact that three information systems are used to record and store information by a participating council.





Allconnex Water has prepared and approved an ICT Vision and Strategy. The ICT strategy project contains an enterprise resource program (ERP) component. It is our understanding that the ERP Asset Management, Contracts and Project Management modules will have the potential functionality to accurately record the cost associated with each capital project and the operational expenses of each asset. The architecture of the ERP will determine the level of cost breakdown for each capital project and operational cost associated to an asset.

Allconnex Water had made a decision to follow a phased approach of implementation and the three modules identified above have not been installed and implemented as yet. The ICT strategy and the ERP development and implementation would ensure that accurate information is available to assist in managing capital expenditure and operation expenditure by project and asset respectively.

During the interview Allconnex Water advised that only parts of the ICT strategy were being progressed due to the decision by all three participating councils to disestablish Allconnex Water.

#### **4.5. Obstacles to reporting**

Allconnex Water identified several limitations in its 2011/12 Submission that prevent it from processing information to an acceptable regulatory standard. These issues are primarily based upon immature organisational systems and inadequate records of inherited assets. Key limitations identified include:

- Lack of established management systems, information systems and data capture processes and continued reliance on council information systems
- Information constraints and data limitations for demand forecasting

Allconnex Water within its 2011/12 Submission states:

*“Allconnex Water has undergone a challenging period of change during 2010-11, now compounded by uncertainties surrounding the future operating and pricing environment for the three distribution-retail entities in SEQ. The provision of cost, revenue and pricing information in this submission and the accompanying Information Template should be considered in this context. However, Allconnex Water has endeavoured to provide the QCA with as much information as practicable to assist the QCA’s review. Allconnex Water continues to support the transparent reporting by the QCA’s regulatory oversight.”*

Allconnex Water summarised its ability to respond to the Authority’s information requirements in a table in its 2011/12 Submission, reproduced in **Table 5** below for convenience.



■ **Table 5 Data limitations**

<b>Template Reference</b>	<b>Requirement</b>	<b>Compliance</b>	<b>Comment</b>
5.1	Statutory Accounts and budget, including details of profit and loss, balance sheet and cash flow.	Partially compliant	Statutory accounts are currently unavailable for 2010-11 and will be provided to the QCA when available. Budget information for the 2011-12 price monitoring period has been provided. Forecast “regulatory accounts” have been partially provided, reflecting known or clearly identifiable adjustments to (forecast) financial accounts.
5.2	Revenue from prices and other sources	Substantially compliant	Revenue from most core services has been provided on a price times quantity basis as set out in the Information Template, however revenue from non-regulated services has been provided at an aggregate level only. Revenue for historical periods (2008-09 and 2009-10) has been provided on an ‘average’ basis in a format consistent with previous modelling (and consistent with the format provided to the QCA for the 2010-11 Template). This format differs to Allconnex Water’s current modelling, therefore direct comparisons of year-on-year price increases should be undertaken using individual tariffs/prices, rather than the average rates presented in the Template.
5.3	Service standards	Substantially compliant	Customer service standards have been itemised for the period 2011-12 to 2013-2014, however previous council service standards for the period 2008-09 to 2010-11 have been provided in separate documentation rather than itemised in the Template.
5.4	Demand	Substantially compliant	Demand for most regulated service categories has been provided, however non-regulated services are unable to be specified on a quantity basis.
5.5	Regulatory asset base	Compliant	The allocation of Allconnex Water’s opening RAB for 1 July 2008 was approved by the QCA as part of the 2010-11 price monitoring review. Allconnex Water uses an opening RAB for 1 July 2010 of \$4,107.72 million as advised by the QCA (amended from its Final Report on its 2010-11 prices monitoring review. See Chapter 9 for details).
5.6	Capital expenditure	Substantially compliant	Forecast capital expenditure has been provided on an ‘as commissioned’ basis, however historical capital expenditure has been retained on an ‘as incurred’ basis. Details of expenditures for individual projects have been provided for the forecast period 2011-12 to 2013-14. Details of expenditure approvals and other processes have been provided as supporting documentation. Historical expenditure information has not been revisited in the current Information Template, therefore expenditure for the 2008-09 to 2010-11 period has been provided in a format consistent with the



5.7	Contributed, donated and gifted assets	Substantially compliant	Substantial detail in relation to contributed, donated and gifted assets has been provided. Audited information in relation to contributed assets for 2010-11 is unable to be provided, however will be provided when financial statements are available. Allconnex Water has elected to adopt an asset offset approach to contributed assets from 1 July 2010 onwards.
5.8	Depreciation	Compliant	Allconnex Water has provided regulatory remaining useful lives and opening RAB values as at 1 July 2011, as per the Information Template.
5.9	Indexation	Partially compliant	Consistent with the QCA's Information Requirement, inflation for 2010-11 reflects the 2011-12 Queensland State Budget estimate of 3.25%. From 2011-12 onwards, Allconnex Water has applied the inflation forecasts reported in the Economic Statement issued by the Australian Government in July 2010.
5.10	Return on capital	Compliant	For the 2011-12 price monitoring period, Allconnex Water has adopted the QCA's WACC of 9.35%.
5.11	Operating costs	Compliant	Actual and forecast operating expenditure has been provided.
5.12	Third party transactions	Compliant	Details of significant third party transactions have been provided.
5.13	Related party transaction	Compliant	Details of related party transactions have been provided
5.14	Non-regulated services	Substantially Compliant	Details of revenue for non-regulated services have been provided, and where possible, costs related to non-regulated services have also been provided. Although the inability of current systems to correctly capture data means that non-regulated services will include some regulated fees and charges.
5.15	Tax	Partially compliant	Allconnex Water's tax asset base was not finalised at the time that the Information Template was completed. Accordingly, tax written-down asset values and remaining useful lives have been provided based on regulatory values (continuing the approach adopted for the 2010-11 Information Template). Allconnex Water remains of the opinion that this is a conservative interim assumption pending the finalisation of tax arrangements.
5.1.6	Maximum Allowable Revenue	Compliant	This submission contains details of Allconnex Water's Maximum Allowable Revenue, though noting that the return on assets component is based on an asset base which includes capital expenditure as incurred up until 30 June 2010.
n/a	Board Members responsibility statement	Compliant	-

Source: Allconnex Water Price Monitoring Submission 2011-2012 (Allconnex Water, 2011)



#### **4.6. Conclusions**

Allconnex Water has supplied comprehensive supporting information to enable us to complete an assessment of the prudence and efficiency for a sample of operating costs and capital expenditure of selected projects, with the exception of the Operational Management Program.



## 5. Policies and Procedures

### 5.1. Issues identified in the Authority's 2010/11 report

The Authority's Final Report on SEQ Price Monitoring for 2010/11 noted a number of issues to be assessed in future reviews. These were:

- a) Consideration of prudence and efficiency of capital expenditure from a regional (whole of entity) perspective
- b) Only commissioned capital expenditure to be included in the RAB and therefore prices
- c) A standardised approach to cost estimating, including a standardised approach to estimates for items such as contingency, preliminary and general items, design fees and contractor margins, so that there is uniformity of cost estimating across all proposed major projects
- d) A summary document to be prepared for identified major projects so as to facilitate standardised reporting
- e) An implementation strategy to be developed for each major project that includes recommendation on delivery methodology, program and a risk review process
- f) A 'toll gate' or 'gateway' review process to be implemented so that appropriate reviews are undertaken at milestone stages for selected projects
- g) Pricing to be demonstrably based on costs and other relevant factors
- h) A consistent approach to indexation of capital expenditure across SEQ

The assessment of how Allconnex Water has addressed the issues a) to f) and h) identified by the Authority are discussed in brief in this section. Detailed comments on the issues identified are also given on a project by project basis in subsequent sections.

#### 5.1.1. Whole of entity perspective to capital expenditure

Allconnex Water uses an iterative process based on risk management and prioritisation to determine an annual capital expenditure program that can be afforded and sustained by the entity. Overall there is a significant component associated with growth, as a consequence of Allconnex Water servicing growth areas, particularly in the Logan Valley. The development phase from the creation of Allconnex Water has required the expenditure of some establishment costs. These are regarded as appropriate and reasonable.

There is clear evidence from our review that Allconnex Water is taking a whole of entity perspective to identification, option evaluation and selection of capital projects. This is evidenced in the rationalisation of wastewater catchments in the area of the proposed Stapylton, Beenleigh and Loganholme wastewater treatment plants.



### 5.1.2. Commissioned capital expenditure

In relation to capital expenditure to be included in the RAB, within its 2011/12 Submission Allconnex Water states:

*“Allconnex Water has incorporated commissioning dates (and other supporting materials) in the collection of capital expenditure information to allow relevant assets to be included in the RAB only when able to contribute to the productive capacity of the system.”*

Allconnex Water states in its 2011/12 Submission that this is the process followed for including capital expenditure. We conclude that this approach is consistent with the requirement set out by the Authority.

A standardised approach has been adopted by all of the entities, that is, an asset is added to the RAB only when it begins contributing to the regulated service delivery for which it is constructed and commissioned.

### 5.1.3. Constant Approach to cost estimation

An overview of the elements of the cost estimating process used for the capital project sample selected is provided in **Table 6** to **Table 10** below.

#### ■ **Table 6 Cost estimating – capital items costs**

<b>Project</b>	<b>Pricing</b>
Alfred Street to Loganholme WPCCC Rising Main Augmentation	No cost breakdown detailed; costs correspond to high level unit rates known from previous projects
ERP Base Infrastructure Program	Project costs detailed in the Significant Procurement Plant
Billing System (tactical)	High level itemised costs provided in the Design Stage Plan
Burleigh WWPS B47 RM & GM upgrade	High level unit costs provided in the Options Analysis Report
Meter Renewals program	Costs based on historical replacement costs detailed in the Meter Replacement Strategy
Operational Management Program	Costs are divided into resource costs, hardware costs and software costs in the Prudence and Efficiency Test. No information on how the three categories were calculated is provided
Alliance Program Management	High level itemised costs provided in supporting documentation in addition to results of an independent review
Round Mountain Reservoir and Link Mains	Costs based on tendered contractor and supplier costs and estimates by a independent estimator
Logan Village Treatment and Effluent Reuse Upgrade	Low level detail on capital costs provided on email dated 7 <sup>th</sup> October 2011
Currumbin Waters - Water Supply District Upgrade	High level itemised costs provided in the Project Initiation Plan



In the projects reviewed there is no entity wide constant approach to cost estimation of capital items.

■ **Table 7 Cost estimating – preliminary and general items**

Project	Preliminary and general items
Alfred Street to Loganholme WPCCC Rising Main Augmentation	16% of the total project cost is for design management, tender management and tender assessment.
ERP Base Infrastructure Program	No information supplied
Billing System (tactical)	Costs detailed in the Design Stage Plan
Burleigh WWPS B47 RM & GM upgrade	15% of construction cost has been allowed for design, survey, management and approval costs
Meter Renewals program	No information provided
Operational Management Program	No information provided
Alliance Program Management	No information provided
Round Mountain Reservoir and Link Mains	Included with design, project management, environment management and direct costs
Logan Village Treatment and Effluent Reuse Upgrade	No information provided
Currumbin Waters - Water Supply District Upgrade	Included within internal costs

In the projects assessed there is no consistent approach to cost estimation for preliminary and general items.

■ **Table 8 Cost estimating – contractor margins**

Project	Contractor Margins
Alfred Street to Loganholme WPCCC Rising Main Augmentation	No information provided
ERP Base Infrastructure Program	No information provided
Billing System (tactical)	No information provided
Burleigh WWPS B47 RM & GM upgrade	No information provided
Meter Renewals program	No information provided
Operational Management Program	No information provided
Alliance Program Management	██████████
Round Mountain Reservoir and Link Mains	No information provided
Logan Village Treatment and Effluent Reuse Upgrade	No information provided
Currumbin Waters - Water Supply District Upgrade	No information provided

There is insufficient information to draw a conclusion on the approach to cost estimation for contractor margins.



■ **Table 9 Cost estimating – design fees**

Project	Design Fees
Alfred Street to Loganholme WPCC Rising Main Augmentation	16% of the total project cost is for design management, tender management and tender assessment.
ERP Base Infrastructure Program	No information provided
Billing System (tactical)	No information provided
Burleigh WWPS B47 RM & GM upgrade	No breakdown provided. Design cost included sum including survey, management and approval costs (total sum is 15% of construction cost)
Meter Renewals program	No information provided
Operational Management Program	No information provided
Alliance Program Management	██████
Round Mountain Reservoir and Link Mains	Included with design, project management, environment management and direct costs
Logan Village Treatment and Effluent Reuse Upgrade	No design fees
Currumbin Waters - Water Supply District Upgrade	No information provided

In the projects assessed, no standardised approach to the calculation of design fees is identifiable from the supporting documentation.

■ **Table 10 Cost estimating - contingency**

Project	Contingency
Alfred Street to Loganholme WPCC Rising Main Augmentation	20%
ERP Base Infrastructure Program	Nil
Billing System (tactical)	26%
Burleigh WWPS B47 RM & GM upgrade	20%
Meter Renewals program	Nil
Operational Management Program	Nil
Alliance Program Management	Nil
Round Mountain Reservoir and Link Mains	2.8%
Logan Village Treatment and Effluent Reuse Upgrade	Nil
Currumbin Waters - Water Supply District Upgrade	Nil

In the projects assessed there is no standardised approach to the calculation of contingency.

From the above assessment of the projects reviewed we conclude that Allconnex Water is yet to implement a constant and standardised approach to cost estimation.





#### 5.1.4. Major projects summary document

Major projects are defined as those having expenditure for the entire project of greater than \$250,000 as per the three categories outline in **Table 16** below. Allconnex Water has developed a standardised summary document for these projects known as a Prudency and Efficiency Test document. This document has an appropriate structure and relevant ‘fields’ to communicate the necessary information to facilitate prudent decision making and to support regulatory review.

The completion of the Prudency and Efficiency test document for the sample projects reviewed is listed in **Table 11** below. The completion of this document may not have occurred for the Alliance Program Management project and the Round Mountain Reservoir and Link Mains projects due to the initiation of these projects from within the Logan Water

■ **Table 11 Review of documentation completed for projects reviewed**

Project	Value in review period (\$M)	Major project	Standard report
Alfred Street to Loganholme WPCCC Rising Main Augmentation	\$70.407	Yes	Yes - Prudency and Efficiency Test
ERP Base Infrastructure Program	\$9.123	Yes	Yes - Prudency and Efficiency Test
Billing System (tactical)	\$8.267	Yes	Yes
Burleigh WWPS B47 RM & GM upgrade	\$7.600	Yes	Yes
Meter Renewals program	\$15.347	Yes	No
Operational Management Program	\$10.236	Yes	Yes - Prudency and Efficiency Test
Alliance Program Management	\$3.933	Yes	No
Round Mountain Reservoir and Link Mains	\$5.000	Yes	No
Logan Village Treatment and Effluent Reuse Upgrade	\$2.728	Yes	Yes - Prudency and Efficiency Test
Currumbin Waters - Water Supply District Upgrade	\$0.670	Yes	Yes - Prudency and Efficiency Test

The above information indicates that while there is a requirement for the use of standardised documentation, this has not been universally applied.



### 5.1.5. Major project implementation strategy

From review of information provided in the Allconnex Water 2011/12 Information Return and supporting documentation for the review of sample projects it is evident that Allconnex Water is not implementing a consistent implementation strategy to all major projects.

However, the majority of projects do have documentation recommending delivery methodology, a delivery program and a risk review process. These are provided in different documents for different projects.

Our review of the effectiveness of the implementation strategy has been limited by the sample of capital projects selected. This is due to some of the projects being put on hold and others being initiated by participating councils prior to the creation of Allconnex Water such as the Logan Village Treatment and Effluent Reuse Upgrade

The completion of this document for the sample projects reviewed is listed in **Table 13** below.

■ **Table 12 Review of documentation completed for projects reviewed**

Project	Value in review period (\$M)	Implementation strategy
Alfred Street to Loganholme WPCP Rising Main Augmentation	\$70.407	Project Initiation Form
ERP Base Infrastructure Program	\$9.123	Significant Procurement Plan
Billing System (tactical)	\$8.267	Project Plan, Significant Procurement Plan
Burleigh WWPS B47 RM & GM upgrade	\$7.600	Project Plan
Meter Renewals program	\$15.347	Strategic ICT Vision
Operational Management Program	\$10.236	No
Alliance Program Management	\$3.933	Project Initiation Form
Round Mountain Reservoir and Link Mains	\$5.000	Project Initiation Form
Logan Village Treatment and Effluent Reuse Upgrade	\$2.728	No
Currumbin Waters - Water Supply District Upgrade	\$0.670	Project Initiation Form Project Initiation Form, Project Plan

Notwithstanding the above, from the documentation reviewed and interviews completed, there is evidence that Allconnex Water is establishing processes and procedures with a view to ensuring a consistent approach to implementation strategy and its documentation.



### 5.1.6. Gateway reviews

Allconnex Water advises that in order to address the recommendation made in the Authority's final report in 2010 a Corporate Portfolio Management Office (CPMO) has been established. The CPMO will be responsible for project assurance through the application of the Allconnex Water Gateway framework.

Within its 2011/12 Submission Allconnex Water states:

*“The Gateway framework, derived from an industry standard, includes five investment decision points supported by guidelines and templates. The framework is structured to accommodate projects and programs of all complexities and includes provision for external, internal and self-assessment reviews.”*

According to Allconnex Water the data required for analysis and reporting has been identified and templates have been developed and trialled. However the implementation of the gateway framework has been suspended as a result of participating councils deciding to disestablish Allconnex Water. No supporting documentation has been provided on the process or information as to which projects the process will be applied.

We believe that this does not meet the requirement set out by the Authority, however due to the decision by the participating councils to disestablish Allconnex Water it is understandable that the project has been placed on hold until the future of the Allconnex Water business is clarified.

### 5.1.7. Indexation

Allconnex Water has adopted the inflation forecasts reported in the Economic Statement issued by the Australian Government in July 2010 for 2011/12 onwards (2.5%). Within its 2011/12 Submission Allconnex Water acknowledges that its approach is different to that proposed by the Authority in its Information Requirement document, it is however consistent with indexation factors applied by the Authority in recent investigations.

The indexation factor adopted by Allconnex Water is also consistent with the indexation factor applied by Queensland Urban Utilities. A comparison of indexation factors applied by the entities for capital expenditure is outlined below in **Table 13** and those applied for operational expenditure is provided in **Table 14**.



■ **Table 13 Comparison of indexation (%) for capital expenditure**

Entity	Cost index		
	2011/12	2012/13	2013/14
Queensland Urban Utilities <sup>a</sup>	2.5	2.5	2.5
Allconnex Water <sup>a</sup>	2.7	2.5	2.5
Unitywater <sup>b</sup>	3.07	3.07	3.07

Note: <sup>a</sup> Mid-point of Reserve Bank of Australia target inflation band; <sup>b</sup> determined by the difference between the RBA return on the market rate for five year bonds and five-year capital indexed bonds

■ **Table 14 Comparison of indexation (%) for operational expenditure**

Entity	Year	Expense group					
		Labour (direct & indirect)	Electricity	Chemicals	Sludge handling	Other costs	Non-revenue water
Queensland Urban Utilities	2011/12 <sup>a</sup>	4.5	5.8	4.0	4.0	2.5	As per bulk water price path
	2012/13	4.25	6.2	2.75	2.75	3.0	
	2013/14	3.7	6.2	3.0	3.0	2.5	
Allconnex Water	2011/12	4.0 <sup>b</sup>	6.6 <sup>c</sup>	2.7 <sup>e</sup>	NA	2.7 <sup>e</sup>	NA
	2012/13	4.0 <sup>b</sup>	10.4 <sup>d</sup>	2.5 <sup>e</sup>	NA	2.5 <sup>e</sup>	NA
	2013/14	4.0 <sup>b</sup>	10.4 <sup>d</sup>	2.5 <sup>e</sup>	NA	2.5 <sup>e</sup>	NA
Unitywater	2011/12	NA	NA	NA	NA	NA	NA
	2012/13	4.0 <sup>f</sup>	6.54 <sup>g</sup>	3.0 <sup>h</sup>	3.0 <sup>h</sup>	3.0 <sup>h</sup>	3.0 <sup>h</sup>
	2013/14	4.0 <sup>f</sup>	6.54 <sup>g</sup>	3.07 <sup>h</sup>	3.07 <sup>h</sup>	3.07 <sup>h</sup>	3.07 <sup>h</sup>

Note: <sup>a</sup> budget year; <sup>b</sup> based on Allconnex Water's 2010-11 staff costs, small changes in the business' operational headcount; <sup>c</sup> QCA, Final Decision Benchmark Retail Cost Index for Electricity: 2011-12 May 2011; <sup>d</sup> QCA Benchmark Retail Cost Index for Electricity – various papers 2007-08 to 2010-11; <sup>e</sup> Commonwealth Government, Economic Statement, July 2010; <sup>f</sup> Current budget assumption reflects 0.5% salary progression above EBA; <sup>g</sup> Cost index: BRCI for 2011/12 published by QCA; <sup>h</sup> 2012/13 - CPI target from RBA, 2013/14 – CPI consistent with asset indexation.

We conclude from the above that there is not a consistent approach to cost indexation across the entities.

**CPI as a proxy for infrastructure cost escalation**

As the name suggests the Consumer Price Index was developed to map the cost of living for typical consumers in the public domain.

Allconnex Water has adopted CPI for certain items and other indices where appropriate such as BRCI for electricity or the EBA agreement for labour. It was generally accepted by Allconnex Water during our interviews that CPI is not an ideal index as it covers the whole of the economy, however, it is the most widely applied and readily available index.

We consider there is more work that Allconnex Water can do to fully understand the components of the costs that are sensitive to indexation and improve cost escalation forecasting, including:



- Tracking actual cost escalations against CPI to determine the suitability of CPI
- Identification of the cost drivers for each cost category and their sensitivities (eg external labour costs, fuel and transport, exchange rate volatility, raw materials)

In our assessment CPI should only be used where other, more specific, information is not available. This is of particular importance where Allconnex Water is budgeting expenditure using the previous year's expenditure, and then simply applying a growth and cost escalation index.

#### **5.1.8. SKM's assessment**

Allconnex Water has made significant progress in implementing policies and procedures to address the initiatives outlined by the Authority with the exception of a constant approach to project cost estimation and implementation of a gateway review process. However we recognise that the implementation of a gateway process has been put on hold following the participating councils' decision to disestablish Allconnex Water.

### **5.2. Budget Formation**

This section identifies our understanding of good industry practice for budget formation for capital expenditure and operating costs and compares the processes used by Allconnex Water to this practice and implementation of a standardised project delivery strategy procedure.

#### **5.2.1. Allconnex Water capital project budgeting process**

Allconnex Water's original budget and regulatory submission for 2010-11 was largely based on a consolidation of forecasts for the three council businesses. Since then, we understand that Allconnex Water has invested significantly in new systems and processes to support more robust financial reporting and projections, including the production of a consistent and harmonised budgeting process.

Allconnex Water's capital expenditure budget is based on a zero-based approach. Based on its 2011/12 Submission, we understand that the formation of the capital expenditure budget is based on infrastructure and asset requirements identified in various planning reports, Strategic Asset Management Plans, Total Management Plans, Priority Infrastructure Plans and corporate systems required for Allconnex Water to operate without reliance on council SLAs.

We consider the application of zero-based budgeting to reflect good industry practice for the formation of a capital expenditure budget. We recommend that Allconnex Water continues to develop its capital budget formation process, including developing close links with capital planning and asset management procedures.



Allconnex Water has developed a Capital Program Budget Guideline. The purpose of this budget guideline is to enable Allconnex Water to budget capital expenditure requirements for the Gold Coast, Logan and Redland cities water, wastewater and recycled water networks in a timely, transparent, prudent and efficient manner.

This guideline is closely aligned to the Authority's requirements for prudence and efficiency. The guideline states that *'a project will only be included in the short term capital work program (1 to 3 years) when it satisfies the prudent and efficiency test'*. This test is aligned to the Authority's definitions of prudence and efficiency.

The following table highlights some of the processes undertaken by Allconnex Water in the formation of its capital program.

■ **Table 15 Milestones in the formation of Allconnex Water's capital program**

Milestone	Key date
Issue 2011/12 Capital program budget guidelines and associated data template	14 December 2010
Information sessions held for officers involved in the preparation of capital works programs	15 and 16 December 2010
Infrastructure Services Strategic Group Managers and Group Managers workshop to review 2010/11 budget reforecast	12 January 2011
Individual information sessions between Finance and officers involved in the development of capital works program (upon request only)	5 January to 28 January 2011
Completed data templates returned to Finance	4 February 2011
Finance consolidation and review	7 to 11 February 2011
Finance and relevant EMT member review session	13 to 18 February 2011
Relevant EMT members endorse Department capital program	25 February 2011
Capital program entered into Financial and Regulatory Models	25 February 2011

Source: *Capital Program Budget Guideline* (Allconnex Water, 2011)

The above table highlights that various reviews have been undertaken of the capital program. We consider the review and approval process for the capital expenditure program to be in line with good industry practice.

The level of review and approval required depends on the value of the works. The table below shows the sign off levels required.



■ **Table 16 Level of review required by project value**

Type	Works value	Consult value	Proposed	Supported	Reviewed	Recommend	Endorsed	Approved
<b>Major Works</b>								
Project specific	> \$5M	>\$1M	SGM (PID)	SGM (All)	PIDC	COO	CEO	Board
Project specific and programs	\$1m to \$5M	\$200k to \$1M	GM	SGM (PID)	ISMT	SGM (All)	COO	CEO
Project specific and programs	< \$1M	<\$200k	Senior Manager	GM	SGM	SGM (PID)	SGM (All)	COO
<b>Minor Works</b>								
Project specific and programs	< \$250k	<\$50k	All Staff	Senior Manager	GM	SGM (OMMW)	GM AMOS GM PQT	SGM PAM

Notes:

CEO - Chief Executive Officer

COO - Chief Operating Officer

SGM - Strategic Group Manager

SGM PAM – Strategic Group Manager Product and Asset Management

SGM PID – Strategic Group Manager Planning and Infrastructure Delivery

SGM OMMW - Strategic Group Manager Operations, Maintenance and Minor Works

GM - Group Manager

GM AMOS - Group Manager Asset Management and Operational Strategy

GM PQAT - Group Manager Product Quality and Testing

We consider that the review and approval of projects within the capital expenditure program by a suitably authorised person depending on the value of the works, to be in line with good industry practice.

**5.2.2. Allconnex Water operational expenditure budgeting process**

We have reviewed the guidelines for the preparation of 2011/12 Allconnex Water budgets. The document provides a comprehensive guide to the development and approval process for the operating budgets including:

- Outline of the budget process
- Who has approved the process
- Responsibilities
- Budget approval and development
- Parameters to be applied (eg CPI)
- Review and approval programme/timetable



- Schedules to be produced

The majority of recurring expenditure is estimated from historical data, with growth and cost escalation indices applied. Budgets are adjusted as necessary to reflect identified efficiencies, constraints and one-off expenditure items.

From our discussions with Allconnex Water, we understand that proposed budgets underwent a number of iterations before sign-off by management and the Allconnex Water board of directors.

### **5.2.3. Good industry practice for CAPEX and OPEX budgeting**

The following outlines what we consider to be good industry practice in capital expenditure and operating costs budgeting for regulated utilities. Most utilities use two basic forecasting approaches to develop capital expenditure and operating costs budget forecasts for their regulated businesses.

The first approach – “base year” forecast – involves extrapolating historical expenditure for a particular expenditure category. It generally requires justification that the base year expenditure is reasonable and efficient and that any one-off costs that would not be expected to apply in future years are identified and excluded from forecasts.

The second approach – “bottom-up” forecast – is developed by forecasting work units or quantities and standard unit rates. This type of forecast should be supported by explanation and justification of the work units forecast and that the unit rates proposed are reasonable and efficient.

It is not uncommon for a utility to use both of these approaches, with operating costs forecasts primarily driven by a base year extrapolation and capital expenditure forecasts by a bottom up approach, on a project-by-project basis.

#### **Capital project budgeting**

Capital project spend in a regulated business is required to be assessed against standard criteria of prudence and efficiency. That is, the following questions have to be answerable in the affirmative for any given project:

- Is the project needed for the regulated industry to deliver the level of service required in the future and is the timing of the project prudent?
- Is the cost reasonable (within industry norms) for such a project?

An underpinning tenet of an organisation’s ability to demonstrate that its capital project expenditure programme is prudent and efficient is a good governance process for capital expenditure approvals.





We believe that good industry practice for the development of a capital projects budgets includes the following:

- The identification of projects which meet the requirements of prudence and efficiency
- Project prioritisation, including prioritisation across programs of work
- Consideration of the timing of projects and the ability to deliver the capital program
- A defined review and approvals process, including documentation of this process

In respect of supporting documentation required to gain approval for capital expenditure for a given capital project, we believe good industry practice should include:

- A phased process, starting with a project outline, through to defined requirements for business cases and final approvals
- A tiered structure, with differentiated requirements and degrees of documentation and review for projects depending on their cost
- Fully supported capital expenditure approval documentation incorporating:
  - The project background/rationale
  - The project drivers, including reference to the Authority's drivers
  - The options reviewed to address the drivers, including the method of selecting the preferred option
  - Fully costed and financially evaluated option studies, including a "do nothing" option, preferably on a present value, or, if appropriate, a net present value basis
  - Where capital is constrained, explanation of why a project is proposed over others that may adhere to the above requirements
  - A defined scope of works for the preferred option
  - The identification of project risks and how they will be managed
  - A breakdown of the approved project cost and the basis of this cost estimate, including defined cost estimating procedures, including the treatment of contingencies
  - The critical success factors of the project
  - An implementation plan

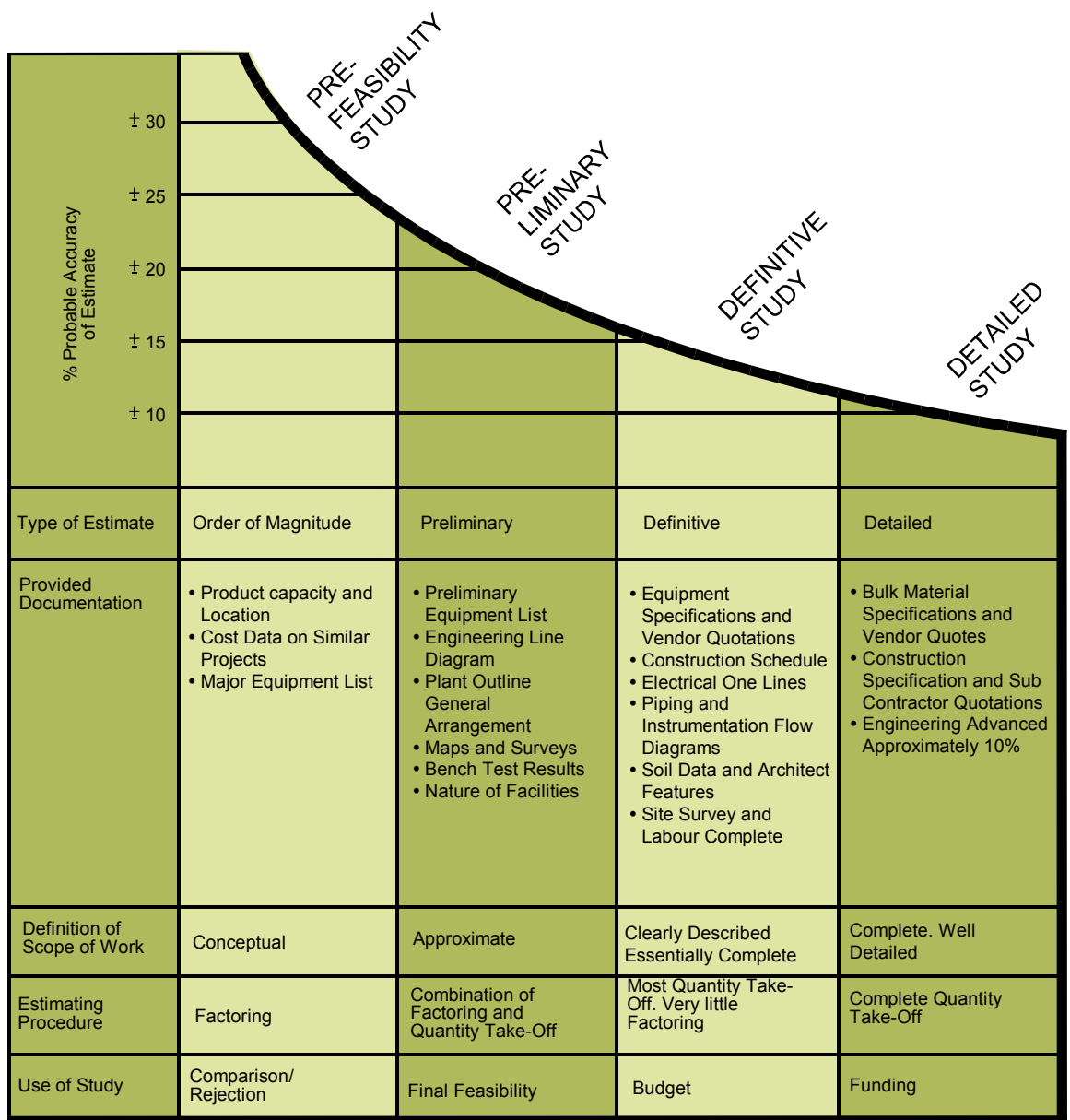
For historic projects, the process should address:

- How the project was implemented
- How the project performed – successes and lessons learned
- How the project addressed the original need
- How the project addressed the critical success factors



- How the as-built cost compared with the original estimate
- If the as-built cost of the project changed the order of merit of the options considered at the options analysis stage

The level of supporting documentation will be dictated by the project size, project cost and the respective sign-off authority level within an organisation. The chart below illustrates the kind of detail we believe should be presented, and notes that the estimates used for many projects can be expected to have uncertainty of 30% or more.





■ **Figure 2 Typical estimation accuracies and expected documentation**

In addition, the overall capital expenditure programme should be weighted equally through the respective regulatory periods. This strategy maintains steady and reliable stream of work for construction contractors and reduces the price impacts of the substantial capital works programmes during earlier years of the regulatory period.

**Operational expenditure budgeting**

In a regulated business it is necessary to demonstrate that a forecast operating costs budget is efficient and that the spend is necessary to maintain the required level of regulated service delivery, to meet or exceed regulated service delivery standards. Equally as important is the necessity to ensure efficient operation of assets delivering regulated services to enable them to continue to contribute to the regulated services efficiently over their remaining economic or specified life.

A further objective of operating costs budgeting is to achieve ongoing efficiency improvements of operational assets. Therefore, good industry practice for appropriate operating costs budgeting is generally based on the development of sound asset management and maintenance strategies that can improve the reliability and remaining operating life of assets. These strategies are, in turn, based on detailed and accurate asset registers that contain detailed asset information, not least:

- Asset age
- Installation/commissioning dates
- Date and nature of major modifications/upgrades
- Asset condition
- Remaining asset life

The starting point for measuring the efficiency of operating costs budgeting should be the *actual* expenditure in a base year. This should be assessed for efficiency and adjusted, if necessary, to a level considered to be reasonably efficient. Future-year operating costs forecasts are then based on extrapolating these base year costs against appropriate indices, taking into account planned and expected material changes to the asset base in future years and material changes in operation and maintenance practices.

A regulated utility's forecast operating costs over the upcoming regulatory period is an important input to the revenue forecasting process.

Typically, a regulator must review the extent to which the forecast operating costs is consistent with the provision of an annual revenue requirement consistent with the general regulatory principles of the regulated industry in question. These principles are that the allowed annual revenue requirement or maximum allowable return must fairly compensate the regulated utility for the economically efficient costs and risks it incurs in providing regulated services, to encourage:



- A stable and transparent commercial environment which does not discriminate between users
- The same market outcomes as would be achieved if the market for its regulated services was contestable
- Competition in the provision of its regulated services wherever practicable
- The commercial viability of the regulated utility, through the recovery of efficient costs associated with the regulated services, and a reasonable return on the utilities approved capital invested in its regulated assets and business systems
- Recovery of only those costs related to the provision of the regulated services
- Fairness in the charges made for the regulated services, including the progressive removal of cross-subsidies
- Maintenance of service delivery levels subsisting at the beginning of a regulatory period and an improvement of service delivery levels during the period contemplated by a regulator's final decision
- Maintenance of the regulated assets such that, at the end of regulatory period, the regulated assets are able to continue to provide regulated service delivery without above-average expenditure on upgrades or critical maintenance and continue the service delivery levels previously achieved

The nature of operating costs means there are elements that are controllable, such as deferring or bringing forward maintenance, or the amount of overtime worked. Moving to outsourcing or contracting some services can lead to apparent changes in operating costs within affected categories, particularly if the contracted services appear against a different operating costs category (for example, moving maintenance to “admin and general” if this is how the contracted services are categorised).

To understand the efficient level of operating costs requires an understanding of these underlying drivers, and the extent to which operational and accounting decisions will affect operating costs in individual years and over a regulatory period being reviewed.

Where operating costs varies from one year to another, a regulator will, by necessity, seek information that explains the underlying causes of these variations to determine the representative level of operating costs for an efficient base year.

This reasonably efficient level of expenditure should then be escalated forward through each year of the regulatory period under review, on the basis of its sensitivity to changes in the key drivers of an expenditure category and recognising material changes in the asset base in future years. For



example, the key driver of meter-reading costs is likely to be customer numbers, since meter reading costs will increase as the number of customer accounts increase<sup>3</sup>.

In undertaking this analysis, due account should be taken of the sensitivity of expenditure in a particular cost category to its key cost driver. Meter-reading costs, for example, have a high variable cost component and will therefore be very sensitive to customer numbers, whereas customer account supervision costs are largely fixed and will be much less sensitive to customer numbers. Historical expenditure trends in a particular cost category may be analysed to help assess the appropriate sensitivity of expenditure to a key cost driver. Similarly, plant operating costs will be split between fixed and volume-related costs.

Equally, customer densities, terrain over which the regulated assets are built, climate and economic conditions (such as strength of an economy and resultant impact on contractor costs), can impact on a regulated industries operational expenditure.

#### **5.2.4. Comparison of Allconnex Water's budgeting process with good industry practice**

As mentioned in Section 5.2.1 Allconnex Water's capital project budgeting process is based on a zero based bottom up approach which is consistent with good industry practice

Similarly, our assessment of the procedures and processes used by Allconnex Water to formulate the operating budget for 2011/12 is that they are representative of good industry practice.

We note however, that a base year that is known to be representative of efficient operating expenditure does not appear to have been established. This may in part, be due to the maturity of the business and that integration of the business is still occurring. We understand that a number of the programs and strategies necessary to collate sufficient information required to establish and assess an efficient base year for the business are set out in Allconnex Water's Five Year forward Plan and as part of the company wide ERP project.

### **5.3. Standards of service review**

Allconnex Water has provided details of its service standards in Section 7 of its 2011/12 Submission. This addresses customer service standards including complaints and dispute resolution, customer consultation, accounting, metering or billing as well as design standards for both water and wastewater.

Allconnex Water's operating obligations are contained in the following legislative instruments:

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<sup>3</sup> The number of customer accounts is considered a more relevant driver than the number of active meters since most of a meter reader's time is spent moving from one customer to the next.



- *Water Act 2000*
- *Water Supply (Safety and Reliability) Act 2008*
- *Sustainable Planning Act 2009*
- *Environmental Protection Act 1994*
- *Environmental Protection (Water) Policy 2009*
- *South-East Queensland Water (Distribution and Retail Restructuring) Act 2009*
- *Customer Water and Wastewater Code, Queensland Water Commission 2011*

### **5.3.1. Customer service standards**

On 1 January 2011, a Customer Water and Wastewater Code were released by the (then) Minister for Natural Resources, Mines and Energy and Minister for Trade. This document sets out the rights and obligations of water distributor-retailers and their customers relating to the availability of water and sewerage services. The Customer Water and Wastewater Code covers customer service obligations, as well as the rights of all residential customers and those small business customers that are using less than 100 kilolitres of water per year. The code requires water distributor-retailers to have a customer service charter and customer service standards. The charter is to set out the rights and obligations of both service provider and customer, while the service standards present the minimum and guaranteed service standards.

To meet the requirements of the Water Supply (Safety and Reliability) Act 2008, Allconnex Water had a responsibility to align and establish Customer Service Standards across the regions by 1 July 2011. Allconnex Water satisfied this requirement and published the consolidated service standards on its website and provided it to customers. Within its 2011/12 Submission Allconnex Water states:

*“Allconnex Water’s CSS are based broadly on an amalgamation of the three previous council customer and planning standards. While the consolidation of a single source document has been an early regulatory requirement, there has to date been little opportunity to either validate the current Service Standards with customers, or to analyse and engage with customers on the costs and benefits of alternative Service Standards.”*

The legislation for the water reform transitioned the Strategic Asset Management Plans (SAMPs) and related service standards and customer service standards from councils to Allconnex Water as at 1 July 2010. Accordingly, these service standards applied from 1 July 2010 until changed in 1 July 2011.

These consolidated service standards will be included within Allconnex Water’s NetServ plan, which will replace the SAMP and other plans. The plan must provide an overview of Allconnex



Water's infrastructure planning and development over the next 20 years and support and reflect the SEQ Regional Plan, and the land use planning and assumptions of Allconnex Water's Participating councils. The Water NetServ Plan will be a key tool for future streamlined asset management and economic regulation, bringing together a number of asset and planning related activities, such as strategic asset management plans (SAMPs) and priority infrastructure plans (PIPs) undertaken in accordance with the *Sustainable Planning Act 2009*. Allconnex Water is required to have its NetServ Plan in place by 1 July 2013.

Allconnex Water indicates that the delivery of the Water NetServ Plan is underway, which includes desired levels of service for infrastructure planning, with a draft for consultation to be completed by 30 June 2012. Within its 2011/12 Submission Allconnex Water states:

*“From September to December 2010 initial planning was undertaken with the output being a project plan for the development of the NetServ Plan. The project plan outlined three stages of development:*

- *Stage 1 – first draft*

*Stage 1, the development of the first draft of the NetServ Plan, has commenced. The first draft will document the current state and identify any opportunities for Allconnex Water to consolidate existing plans, methodologies and technical standards.*

- *Stage 2 – second draft*

*The second draft of the Plan will benefit from up to another 12 months of business consolidation. It is expected that most, if not all of the gaps and planning variances identified in the first draft will be resolved. The second draft will also be informed by Allconnex Water's liaison with each of the participating councils with regard to their revised Planning Scheme and Total Water Cycle Management Plan.*

- *Stage 3 – consultation, final draft, endorsement and adoption (by 30 June 2013).*

*The final stage of the project will involve public consultation, further liaison with the councils, finalisation of the proposed plan, endorsement by the Planning Minister and the councils, and adoption by the Allconnex Water Board.”*

We believe that the development of a NetServ Plan provides a good opportunity for Allconnex Water to develop a consistent and structured approach to planning for all districts.



### 5.3.2. Design standards

Allconnex Water advises that it is developing a single Desired Standards of Service (design and construction manual) which will be a key element in its infrastructure planning process. Within its 2011/12 Submission Allconnex Water states:

*“The desired standard of service will define the operating and design parameters for the network. Desired standards of service define the units of demand for residential (single family and multi residential) and non-residential customer types. A bottom-up approach is used to determine the average day demand using a number of years of historical billed water consumption from the residential sector. Other factors that impact demand and the desired standards of service that are taken into consideration include water restrictions that were in place, PWUM, water from alternate sources, consumption patterns, the Queensland Building Code, climate risk, non-revenue water (system losses) and mandated operating/design criteria. As a consequence of these considerations, demand derived via this method is generally more conservative than medium-term demand forecasts.”*

No supporting documentation was provided outlining specific design standards to be adopted by Allconnex Water. As outlined above, Allconnex Water has developed a consolidated set of customer service standards applicable to all customers within the service area. We understand that it is progressing well with the development of its NetServ Plan and will be completed within the proposed timeframe.

A high-level comparison of the customer standards currently used by the entities is shown in **Table 17**. Where information is provided, the service standards are comparable for each of the entities, with the exceptions of non-urgent response times.

### 5.3.3. SKM’s assessment

As outlined above, Allconnex Water is developing a single consolidated set of design standards of service applicable to all customers within the service area. Notwithstanding that this has not been employed, the source document from which the consolidated set of design standards are contemporary and relevant. Consequently we expect that this consolidated set will be appropriate.

It is noted that the Urban Land Development Authority is managing the development of some areas within the Logan District. The Urban Land Development Authority is not required to adhere to these design standards. Consequently, where infrastructure in these Urban Land Development Authority areas is implemented below the design standards, a negative legacy is being created, due to the universal application of the design standards to be implemented when Allconnex Water becomes responsible for the water services in the Urban Land Development Areas merged area.





The determination of the driver assigned with this increase in standard is likely to be difficult, and the associated cost is likely to be inefficient.

It is understood that this issue is being discussed between the relevant parties.



■ **Table 17 Comparison of standards of service**

	Queensland Urban Utilities	Allconnex Water	Unitywater	Comment
<b>Water</b>				
Health, physical and chemical	100% Tests meeting NHMRC Australian Drinking Water Guidelines	98% Tests meeting NHMRC Australian Drinking Water Guidelines	>98% of tests that comply with Australian Drinking Water Guidelines	The service standards are comparable
Complaints	Water quality complaints ≤8 complaints per 1000 properties per year	Water quality complaints <5 per 1000 properties connected per year	Drinking water quality complaints <10 per 1000 properties connected per year	The service standards are comparable
Incidents	Water quality incidents ≤10 per 1000 properties per year	No information provided	Water quality incidents <5 per 1000 properties connected per year	Of the information available the supply volumes are comparable
Water supply	90% restoration of services within 5 hours	95% restoration of services within 5 hours	>90% restoration of services within 5 hours following a “priority 1” event	The service standards are comparable
Incident response – high priority	100% response time for “urgent” events within 1 hour for urban areas 100% response time for “urgent” events within 2 hours for rural areas	80% response time for “priority 1” events within 1 hour	>90% response time to “priority 1” events within 1 hour	The service standards are comparable
Incident response – non-urgent	100% response time for “non-urgent” events within 24 hours for urban areas 100% response time for “non-urgent” events within 72 hours for rural areas	80% response time within 36 hours for “non urgent” fault, but significant in the belief of the customer (“priority 3”)	>95% response time to “non-urgent” events within 48 hours	The service standards are comparable
Planned interruptions	Minimum of 48 hours notification of planned interruptions		Minimum of 48 hours notification of planned interruptions	Of the information available the supply volumes are comparable

# SEQ Interim Price Monitoring: Assessment of Capital and Operational Expenditure

Queensland Urban Utilities, Allconnex Water and Unitywater



	Queensland Urban Utilities	Allconnex Water	Unitywater	Comment
Unplanned interruptions to supply	Unplanned less than or equal to 100 per 1000 connections per year	Unplanned less than 150 per 1000 properties connected per year	Unplanned less than 15 per 1000 properties connected per year Unplanned interruptions to supply <30 per 100 km of main per year	Unitywater has a tighter service standard, while the others are comparable
Interruptions	No information provided	No information provided	No information provided	Information was not available
Pressure	Water pressure for urban areas >210kPa min ( <i>21m head</i> ) Water pressure for trickle feed and private booster areas >100kPa min ( <i>10m head</i> )	>22 metres static head in the main adjoining the property boundary ( <i>220kPa</i> )	Water pressure at property boundary >210kPa ( <i>21m head</i> )	The service standards are comparable
Volume	Minimum 25 litres per minute at the meter for urban areas Minimum 3.2 litres per minute at the meter for rural, trickle feed areas	No information provided	Minimum 23 litres per minute at the meter	Of the information available the supply volumes are comparable
<b>Wastewater</b>				
Incident response - Priority	100% response time for "urgent" events within 1 hour for urban areas 100% response time for "urgent" events within 2 hours for rural areas	80% response time for "priority 1" events within 1 hour	>90% response time to "priority 1" events within 1 hour	The service standards are comparable
Incident response – non-urgent	100% response time for "non-urgent" events within 24 hour for urban areas 100% response time for "non-urgent" events within 72 hour for rural areas	80% response time within 36 hours for "non urgent" fault, but significant in the belief of the customer ("priority 3")	>95% response time to "non-urgent" events within 48 hours	The service standards are comparable

# SEQ Interim Price Monitoring: Assessment of Capital and Operational Expenditure

Queensland Urban Utilities, Allconnex Water and Unitywater



	Queensland Urban Utilities	Allconnex Water	Unitywater	Comment
Sewerage overflows	No information provided	Dry weather wastewater overflows less than 20 per 100kms of mains per year	Dry weather wastewater overflows less than 5 per 100kms of mains per year	Unitywater has a tighter service standard
	No information provided	Dry weather overflows affecting customers less than 5 per 1000 properties per year	Dry weather overflows affecting customers less than 5 per 1000 properties per year	Of the information available the supply volumes are comparable
Odour complaints	No information provided	Less than 3 per 1000 properties connected	Less than 3 per 1000 properties connected	Of the information available the supply volumes are comparable
Sewer main breaks	No information provided	Sewer main breaks and chokes less than 50 per 100kms of mains per year	Sewer main breaks and chokes less than 25 per 100kms of mains per year	Of the information available the supply volumes are comparable
Sewer infiltration	No information provided	No information provided	No information provided	Information was not available



#### 5.4. Asset management and condition assessment

As discussed previously, the NetServ Plan will replace a number of previous planning documents. This includes the Customer Service Standards, the Strategic Asset Management Plan, the Total Management Plan and the System Leakage Management Plan. It will also reference the Drinking Water Quality Management Plan, the Trade Waste Management Plan and the Recycled Water Management Plan which will remain as separate statutory plans after the introduction of the NetServ Plan. Overall, the Plan will cover water supply and wastewater services (including collection, treatment and trade waste management) over the entire asset lifecycle from infrastructure planning to renewal.

Within its 2011/12 Submission Allconnex Water states:

*“The formation of the capital expenditure budget is based on infrastructure and asset requirements identified in various planning reports, Strategic Asset Management Plans, Total Management Plans, Priority Infrastructure Plans and corporate systems required for Allconnex Water to operate without reliance on council Service Level Agreements.”*

Allconnex Water advises that the business had planned upon the acquisition of an Enterprise Asset Management system as part of the Enterprise Resource Planning implementation. Implementation of an Enterprise Asset Management (integrated with GIS capability) would provide much needed capacity for building asset management capability within the business. This project is currently on hold due to uncertainty around the entity’s future.

Allconnex Water provided its *Asset Management Strategy* (Allconnex Water 2010) the purpose of which is to outline the strategic priorities for January 2011 to June 2014 for the management of infrastructure assets. A key focus is the management of Allconnex Water’s asset-intensive business by managing risks and obtaining best value from the life of the assets. The expected outcomes of the strategy are:

- Asset management effectiveness and efficiency resulting in maximum utilisation and economic value of assets over their lifetime
- Customer standards for safe and reliable products and services are achieved or exceeded

Within the strategy Allconnex Water defines two key result areas; product quality and asset lifecycle planning. Product quality relates to customer and environmental requirements for safe and reliable products to be achieved while lifecycle planning relates to asset management effectiveness and efficiency resulting in maximum utilisation and economic value of assets over their lifetime.

The methodology for the implementation of the strategy has yet to be determined.



The *Asset Management Strategy* (Allconnex Water 2010) provided by Allconnex Water does not specify how assessments of asset condition are conducted.

One of the key initiatives and programs identified in the strategy is to develop a reliability (condition and criticality) based planned maintenance program. Within the *Asset Management Strategy* (Allconnex Water 2010) Allconnex Water states:

*“Reliability of assets is critical to support customer service outcomes and to retain shareholder and stakeholder confidence. A risk-based approach to asset management based on criticality analysis and condition assessment is the most cost effective approach to achieving asset reliability targets. Work has commenced on this but further development, supported by an integrated asset management system, is required.”*

#### **5.4.1. SKM’s assessment**

The risk based approach based on criticality (ie consequence of failure) and asset condition proposed by Allconnex Water in its Asset Management Strategy document is in keeping with good industry practice. The proposed integration of the ERP system with a GIS will assist with the implementing of this strategy and with improving asset management records. Having established the strategy, the key to its success will be dependent on how well it is implemented following the disestablishment of Allconnex Water.

#### **5.5. Procurement**

The document supplied by Allconnex Water for our review was:

- Allconnex Water Procurement Policy v1 1 October 2010

This document refers to a number of other Allconnex Water documents relating to procurement:

- Corporate Procurement Plan which *“Links Allconnex Water procurement to AW strategies and sets out: objectives to be achieved through procurement activities; how the objectives are to be achieved; and mechanisms through which the achievement of procurement objectives will be measured.”*
- Allconnex Water Procurement Procedures which *“sets out the guidelines, business rules and procedures designed to establish an operational environment of consistent and efficient procurement practices.”*
- Procurement Procedures and Guidelines which *“provide the methodology to determine low, medium and high risk procurement.”*



However, none of these documents was provided for our review.

### 5.5.1. Procurement policies and procedures

In its Procurement Policy document, Allconnex Water states the objective and intent of its procurement policy are to:

- Encourage a strategic approach to procurement and contracting;
- Ensure procurement activities achieve the objectives of the State procurement Policy including:
  - A commitment to advance social, economic and environmental objectives
  - To achieve value for money
  - To ensure probity and accountability for procurement outcomes.
- Support the efficient and effective delivery of strategic priorities
- Align the procurement process with all the relevant compliance requirements
- Ensure that competitive local firms are given full and fair opportunity to supply Allconnex Water
- Endeavour to ensure that Allconnex Water will only deal with firms which treat their employees fairly

The policy also sets out procurement preferences such as preferring to buy goods made in Australia, encouraging local business and industry, purchasing from suppliers with quality systems, procuring goods and services designed to minimise environmental harm, procuring produces from recycled Australian waste and ensuring the best use of funds eg comparing leasing to lifecycle costs of ownership.

The policy also outlines procurement responsibilities and accountabilities but only at a generic level without specifying in detail the processes that need to be implemented or how. For example under *Procurement Governance* the policy states that “*Procurement governance mechanisms will be implemented to provide strategic oversight and corporate direction; oversee the implementation of this policy; and ensure that the benefits able to be achieved from purchasing power are maximised corporately.* And that: “*Roles and responsibilities must be clearly defined and understood*”. And *Delegates are required to exercise their powers in accordance with applicable limits and directions.*”

However, no detail is provided as to the specifics of these objectives. It is possible that this detail is contained in the documents referred to in the policy document and noted above, however we are not able to confirm this.



The policy does define in more detail, though, governance and probity requirements in that it states that employees involved in procurement must ensure that they are free of personal interest or conflicts of interest. In addition, the policy dictates that independent probity auditors must be engaged for high risk procurements of goods and services with a value of \$10m and over and for construction procurement with a value of \$100m and over. Finally details of all awarded contracts and standing offer arrangements with a value of \$100,000 and over are required to be published on the Queensland Government Chief Procurement Officer E-tender web site.

The policy further goes on to outline procurement management processes through a process of procurement planning where it is stated that Allconnex Water will plan its procurement activities:

- *“Through a strategic and integrated process of identifying understanding and delivering procurement requirements, within the wider organisational planning and performance, asset management, program delivery and corporate risk management frameworks*
- *Through the preparation of an **Annual Corporate Procurement Plan and Forward Procurement Schedule**, and in relation to significant ... procurements of a high value and/or high risk nature, through the preparation of **Significant Procurement Plans**.*

With respect to procurement management, the policy also states that Allconnex Water will conduct strategic analysis of future requirements and supply markets to categorise them based on relative expenditure and degree of supply difficulty and develop strategies to capitalise on the most advantageous opportunities within each category. For *significant procurement activities*, that is where supply is difficult to secure (high risk), and or the goods and services are of high relative expenditure, the policy states that Allconnex Water will conduct supply market analysis to enable informed decisions and to understand the drivers of their key suppliers.

The policy also outlines the types of procurement arrangements that Allconnex Water will establish such as preferred supplier, pre-qualified supplier, standing offer, sole supplier, panel contracts and strategic alliance arrangements depending on the nature, value and complexity of the procurement activity.

In addition the policy states that Allconnex Water will undertake supplier monitoring and that contract management mechanisms will be established for all significant procurement activities as well as implement a complaints process in accordance with the State Procurement Policy.

In a briefing to SKM, Allconnex Water outlined its recently introduced processes for preliminary capital project review and selection which included the formation of a project review committee comprising of the Chief Operating Officer, Strategic Group Managers and Finance Manager. In this process each project manager and group manager was required to submit a 1 page summary, cash





flow and Gantt chart for each proposed project and present the project to the project review committee.

This review process led to the ‘culling’ of projects that were not sufficiently developed to allow to be progressed to a full implementation plan. The remaining projects which were selected to progress to a full implementation plan were then grouped into three categories:

- Standalone projects of value greater than \$5m
- Standalone projects of value greater than \$1m
- Projects of value less than \$1m that were consolidated into 28 programs of significant value eg sewer relining programs.

### 5.5.2. Procurement thresholds

The Policy specifically sets out the procurement thresholds that Allconnex Water adopts for purchases that are considered *low risk* as detailed in **Table 18**.

#### ■ Table 18 Procurement thresholds

Amount \$ Exc. GST	Process
\$0.00 to \$5,000	Quotes Encouraged
\$5,001 to \$25,000	Two Written Quotes (Documented)
\$25,001- \$250,000	Three Written Quotes (Minimum)
Over \$250,000	Must Go To Tender

In addition, for procurements that are considered to be medium to high risk or for purchases of goods or works requiring the building of assets or where there is a requirement for a contract, the policy states that employees should consult the Procurement Services Centre to be directed to the most appropriate procurement method. The method to determine what constitutes medium or high risk procurement is stated as being set out in Allconnex Water’s Procurement Procedures and Guidelines.

### 5.5.3. SKM’s assessment

With only the Procurement Policy document to review and not the Procurement Procedures and Guideline document (which we assume provides more detail as to how the procurement policies are implemented) it is difficult for us to form a definitive view as to the robustness of Allconnex Water’s procurement procedures.

We consider the Procurement Policy in itself to be comprehensive and to accord with good industry practice with the exception that we would expect to see written quotes as a requirement for expenditure in the \$5,000 to \$25,000 range rather than documented verbal quotes, even if these are provided electronically (eg by email). We also consider the process for initial capital project



screening to be appropriate, in particular the procedure for grouping smaller projects into project programs, thereby lifting the procurement threshold and hence scrutiny on smaller projects.

We believe that the Procurement Policy document should also include reference to the need for a review process for significant procurement activities to ensure that any issues arising from a procurement process or from a particular supplier are recorded and lessons learnt documented for future procurement activities of that type or with that supplier. This may include identifying what went well or what did not, how the vendor performed, how well the project addressed critical success criteria and how the cost compared with the original estimate upon which approval was obtained.

## **5.6. Cost allocation**

Section 3.4 of the Authority's Information Requirements for 2011/12 outlines the principles for allocation of costs. In summary, operating costs are required to be disaggregated according to the following categories:

- Each activity (ie water, wastewater and non-regulated services)
- Each geographic area (ie Gold Coast, Logan, Redland)
- Each core service (ie drinking water, other non-core water services, wastewater via sewer, trade waste, other non-core wastewater services)
- Each asset class and cost driver (ie growth, renewals, improvement and compliance)
- For subsequent years (ie beyond the interim price monitoring period) for each customer group

Allocations are required for revenue, RAB, capital expenditure and operating costs. Allocations must be made on the principle that:

- a) Amounts are directly attributable to that category
- b) Amounts that are not directly attributable must be allocated on a causal basis, except where a causal relationship cannot be established. Here, causal allocation means that the allocation base is the most significant trigger of consumption or utilisation of the resources or services represented by the costs.

Amounts may be allocated on a non-causal basis provided that:

- a) There is likely to be a strong correlation between the non-causal basis and the actual cause of resource or service consumption
- b) The cost to derive the causal allocation outweighs the benefits of allocating items on that basis
- c) The aggregate of the amounts to be allocated is not material



### 5.6.1. Cost allocation for operating expenditure

Allconnex Water has included discussion on the allocation of costs within its 2011/12 Submission:

*“Allconnex is currently developing a cost allocation policy to inform the configuration of the ERP and further refinement of the Chart of Accounts.*

*In the interim, costs within the template have been allocated using either direct allocation or indirect allocation. Allconnex Water has attempted to ensure costs are allocated on a reasonable and equitable basis”*

#### Direct Allocation

Allconnex Water’s Charter of Accounts is the basis of its financial reporting framework and allows operating costs to be captured across four dimensions:

- District
- Cost centre
- Product
- Natural account (eg electricity, labour, materials etc)

#### Indirect Allocation

In certain cases indirect cost allocation has been applied to assign costs to district and service categories. The following cost allocation methodologies are extracts from a set of work papers included in Allconnex Water’s 2011/12 Information Return.

#### Corporate Costs

Allconnex has allocated corporate costs as follows:

*“Broadly, Allconnex Water has adopted a RAB-based allocation methodology, with some adjustments to reflect expenditures for non-regulated services. While imperfect, this provides a broad basis for assigning unallocated expenditures to specific districts and products.”*

A summary of the percentage allocations are set out below:

#### ■ Table 19 Allocation of corporate costs

Product	District			Total
	Gold Coast	Logan	Redland	
Water	23%	12%	5%	40%
Wastewater via sewer	35%	14%	6%	55%
Trade Waste	3%	1%	1%	5%
<b>Total</b>	<b>62%</b>	<b>27%</b>	<b>11%</b>	<b>100%</b>

Source: Allconnex Water Workpaper 2: Corporate cost allocation methodology



*“In general, where an expenditure item is allocated to a product but not a district, the total allocation is used to assign the expenditure to a specific district (ie 62%, 27% or 11%). Where an expenditure item is not allocated to either a product or district, the more detailed product allocations are used.*

*A secondary cost allocation methodology was applied to corporate operating expenditure to reflect that there is no RAB-based allocation for non-regulated services.”*

### Non-Regulated Costs

*“Within the finance model, employee expenses are specifically coded to non-regulated services therefore no further allocation was required. However, corporate expenditure for ‘other materials and services’, ‘chemical costs’ and ‘corporate costs’ were not specifically allocated to non-regulated services. Using benchmark percentages implied from 2010-11 actual data, the following costs were re-allocated from regulated services to non-regulated services.”*

#### ■ Table 20 Allocation of costs to non-regulated services

Category	% of category total allocated to non-regulated services (2011/12)			% of total category deducted from existing allocation (2011/12)		
	Gold Coast	Logan	Redland	Gold Coast	Logan	Redland
Other materials and services	1.6%	7.3%	9.3%	0.6% Water 0.9% WW 0.1% TW	2.8% Water 4.1% WW 0.4% TW	3.9% Water 4.9% WW 0.5% TW
Chemical costs	-	9.8%	-	-	9.0% WW 0.8% TW	-
Corporate costs	0.2%	1.8%	0.82%	0.1% Water 0.09% WW 0.01% TW	0.8% Water 0.9% WW 0.1% TW	0.34% Water 0.43% WW 0.05% TW

Source: Allconnex Water Workpaper 2: Corporate cost allocation methodology and Workpaper 3: Non-regulated cost allocation methodology.

### Trade waste cost allocation methodology

Allconnex Water sets out clearly the difficulties in developing a consistent trade waste cost allocation method as provided below.

There is an inconsistency of trade waste information which is collected and made available for the three districts that make up Allconnex Water. This is a legacy of the former council operated water businesses. The wastewater/trade waste allocation methodology adopted by Allconnex for the 2011/12 Information Return uses volume as the cost driver. Whilst flow volumes comprises one of the cost drivers for the wastewater service, it is not the only cost driver. The constituents that makeup wastewater (ie BOD/COD, nitrogen, phosphorus, metals) will determine the treatment requirements and hence cost in order to meet discharge license conditions. Hence, in our



consideration, these additional factors need to be included in any cost allocation method for wastewater/trade waste.

In our interviews with Allconnex Water, the method of trade waste allocation was discussed. Allconnex Water is aware of the limitations of the current approach – which we agree are largely due to the maturity of the business – and they have a program of works within their five year business integration plan to provide a single trade waste tariff structure and cost allocation methodology across the business. Allconnex Water has proposed to use cost drivers (eg biological oxygen demand, volume/flow, nutrient loads) to derive unit costs. Much of this work is reliant on the collection and analysis of data from the wastewater network.

In our assessment, the method that Allconnex Water is working toward is consistent with good industry practice.

■ **Table 21 Allocation of operating costs to trade waste**

Category	Gold Coast	Logan	Redland	Total
Direct allocation	2,333	1,064	609	4,006
Corporate allocation	3,033	775	446	4,2536
Wastewater allocation (based on above percentages)				
Electricity	-	171	174	334
Sludge handling	207	157	123	487
Chemicals	-	64	62	126

Source: Allconnex Water Workpaper 5: Trade waste allocation methodology

**5.6.2. Cost allocation for capital expenditure**

Allconnex Water allocates cost for capital expenditure based on its assessment of the relevant driver(s). For a project where Allconnex Water assesses that two or more drivers are relevant the allocation of a percentage to each driver appears to be appropriate.

As the allocation of cost is a sequential action after the determination of the applicable drivers, an erroneous identification of a driver results in inappropriate allocation of cost. Consequently the determination of the correct driver(s) has increased importance.

**5.6.3. SKM’s assessment**

**Corporate costs**

Allconnex Water’s method for the allocation of corporate costs is firstly by use of the RAB to allocate costs to assets and hence service types

In our assessment the use of RAB for allocation of corporate costs (those which cannot be directly allocated) to service types is consistent with industry practice. The limitation with this method, as



Allconnex Water has noted, is where no assets are associated with a service (eg non-regulated services).

From our research, the use of employee numbers or employee costs within a specific service type has been used by other water authorities to allocate corporate costs. In our opinion, this is likely to lead to a similar result, as employee costs are likely to be reflective of the size of the asset base.

### **Trade waste**

We note the inconsistency of trade waste information which is collected and made available from the three districts that make up Allconnex Water. This is a legacy of the former council operated water businesses.

In our assessment, the method that Allconnex Water is working toward is consistent with good industry practice.

### **Capital costs**

Our review of the information provided, in particular the sample selection, indicates that there are occasional varied and inaccurate determination of the drivers and consequently the cost allocation.

Projects responding to instances of sewage overflow appear to be assigned the compliance driver, without considering the cause as opposed to the effect. Many overflow incidents are caused by the connection of too many households to a sewerage system with a current fixed capacity. This is due to inappropriate delay in augmentation responding to growth. This inappropriate action of not providing adequate capacity should not result in the continuation of inappropriate actions by nominating compliance as the driver, when timely action would have determined growth as the appropriate driver.

## **5.7. Asset Lives**

Allconnex Water has provided information outlining nominal asset lives for use in economic regulation to provide for depreciation at the asset class level.

The 2011/12 Information Template allows information to be provided on the following two sheets.

- 5.8.1.1 Asset Lives Details for Regulatory Asset Base
- 5.8.1.2 Asset Lives Details for Regulatory Asset Base - Tax Purposes

These categories are considered below.

Within its 2011/12 Submission Allconnex Water states:

*“In determining depreciation associated with the existing asset base, the remaining useful lives of assets from councils’ fixed asset bases were used. Depreciation of new assets was*



*determined using standard asset lives. For the purposes of modelling, asset lives are determined at an asset class level (rather than individual asset) based on a weighted average approach.*

*Accounting/reporting depreciation is calculated using a slightly different approach to regulatory depreciation. In particular, depreciation in the financial statements is calculated from the written down value of individual assets, compared to a weighted average approach used to determine regulatory depreciation.*

*Depreciation of new assets was determined using standard asset lives. For the purposes of modelling, asset lives are determined at an asset class level (rather than individual asset) based on a weighted average approach.”*

### 5.7.1. Useful lives for new assets

Information on asset lives for all assets types, including reservoirs, treatment and pump stations have been provided in the 2011/12 Information Template.

**Table 22** shows the asset lives for new assets.

■ **Table 22 Asset lives for new assets**

Asset Class	Description	Nominal Life
Water		
Distribution infrastructure	all mains	70
Distribution infrastructure	not included in another category	15
Reservoirs		70
Pump stations		25
Telemetry/ SCADA		20
Meters		15
Wastewater		
Distribution infrastructure	all mains and fittings	70
Distribution infrastructure	not included in another category	15
Pump stations		25
Telemetry/ SCADA		20
Meters		15
Treatment plants		35
Support		
Billing Systems		5
Corporate Systems		5
Buildings	not housing infrastructure	60
Sundry plant & equipment		5
Establishment Costs		5



Asset Class	Description	Nominal Life
Support services		5
Corporate Office		5
Unallocated cash contribution		55

Source: *Data template* (Allconnex Water, 2011)

No supporting documentation has been provided by Allconnex Water to inform the rationale for selecting asset lives.

We have compared the provided asset lives to available benchmarks. The Water Services Association of Australia (WSAA), the Pressure Sewerage Code of Australia (WSA 07-2007 V1.1) and the WSAA Water Supply Code of Australia (WSA 03-2002) provide benchmarks for asset lives.

**Table 23** presents benchmarks of selected asset lives and a comparison with those used by Allconnex Water.

■ **Table 23 Benchmarking of asset lives**

Asset	Benchmark	Comment
Distribution infrastructure - mains (Water and Wastewater Distribution infrastructure)	The WSA 07-2007 Pressure Sewerage Code of Australia V1.1 suggests a nominal asset design life of 100 years for pressure sewers and laterals and property discharge lines, 20 -30 years valves. The WSA 03-2002 Water Supply Code of Australia suggests a typical asset design life of 100 years for water mains, 30 years for valves.	The assumption of a 70 year asset life is reasonable
Reservoirs	The WSA 03-2002 Water Supply Code of Australia suggests a typical asset design life of 50 years for reservoirs.	The assumption of a 70 year asset life is reasonable.
Treatment	No combined treatment asset life is provided.	Treatment consists of a number of civil, mechanical and electrical assets. A combined asset life of 35 years is reasonable
Pump stations	The WSA 03-2002 Water Supply Code of Australia suggests a typical asset design life of 20 years for pumps (note that this contributes to the mechanical component only).	Pump stations consist of a number of civil, mechanical and electrical assets. The assumption of a combined 25 year asset life for pump stations is reasonable.
Telemetry & SCADA	The WSA 03-2002 Water Supply Code of Australia suggests a typical asset design life of 15 years for SCADA.	The assumption of a 20 year asset life is reasonable.





### 5.7.2. Useful lives for new assets for tax purposes

Information on asset lives for all assets types, including reservoirs, treatment and pump stations have been provided in the 2011/12 Information Template.

No supporting documentation has been provided by Allconnex Water to document the rationale for selecting asset lives.

Within its 2011/12 Submission Allconnex Water states:

*“Allconnex Water’s tax asset base was not finalised at the time that the Information Template was completed. Accordingly, tax written-down asset values and remaining useful lives have been provided based on regulatory values (continuing the approach adopted for the 2010-11 Information Template). Allconnex Water remains of the opinion that this is a conservative interim assumption pending the finalisation of tax arrangements.”*

The TR 2011/2 Taxation Ruling Income tax: effective life of depreciating assets (applicable from 1 July 2011) discusses the methodology used by the Commissioner of Taxation in making determinations of the effective life of depreciating assets under section 40-100 of the Income Tax Assessment Act 1997 (ITAA 1997). The effective life of a depreciating asset is used to work out the asset’s decline in value. (ATO, 2011)

The Commissioner makes a determination of the effective life of a depreciating asset by estimating the period (in years, including fractions of years) it can be used by any entity for a taxable purpose. In the Commissioners’ determination, a number of factors are considered including:

- The physical life of the asset
- Engineering information
- The manufacturer’s specifications
- The way in which the asset is used by an industry
- The past experience of users of the asset
- The level of repairs and maintenance adopted by users of the asset
- Industry standards
- The use of the asset by different industries
- Retention periods
- Obsolescence
- Scrapping or abandonment practices
- If the asset is leased, the period of the lease



- Economic or financial analysis indicating the period over which that asset is intended for use
- Where the asset is actively traded in a secondary market, conditions in that market

It is important to note that the Commissioner does not consider that the physical life of an asset is necessarily its effective life because, all the factors must be considered before an estimate of effective life is made. A consideration of these factors may often indicate that an asset's effective life is a period shorter than its physical life. (ATO, 2011)

We cross referenced the effective tax lives provided by Allconnex Water with the 'Effective lives (Industry Categories)' Table A as at 1 July 2011 provided in the TR 2011/2 Taxation Ruling (ATO, 2011). The results of the cross referencing are included in **Table 24**.

▪ **Table 24 Review of effective life**

Asset Class	Description	Effective Life (Tax)*	Revised Effective Life (Tax)*
<b>Water</b>			
Distribution infrastructure	all mains	70	80
Distribution infrastructure	not included in another category	15	No direct correlation with asset type
Reservoirs		70	80
Pump stations		25	25
Telemetry/ SCADA		20	10
Meters		15	20
<b>Wastewater</b>			
Distribution infrastructure	all mains	70	80
Distribution infrastructure	not included in another category	15	No direct correlation with asset type
Pump stations		25	25
Telemetry/ SCADA		20	10
Meters		15	20
Treatment plants		35	Comprised of a number of individual assets
<b>Support</b>			
Billing Systems		5	Not covered
Corporate Systems		5	Not covered
Buildings	not housing infrastructure	60	No direct correlation with asset type
Sundry plant & equipment		5	Require further clarification of assets to determine life
Establishment Costs		5	Require further clarification of assets to determine life
Support services		5	Not covered



Asset Class	Description	Effective Life (Tax)*	Revised Effective Life (Tax) <sup>+</sup>
Corporate Office		5	Not covered
Unallocated cash contribution		55	Not covered

\*Information provided by the entity; +Determined through review of Australian Government TR2011/2 Taxation Ruling: Income Tax, effective life of depreciating assets (applicable from 1 July 2011)

The Authority template refers to an asset class as opposed to individual assets, ie for distribution infrastructure not included in another category, treatment plants, sundry plant and equipment and establishment costs, which cannot be cross referenced with TR 2011/2 Taxation Ruling. Without a breakdown of individual asset types within the groups a revised effective tax life cannot be determined.

For the treatment plants asset group the components of an ‘average’ wastewater treatment plant were identified and assessed to determine the average effective life of the group of assets. The ‘average’ treatment plant assessed included pre-treatment comprising of sewer mains, pump station, screening and grit removal; secondary treatment comprising of biological nutrient removal assets (aerators and blowers, BNR tanks and mixers) and secondary clarifiers; and tertiary treatment comprising of UV disinfection, aerobic digesters, sludge thickening tanks, belt presses and sludge aerators and blowers. Additional assets incorporated for the overall operation of the plant included valves, chemical dosing pumps, flow meters, telemetry, variable speed drives, chlorine residual analysers, pH meters, dissolved oxygen probes, level sensors, etc. Based on a simplistic calculation, including one of each asset type, the median effective life is 25 years. This is comparable to the 35 years suggested by Allconnex Water. It should be noted that this calculation was performed to determine a relative figure. For a more accurate determination the Authority template would need to be modified to include all asset types, and the quantities, at each plant.

Effective lives for systems such as billing and corporate are not covered by the taxation ruling and therefore cannot be assessed, however as a billing system would largely comprise of computer equipment we believe that a life of three to four years would be reasonable. Buildings do not have any direct correlation with any asset and life included in the TR 2011/2 Taxation Ruling, therefore a revised effective tax life cannot be determined.

The asset lives for both water and wastewater mains, water reservoirs and telemetry/ SCADA do not correlate to TR 2011/2 Taxation Ruling guidance. It is suggested that these be reviewed by Allconnex Water when next assessing their effective lives.

It should also be noted that whilst we can offer advice based on publicly available information and our interpretation based on experience, we are not professional accountants and therefore cannot provide tax advice to clients. Therefore, although we can advise that effective lives do not correlate to ATO guidance, it is envisaged that estimates of effective asset lives for tax purposes would be provided to Allconnex Water and/ or the Authority by accountants/auditors.



### 5.7.3. Summary

Whilst the assumed asset lives for passive assets such as reservoirs and pipelines are relatively consistent between all entities, there are a number of significant differences between the asset lives for the active assets (e.g. pump stations and treatment plants). This is because these assets comprise of a range of civil, mechanical and electrical assets, all with significantly different asset lives. For example, within the life of a wastewater pump station, the civil assets (building, pump well) are likely to remain relatively unchanged, whilst the pumps and control systems are likely to be replaced several times. The calculation of a combined asset life depends on the relative weighting of the civil, mechanical and electrical assets.

We generally consider the asset lives adopted by Allconnex Water to be reasonable.



## 6. Operating Expenditure

### 6.1. Overview of operating expenditure

**Table 25** provides a breakdown of Allconnex Water’s operating expenditure for the price monitoring period (financial years 2011/12, 2012/13, 2013/14). Over this period Allconnex Water predicts an increase in the operating expenditure of \$68 million.

As the entity was formed in mid-2010 any figures prior to the 2010/11 financial year are from each participating council and so are only given for information.

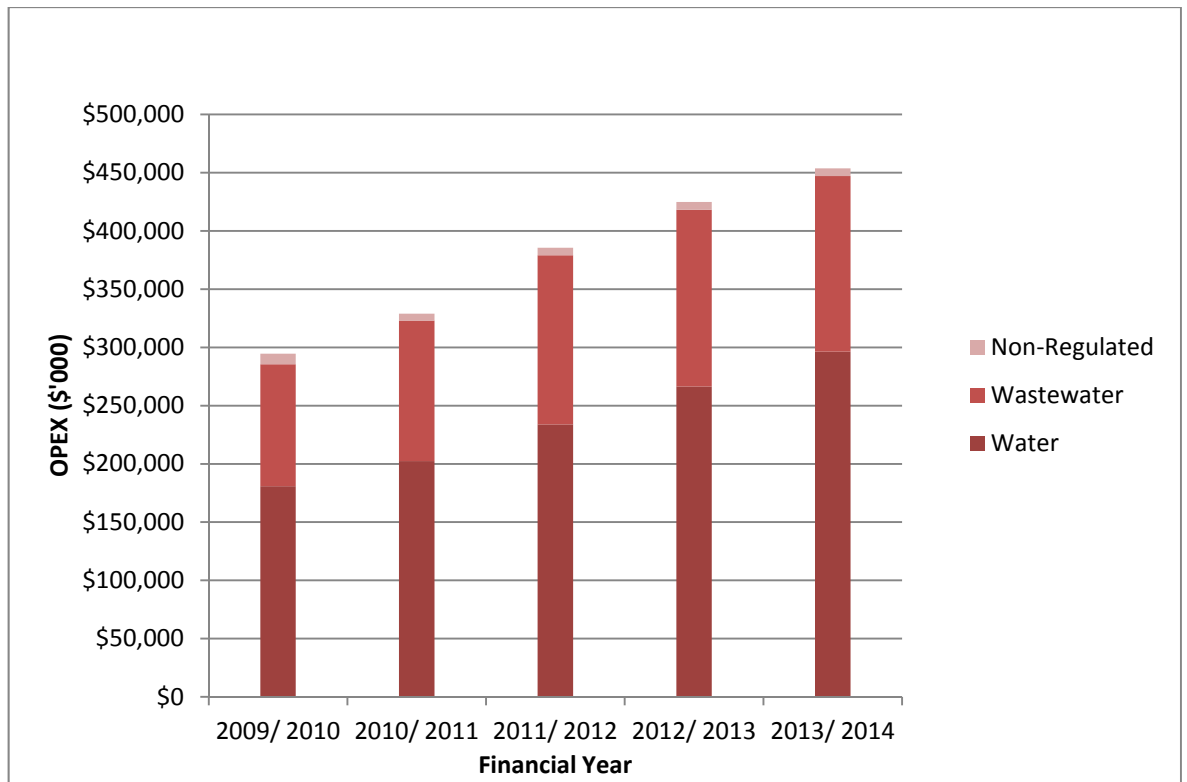
■ **Table 25 Allconnex Water – operating expenditure**

Service	2011/ 2012 Financial Year (\$ '000s)	2012/ 2013 Financial Year (\$ '000s)	2013/ 2014 Financial Year (\$ '000s)
Water	233,846	266,470	296,379
Wastewater	145,329	151,686	150,716
Non-regulated	6,365	6,730	6,715
<b>Total</b>	<b>385,539</b>	<b>424,886</b>	<b>453,810</b>

Source: 2011/12 Information Template

**Figure 3** indicates the operating expenditure as detailed by Allconnex Water in its 2011/12 Information Return to the Authority. The main points to be drawn from the graph of annual operating expenditure from 2010/11 FY to the 2013/14 FY are that the water services operating expenditure increases by 46%; the wastewater services operating expenditure increases by 24% and the non-regulated operating expenditure increases by 14%. Over the same period, Allconnex Water predicts that expenditure on bulk water (driven by both demand and unit price increase charged by the bulk water supplier will increase by 73%. Employee expenses will increase by 38%. Allconnex Water has advised that much of the increase in value attributed to ‘employee expenses’ represents the phasing out of Transitional Service Agreements (TLA) with contributing councils and the establishment of in-house capability.

These figures are consistent with other water distribution and retail entities in this region of Queensland.

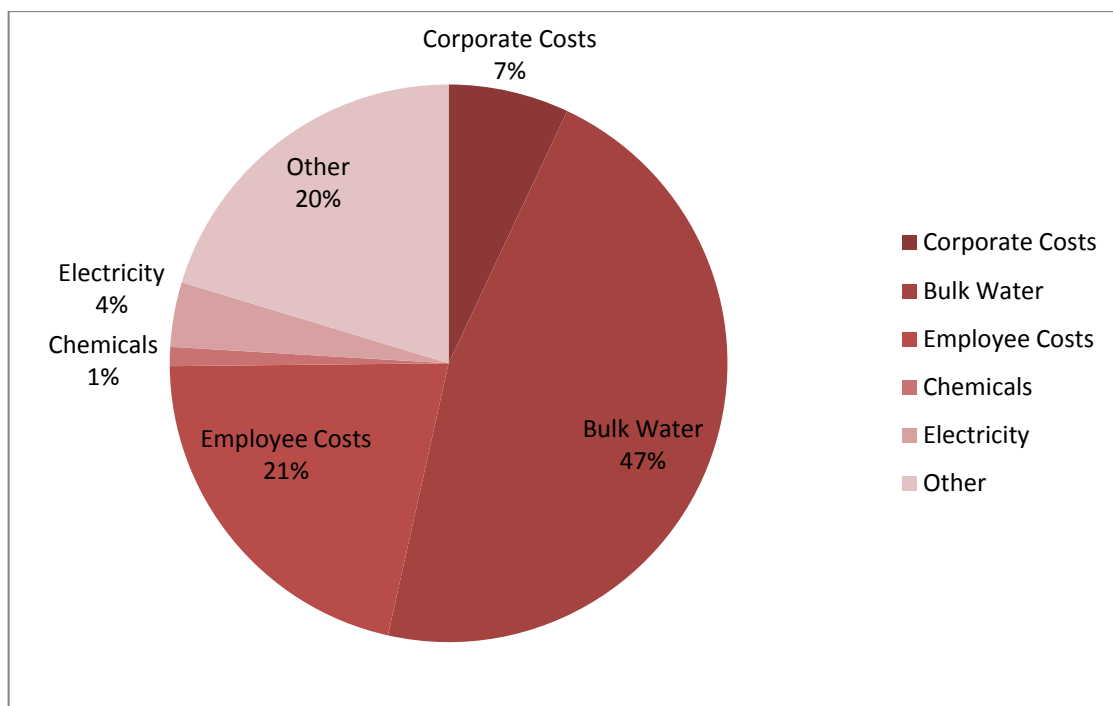


Source: 2011/12 Information Template

■ **Figure 3 Allconnex Water – operating expenditure**

Allconnex Water has an operating expenditure budget of \$1,264 million for the price monitoring period (financial years 2011/12, 2012/13, 2013/14).

The following figure indicates the breakdown of the operating expenditure budget in terms of the main cost categories. As can be seen from the chart, the cost of purchasing bulk water is the main operating expenditure item.



Source: 2011/12 Information Template

- **Figure 4 Allconnex Water – combined main cost categories for Financial Years 2011/12, 2012/13, 2013/14**

**Table 26, Table 27 and Table 28** contain the cost breakdown of the different services, namely water, wastewater and non-regulatory services.

- **Table 26 Allconnex Water – operating expenditure for water (FY12-14)**

Item	2011/ 2012 Financial Year (\$000s)	2012/ 2013 Financial Year (\$000s)	2013/ 2014 Financial Year (\$000s)
Bulk water	167,332	195,718	225,081
Employee expenses	32,194	36,560	36,611
Contractor expenses	1,188	-	-
Electricity charges	3,972	4,385	4,696
Chemical costs	1,203	1,233	1,189
Other materials and services	15,080	15,971	16,161
Licence or regulatory fees	437	455	440
Corporate costs	11,892	11,324	11,117
Indirect taxes	548	1,123	1,083
<b>Total</b>	<b>233,846</b>	<b>266,470</b>	<b>296,379</b>

Source: 2010/11 Information Template



■ **Table 27 Allconnex Water – operating expenditure for wastewater (FY12-14)**

Item	2011/ 2012 Financial Year (\$000s)	2012/ 2013 Financial Year (\$000s)	2013/ 2014 Financial Year (\$000s)
Employee expenses	47,461	53,561	53,626
Contractor expenses	1,784	-	-
Electricity charges	10,458	11,546	12,364
Sludge handling costs	5,853	6,000	5,965
Chemical costs	3,346	3,430	3,308
Other materials and services	56,463	57,134	55,837
Licence or regulatory fees	656	684	661
Corporate costs	18,484	17,646	17,329
Indirect taxes	823	1,686	1,626
<b>Total</b>	<b>145,329</b>	<b>151,686</b>	<b>150,716</b>

Source: 2011/12 Information Template

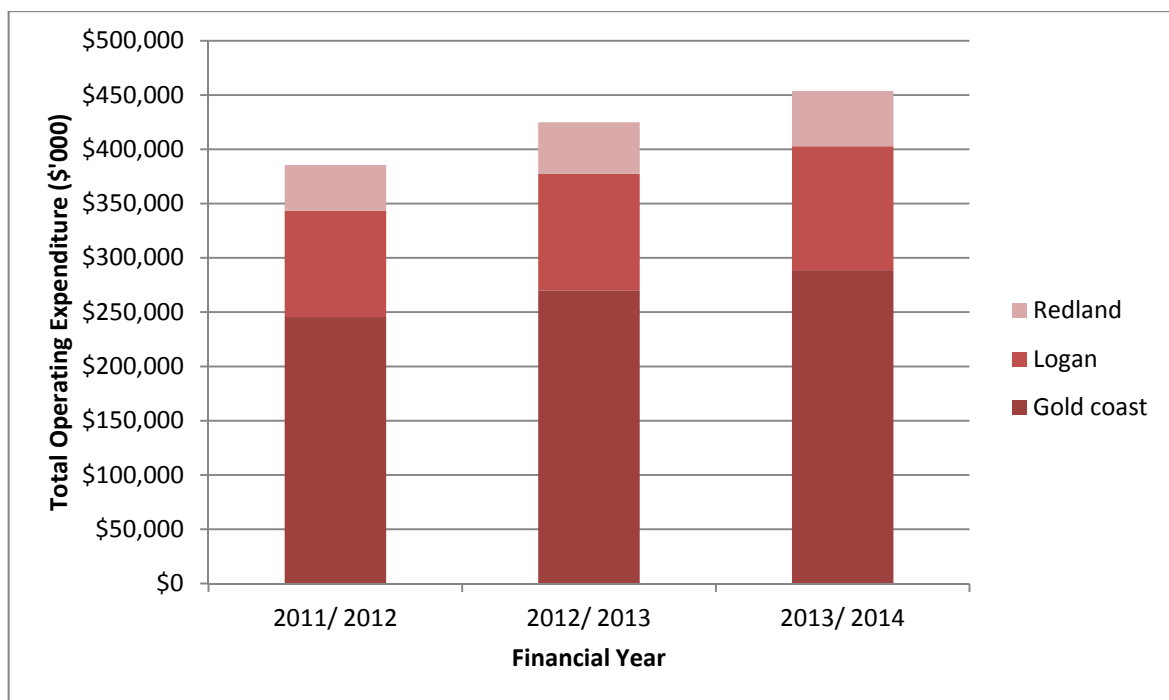
■ **Table 28 Allconnex Water – operating expenditure for non-regulated (FY12-14)**

Item	2011/ 2012 Financial Year (\$000s)	2012/ 2013 Financial Year (\$000s)	2013/ 2014 Financial Year (\$000s)
Employee expenses	3,077	3,349	3,378
Chemical costs	80	82	79
Other materials and services	2,985	3,087	3,049
Corporate costs	222	212	209
<b>Total</b>	<b>6,365</b>	<b>6,730</b>	<b>6,715</b>

Source: 2011/12 Information Template

The following chart indicates the makeup of operating expenditure for each region in Allconnex Water for the price monitoring period (financial years 2011/12, 2012/13, 2013/14). As the graph indicates, Gold Coast is the largest region in terms of operating expenditure and represents approximately 63 percent of the total operating expenditure over the period.



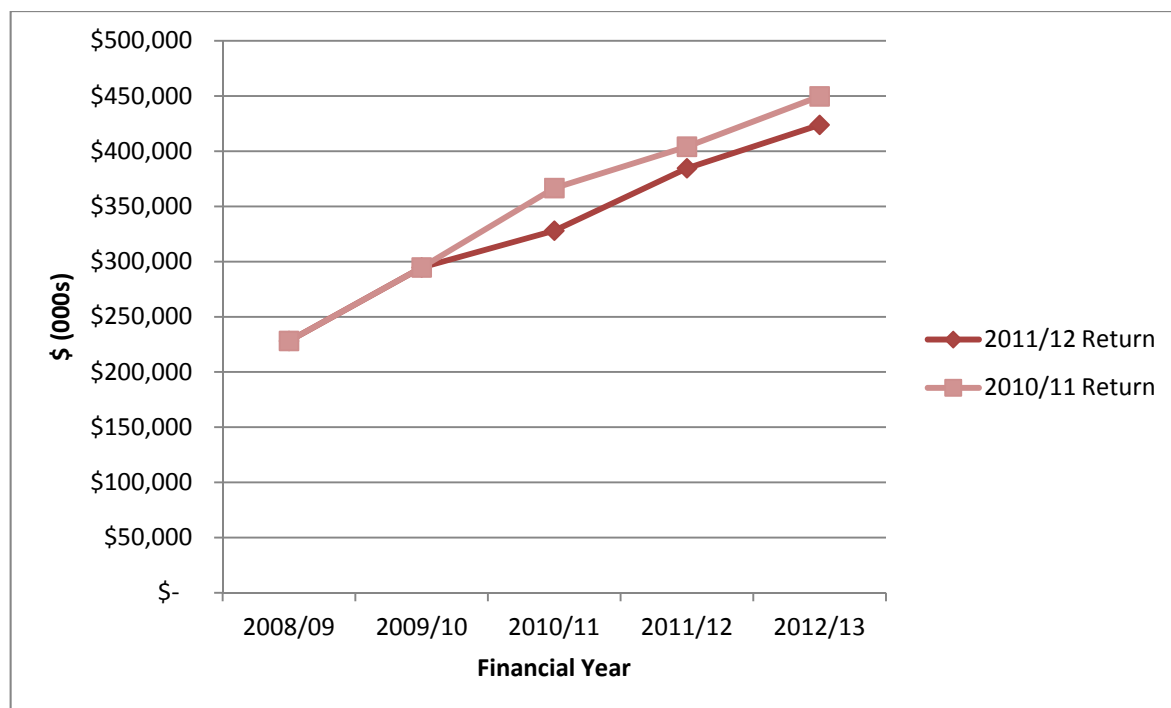


Source: 2011/12 Information Template

■ **Figure 5 Allconnex Water – operating expenditure for FY12-14 per region**

**6.2. Historical costs and variances**

A comparison is made between the forecast operating costs submitted by Allconnex Water in its 2010/11 Information Template and the 2011/12 Information Template in the figure below. A moderate reduction in forecast operating expenditure over 2010/11 to 2012/13 from that forecast in the 2010/11 Information Return is noted.



Source: 2010/11 Information Templates, 2011/12 Information Template

■ **Figure 6 Comparison of forecasts – 2010/11 Information Template and 2011/12 Information Template (\$000s)**

The variation between the 2010/11 and 2011/12 forecast operating expenditures are outlined in **Table 29**.

■ **Table 29 Comparison of forecasts – 2010/11 and 2011/12 Information Templates (\$000s)**

Source	2008-09	2009-10	2010-11	2011-12	2012-13
<b>Total Operating expenditure</b>					
2010/11 Information Template	228,094	294,641	366,715	404,164	449,803
2011/12 Information Template	228,094	294,641	328,940	385,539	424,886
Variance	0	0	-37,775	-18,625	-24,917
Percentage variation	-	-	-10.3%	-4.6%	5.5%
<b>Operating expenditure excluding bulk water costs</b>					
2010/11 Information Template	146,264	174,444	212,051	216,404	227,253
2011/12 Information Template	146,264	174,444	198,616	218,207	229,468
Variance	0	0	-13,435	1,803	2,215
Percentage variation	-	-	-6.3%	0.8%	1.0%

Source: 2010/11 Information Template, 2011/12 Information Template

**Figure 6** and **Table 29** above show a decrease of \$37.8 million in total operating costs for the 10/11 financial year, and a forecast reduction from last year's estimates of \$18.6 million and \$24.9 million in 11/12 and 12/13 respectively, as compared to the 2010/11 Information Template.



The Authority's Information Requirement specifies that information should be allocated to relevant service types. We have compared the forecast operating expenditure by service type with the 2010/11 Information Template. This analysis is summarised in **Table 30**.

■ **Table 30 Comparison of forecasts by service type – 2010/11 and 2011/12 Information Returns (\$000)**

Service	2011/12 FY		2012/13 FY		2013/14 FY	
	2010-11 return	2011-12 return	2010-11 return	2011-12 return	2010-11 <sup>#</sup> return	2011-12 return
Drinking water	261,985	233,846	299,783	266,470	NA	296,379
Other core water services	0	0	0	0	NA	0
Wastewater via sewer	124,689	133,476	131,590	139,310	NA	138,418
Trade waste	10,244	11,853	10,811	12,376	NA	12,298
Other core wastewater services	0	0	0	0	NA	0
Non-Regulated	7,245	6,365	7,618	6,730	NA	6,715
<b>Total</b>	<b>404,164</b>	<b>385,540</b>	<b>449,803</b>	<b>424,886</b>		<b>453,809</b>

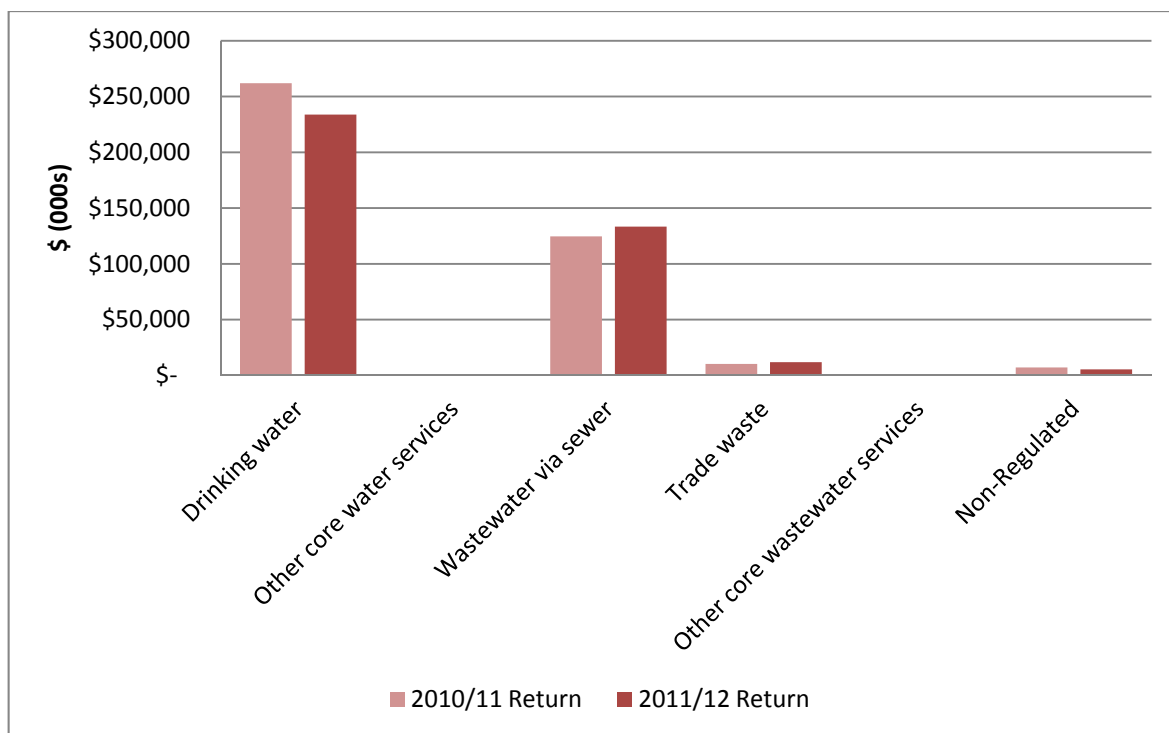
# Operating expenditure was not required to be forecast for 2013/14 in the 2010 information return.

Source: 2010/11 Information Template, 2011/12 Information Template

The above table illustrates the major variance in operating costs between the 2010/11 Information Template and the 2011/12 Information Template arises from the Drinking Water Service, where forecast expenditure has reduced by 10.7% and 11.1% for the 2011/12 FY and 2012/13 FY respectively.

The Wastewater via sewer service shows an increase in forecast expenditure of 7.0% and 14.5% for the 2011/12 FY and 2012/13 FY respectively.

We compare the forecast operating costs for the 2011/12 financial year as indicated in the 2010/11 and 2011/12 Information Template in **Figure 7**.



Source: 2010/11 Information Template

■ **Figure 7 Comparison of forecasts – 2010/11 Submission and 2011/12 Submission (\$000s)**

We have further examined the operating cost categories that show the greatest variance for the drinking water, wastewater via sewer and trade waste services. These are summarised in **Table 31**.



■ **Table 31 Comparison of 2011/12 operating expenditure forecast by category – 2010/11 and 2011/12 Submissions**

Service	Category	2011-12 return (\$000s)	2010-11 return (\$000s)	Variance (\$000s)
Drinking Water	Bulk water costs	167,332	187,761	-\$20,429
	Employee expenses	32,194	25,481	\$6,713
	Contractor expenses	1,188	938	\$250
	Electricity charges	3,972	-	\$3,972
	Chemicals costs	1,203	-	\$1,203
	Other materials and services	15,080	34,749	-\$19,669
	Licence or regulatory fees	437	-	\$437
	Corporate costs	11,892	13,057	-\$1,165
	Indirect taxes	548	-	\$548
	<b>Total</b>	<b>233,846</b>	<b>261,985</b>	<b>-\$28,140</b>
Wastewater via Sewer	Employee expenses	47,461	38,958	\$8,503
	Contractor expenses	1,784	967	\$817
	Electricity charges	10,458	-	\$10,458
	Sludge handling costs	5,853	-	\$5,853
	Chemicals costs	3,346	-	\$3,346
	Other materials and services	56,463	71,018	-\$14,555
	Licence or regulatory fees	656	-	\$656
	Corporate costs	18,484	23,990	-\$5,506
	Indirect taxes	823	-	\$823
	<b>Total</b>	<b>145,329</b>	<b>134,933</b>	<b>\$10,395</b>
Non Regulated	Employee expenses	3,077	3,609	-\$532
	Chemicals costs	80	-	\$80
	Other materials and services)	2,985	2,823	\$162
	Corporate costs	222	813	-\$590
	<b>Total</b>	<b>6,365</b>	<b>7,245</b>	<b>-\$881</b>

Source: 2010/11 Information Template, 2011/12 Information Template

The main causes of variation identified by Allconnex Water for the 2011/12 forecast include a reduction in bulk water costs and employee expenses. As the unit costs for bulk water have a fixed price path, we conclude that reduction in bulk water cost budgets is due to a reduced forecast in demand. The variation in employee expenses is discussed further in **Section 6.6** of this report.

The variances identified above should be placed into context by considering the maturity of the organisation. Many of the variances reflect Allconnex Water's increasing ability to disaggregate costs as required by the Authority and the increasing level of internal capability to manage data and its assets, with less reliance on contributing councils.



We consider the other variances between the information to be minor – largely underpinned by re-forecast of water demand. Other variances can be explained by a greater ability to disaggregate costs to the level required by the Authority compared to the previous year, demonstrated by the relatively small change in overall operating costs.

### Historical delivery

In **Table 32** we compare Allconnex Water’s 2010/11 approved operating expenditure with the forecast costs reporting in the 2011/12 Information Template.

#### ■ **Table 32 Budget and forecast expenditure for 2011/12 operating costs**

Service	Budget <sup>1</sup>	Forecast <sup>2</sup>
Water	228,078	202,379
Wastewater	131,366	120,686
Non-regulated	7,296	5,875
<b>Total</b>	<b>366,715</b>	<b>328,940</b>

1 As reporting in the 2010/11 Interim Price Monitoring Assessment

2 As reported in the 2011/12 Information Template

The comparison shows a forecast under spend of \$37,775,000, or 10.3% of the budget. When bulk water costs are excluded, the forecast is for

### 6.3. Costs in aggregate

Allconnex Water’s 2011/12 Information Template shows an increase in operating expenditure for each financial year of the forecast as is shown in **Table 33**.

#### ■ **Table 33 Allconnex Water annual operating expenditure**

Financial Year	Operating Expenditure (\$000s)	Percentage Annual Increase	Operating expenditure excl. bulk water (\$000s)	Percentage Annual increase	Percentage Annual Increase in Bulk Water Charge
2009/ 2010	294,641 <sup>i</sup>	-	174,444	-	-
2010/ 2011	328,940 <sup>i</sup>	11.6%	198,616	13.9%	-
2011/ 2012	385,539 <sup>i</sup>	17.2%	218,207	9.9%	15.3% <sup>ii</sup>
2012/ 2013	424,886 <sup>i</sup>	10.2%	229,468	5.2%	12.6% <sup>ii</sup>
2013/ 2014	453,809 <sup>i</sup>	6.8%	228,729	-0.3%	10.6% <sup>ii</sup>

<sup>i</sup> 2011/12 Information Template

<sup>ii</sup> Calculated from figures in the Queensland Water Commission table ‘Bulk Water Prices 06-12-10’

The increases are above annual inflation rates, which for the 5 years preceding 2011 was in the range of 1.8 percent to 4.4 percent. The Allconnex Water’s annual increases in operating expenditure broadly follow the annual increase in bulk water charges.



In its 2011/12 Information Submission Allconnex Water states that “operating expenditure forecasts continue to be significantly impacted by rising State Government bulk water charges.” The impact of the bulk water on the price increases is supported by the data contained in the Allconnex Water information requirement template submitted to the Authority. The bulk water charges are predicted to be 43.4 percent of the total operating expenditure in the 2011/12 financial year and increasing the 49.6 percent of the total operating expenditure in the 2013/14 financial year.

A number of metrics are available to assess the aggregate operating costs for Allconnex Water. In **Table 34** the forecast 2011/12 aggregate operating costs for Allconnex Water have been benchmarked against the other SEQ water distribution and retail entities and peers from around Australia.

■ **Table 34 Allconnex Water aggregate cost metrics**

Metric	Description	Allconnex Water	Other SEQ average	Sydney Water Corporation	Yarra Valley Water
Customers	Total OPEX per connection	982	861	577	579
	Water OPEX per connection	602	558	332	318
	Wastewater OPEX per connection	380	303	245	261
Network size	Total OPEX per km of pipeline	56,195	45,670	45,566	41,611
	Water OPEX per km of pipeline	33,842	29,930	27,983	23,084
	Wastewater OPEX per km of pipeline	22,353	15,740	17,583	185,27
Volume	Total OPEX per ML of drinking water	4,040	3,935	1,949	2,872
	Water OPEX per ML of drinking water	2,572	2,539	1,090	1,531
	Wastewater OPEX per ML of drinking water	1,468	1,396	859	1,341

Source: Allconnex Water 2011/12 Information Template, QUU 2011/12 Information Template, Unitywater 2011/12 Information Template, NWC National Performance Report 2010/11 (CPI applied)

The table show that Allconnex Water’s operating expenditure for water services is higher than comparable water distributors/ retailers in Australia and comparable although slightly higher than other entities in the same region of Queensland. The same is true for Allconnex Water’s operating expenditure for wastewater services.

When assessing the aggregate operating costs of water utilities around Australia, comparing expenditure per connection will tend to favour the larger utilities that have a large customer base or higher customer density. Likewise, comparing expenditure with respect to network size will favour

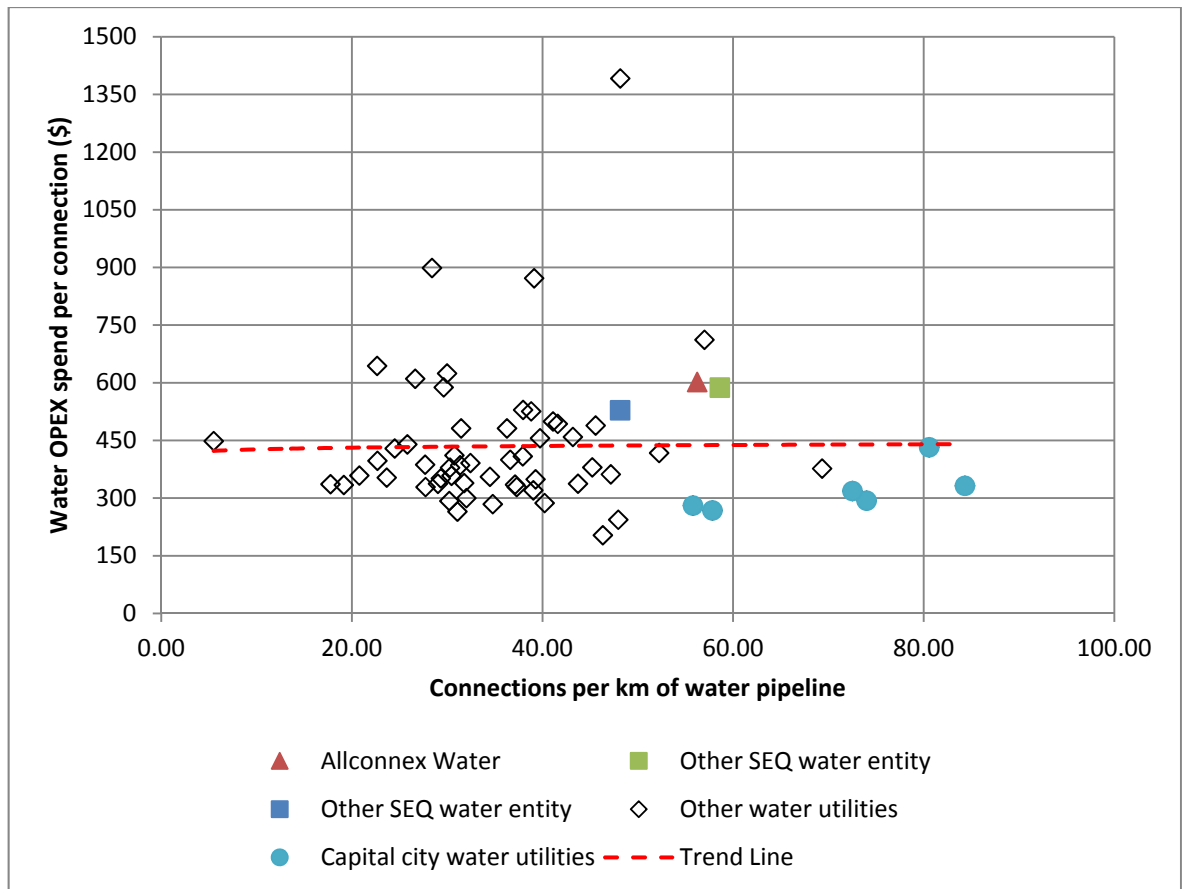


utilities with larger networks. In order to show the relative performance of Allconnex Water's operating expenditure with their peers a two dimensional normalisation was used to develop a cost curve for water and wastewater services. By plotting operating expenditure per connection against connections per km of pipeline, the influence of customer density and network size on operating costs is taken into account allowing corporate costs normalised for customer density and network size to be compared

In **Figure 8** the operating expenditure of water services for a range of Australian water utilities is compared, using data sourced from the National Water Commission National Performance Report 2010/11. A cost escalation index equal to CPI (weighted average for eight capital cities) was applied to the NWC data to adjust costs to 2010/11 dollars. Water utilities from other Australian capital cities – which SKM considers to be industry peers of Allconnex Water – are highlighted.

Data in the National Water Commission National Performance Report 2009/10 for several water utilities around Australia was used in the comparison. A CPI obtained from the Australian Bureau of Statistics website was used to re-calculate the prices in the National Water Commission National Performance Report 2009/10 to 2011/12 prices. Water utilities from other Australian capital cities have also been highlighted.





Source: Allconnex Water 2011/12 Information Template, QUU 2011/12 Information Template, Unitywater 2011/12 Information Template, NWC National Performance Report 2010/11 (CPI applied).

■ **Figure 8 Comparison of Allconnex Water’s operating expenditure on water services with other Australian water utilities.**

The chart shows that Allconnex Water’s water operating costs are higher than similar sized water service providers. The chart also shows that Allconnex Water’s water operating costs are comparable to the other water distributors/ retailers in this region of Queensland.

The impact of the bulk water on the price increases is supported by the data contained in the Allconnex Water information requirement template submitted to the Authority. The bulk water charges are predicted to be about 43 percent of the total operating expenditure in the 2011/12 financial year, increasing to about 50 percent of the total operating expenditure in the 2013/14 financial year.

As was demonstrated in last year’s review, bulk water charges in South East Queensland are higher than in other parts of Australia and contribute to the relatively high cost of water supply by Allconnex Water as is demonstrated in the **Table 35**.



There is insufficient information publically available for full benchmarking of water operating expenditure excluding bulk water costs to be undertaken, largely as a result of the different supply chains used interstate.

■ **Table 35 Comparison of bulk water costs**

Water Utility/ area	Bulk water cost (\$/kL)	Controllable water operating expenditure (FY12) (\$/connection)
Allconnex Water	-	602 <sup>iii</sup>
Gold Coast	1.907 <sup>i</sup>	-
Logan	2.061 <sup>i</sup>	-
Redland	1.173 <sup>i</sup>	-
Sydney Water Corporation	0.48 <sup>ii</sup>	322 <sup>iv</sup>
City West Water	1.37 <sup>v</sup>	420 <sup>iv</sup>
South East Water	1.33 <sup>v</sup>	285 <sup>iv</sup>
Yarra Valley Water	1.07 <sup>v</sup>	309 <sup>iv</sup>

<sup>i</sup> Figures from Queensland Water Commission table 'Bulk Water Prices 06-12-10'

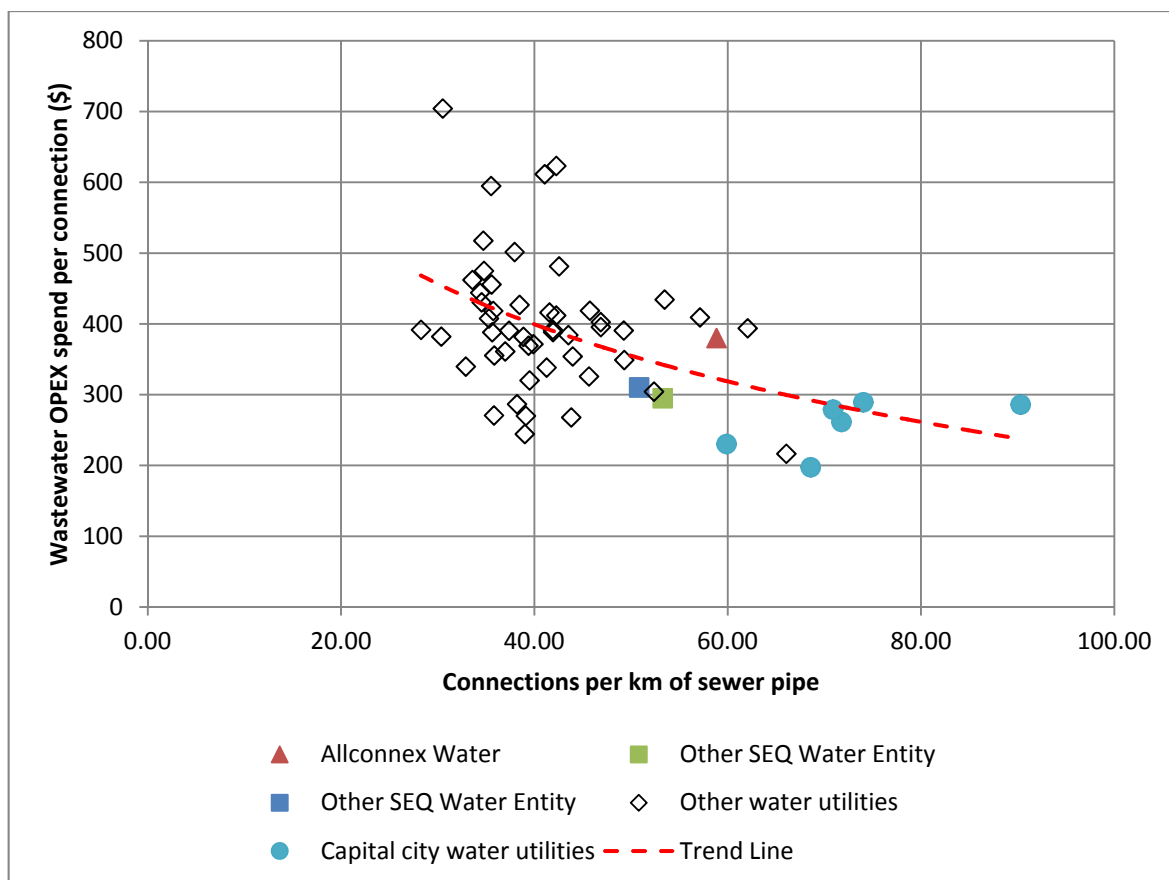
<sup>ii</sup> Charge is for raw (untreated) water Source: IPART, Review of charges for Sydney Catchment Authority, 2009

<sup>iii</sup> Calculated with figures from Allconnex Water

<sup>iv</sup> National Water Commission's National Performance Report Part C

<sup>v</sup> Source: ESC, Metropolitan Melbourne Water Price Review 2009m Schedule 2, CPI applied

Allconnex Water's wastewater operating expenditure is benchmarked in **Figure 9**. Similar to the operating costs for water, the NWC National Performance Report 2010/ 2011 has been used as a data source for peer organisations; with a cost escalation applied to adjust costs to 2011/ 2012 dollars.



Source: Allconnex Water 2011/12 Information Template, QUU 2011/12 Information Template, Unitywater 2011/12 Information Template, NWC National Performance Report 2010/11 (CPI applied).

■ **Figure 9 Comparison of Allconnex Water’s operating expenditure on wastewater services with other Australian water utilities.**

The chart shows that Allconnex Water’s wastewater operating costs are higher than similar sized entities and are higher than those of other capital city water utilities. Allconnex Water’s wastewater operating costs are also higher than those of the other water distributors/ retailers in the same region of Queensland.

We conclude that Allconnex Water’s water operating costs are generally higher than similar sized water service providers but that this is largely driven by bulk water costs. We also conclude that Allconnex Water’s wastewater operating costs are generally higher than those of similar sized water service providers.

**6.4. Sample selection**

In undertaking a review of prudence and efficiency of operating expenditure we have selected a sample of costs for detailed investigation. The sample is shown in **Table 36** below.



The selection of our sample is based on the categories that attract the largest portion of operating expenditure and includes both fixed and variable costs. We have, however, excluded Bulk water costs from our sample. These costs are determined by other agencies and are not within the control of Allconnex Water. Our sample includes 63.7 percent, 65.4 percent and 65.9 percent of the total forecast operating expenditure (less bulk water and non regulated services) for 2011/12, 2012/13 and 2013/14 respectively.

■ **Table 36 Operating expenditure sample selection for Allconnex Water**

Category	Service	Operating Expenditure (\$'000)		
		2011/12	2012/13	2013/14
Corporate costs	Drinking water	11,891.9	11,323.6	11,117.0
	Wastewater via sewer	16,988.3	16,217.9	15,926.7
	Trade waste	1,496.0	1,428.1	1,402.6
	<b>Total</b>	<b>30,376.2</b>	<b>28,969.6</b>	<b>28,446.3</b>
Employee costs	Drinking water	32,193.5	36,560.2	36,611.0
	Wastewater via sewer	43,600.6	49,204.7	49,263.8
	Trade waste	3,860.9	4,356.5	4,361.9
	<b>Total</b>	<b>79,655.0</b>	<b>90,121.4</b>	<b>90,236.7</b>
Electricity costs	Drinking water	3,972.2	4,385.3	4,696.2
	Wastewater via sewer	9,597.3	10,595.5	11,346.5
	Trade waste	860.3	949.8	1,017.1
	<b>Total</b>	<b>14,429.8</b>	<b>15,930.6</b>	<b>17,059.8</b>
Chemical costs	Drinking water	1,202.8	1,232.9	1,189.0
	Wastewater via sewer	3,069.7	3,146.4	3,034.5
	Trade waste	276.6	283.5	273.4
	<b>Total</b>	<b>4,549.1</b>	<b>4,662.8</b>	<b>4,496.9</b>
Sludge handling	Drinking water	0.0	0.0	0.0
	Wastewater via sewer	5,366.5	5,500.6	5,469.0
	Trade waste	486.9	499.0	496.2
	<b>Total</b>	<b>5,853.4</b>	<b>5,999.6</b>	<b>5,965.2</b>
<b>Total Sample</b>		<b>134,863.5</b>	<b>145,684.0</b>	<b>146,204.9</b>
<b>Total operating expenditure, less bulk water and non-regulated services</b>		<b>211,842.2</b>	<b>222,738.0</b>	<b>222,013.8</b>
<b>Percentage</b>		<b>63.7%</b>	<b>65.4%</b>	<b>65.9%</b>

Source: 2011/12 Information Template

In the 2010/11 Information template costs were not fully disaggregated for electricity costs, chemical costs and sludge handling. However, in **Table 37** we compare the operating expenditure for Corporate Costs and Employee Costs between the 2010/11 and 2011/12 Information Templates.



■ **Table 37 Comparison of Corporate and Employee expenditure between the 2010/11 and 2011/12 Information Templates**

Category	Source	Operating Expenditure (\$'000)	
		2011/12	2012/13
Corporate Costs	2010/11 Information Template	37,047.1	37,486.1
	2011/12 Information Template	30,376.2	28,969.6
	Variance	-6,670.9	-8,516.5
	Percentage variation	-18.0%	-22.7%
Employee Costs	2010/11 Information Template	64,439.3	69,386.2
	2011/12 Information Template	79,655.0	90,121.4
	Variance	15,215.7	20,735.2
	Percentage variation	23.6%	29.9%

Source: 2010/11 Information Template, 2011/12 Information Template

## 6.5. Corporate costs

### 6.5.1. Overview of operating expenditure

The operating expenditure relates to corporate costs that cannot be reasonably allocated to other cost types. These include:

- Personnel in the corporate group including:
  - General management
  - Board members
  - Legal counsel
  - Company secretary
  - Support staff in the corporate office
- Risk management
- Insurance management
- Environment management
- Property management
- Financial management
- Membership fees for industry or trade organisation
- IT systems (other than SCADA)
- Price monitoring staff

The corporate costs operational expenditure as provided in Allconnex Water's 2011/12 Information Template is shown in **Table 38** below.



■ **Table 38 Allconnex – corporate costs proposed operating expenditure profile**

Source	Costs (\$000s)			Total
	2011/12	2012/13	2013/14	
2011/12 Information Template	30,376.2	28,969.6	28,446.3	87,792.1

**6.5.2. Provided documentation**

The key reference documents used for this review are:

- *QCA Information Requirement Template*, Allconnex
- *Allconnex Water Annual Report 2209-2010*, Allconnex
- *Response to Request for Information RFI ID No: 0013*, Allconnex, 04/10/2011

**6.5.3. Prudency**

Allconnex Water has not identified a cost driver for corporate costs. We have assessed cost drivers to be legal obligations, new growth, operations and maintenance of existing infrastructure and increase in the standard of service.

The operational expenditure has been assessed as prudent as it is required in order to meet Allconnex Water’s legal obligations, meet new growth, facilitate the operation and maintenance of existing infrastructure and to facilitate any increases in the standard of service.

**6.5.4. Efficiency**

**Calculation of costs**

In its response to a request for information from us, Allconnex Water provided a breakdown of corporate costs, as shown in **Table 39**.

■ **Table 39 Breakdown of Allconnex Water’s corporate costs**

Corporate costs	Cost
<b>SLA payments to councils</b>	
Plant, Fleet & Equipment	\$7,693,897
Frameworks & Governance	\$6,892,380
ICT Billing & Information Management	\$1,009,498
Customer Service, Marketing & Branding	\$986,253
Properties & Facilities Management	\$983,502
Procurement	\$855,000
Additional SLA costs	\$832,960
Payroll	\$516,996
Financial Management and Reporting	\$499,419
Information Management	\$270,000



<b>Corporate costs</b>	<b>Cost</b>
Finance and Corporate Services	\$249,000
Financial Systems	\$43,500
<b>Total SLA payments to councils</b>	<b>\$20,832,450</b>
<b>Other corporate costs</b>	
Miscellaneous Expenses	\$3,252,275
IT Application Licences	\$1,479,831
Pmt Channel Fees - BPoint	\$1,370,287
Debt Collection	\$1,335,744
Additional Corporate Office costs	\$1,093,668
Fringe Benefit Tax (FBT) Expense	\$780,000
Board Member Fees	\$289,000
Sponsorship	\$125,000
IT Hardware Purchased	\$40,418
<b>Total Other Corporate Costs</b>	<b>\$9,766,223</b>
<b>Total Corporate Costs</b>	<b>\$30,598,627</b>

No further information has been provided. We do not have enough information to assess the accuracy of the calculation of Allconnex Water's corporate costs.

### **Delivery of service**

In its response to our request for information, Allconnex Water states that '*corporate costs are predominantly made up of Service Level Agreements (SLAs) with councils and additional corporate office expenditure.*

*Allconnex Water's budget for 2011-12 was prepared on the assumption of a gradual transition away from SLAs. However, due to the decision of participating councils to disestablish Allconnex Water, the business will now be required to continue to utilise existing council services until transition back to participating councils'.*

. Delivery of services giving rise to the majority of Allconnex Water's corporate costs will therefore be provided by participating councils under the SLAs in place. Delivery of services giving rise to other corporate costs outside of the SLAs will be carried out in-house by Allconnex Water until the business is transitioned back to the participating councils.

### **Market conditions**

No information has been provided as to the market conditions associated with Allconnex Water's corporate costs.



### **Efficiencies and economies of scale**

Allconnex Water states in its 2011/12 Information Submission that, in December 2010, Allconnex Water undertook a budget reforecast resulting in lower operating expenses when compared to the original 2010-11 price monitoring submission (2010/11 Submission). The budget process was again revisited in March 2011 resulting in further reductions in operating costs being incorporated in categories such as services and materials, chemicals and electricity. Efficiencies have also resulted from the consolidation of the three former council businesses into Allconnex Water, including through:

- Development of a centralised Contact Centre consolidating previous call centre arrangements provided through six areas in council's and each district's water business
- Alignment and consolidation of Water Education Programs from three districts to one central team

No further information is provided as to efficiencies or economies of scale that are applicable to Allconnex Water's corporate costs. We do not have enough information to assess the quantum of efficiencies and economies of scale realised by Allconnex Water.

### **Benchmarking**

Allconnex Water has not provided any information on the calculation of corporate costs or any associated benchmarking. We have conducted benchmarking to facilitate assessment of the efficiency of Allconnex Water's corporate costs.

In order to compare the corporate costs provided in Allconnex Water's 2011/12 Information Template with water retailers in other jurisdictions we examined the corporate costs as presented in a number of previous reviews by the New South Wales IPART and the Victorian Essential Services Commission, in addition to previous reviews by the Authority.

A comparison of benchmarking data to Allconnex Water's corporate costs is provided in **Table 40** below.





■ **Table 40 Corporate costs of the South East Queensland water retailers**

	<b>\$/FTE</b>	<b>\$/customer connection</b>	<b>\$/revenue</b>
<b>Allconnex Water</b>	<b>37.5</b>	<b>80.9</b>	<b>37.9</b>
Other SEQ retail/distribution entity	41.9	100.4	64.8
Other SEQ retail/distribution entity	34.3	107.3	72.2
Victorian water retail/distributor	106.9	78.5	75.1
Victorian water retail/distributor	87.3	61.0	76.6
Victorian water retail/distributor	63.1	34.1	42.1
NSW water retail/distributor	67.7	114.6	94.9
NSW water retail/distributor	65.6	132.0	135.6
Mean	63.0	88.6	74.9
25 <sup>th</sup> percentile	40.8	74.1	59.1
75 <sup>th</sup> percentile	72.6	109.1	81.2

When benchmarked against the other SEQ retail/distribution entities, Allconnex Water's Corporate Costs are comparable when considering the total number of employees within the organisation, and lower when considering the number of customers served and the annual revenue for the organisations.

Considering the benchmarking detailed above we conclude Allconnex Waters' Corporate Costs to be comparable to industry peers.

### **6.5.5. Summary**

Allconnex Water's corporate costs have been assessed as prudent as corporate costs are required for Allconnex Water's operation.

Allconnex Water's corporate costs have been assessed as efficient. We have benchmarked Allconnex Water's corporate costs to the corporate costs of other government owned water entities and found Allconnex Water's corporate costs to be comparable.

## **6.6. Employee expenses**

### **6.6.1. Overview of operating expenditure**

The labour cost budget for this item includes all staff Allconnex Water employs in the operation of its water supply, waste water treatment and corporate offices.

In its 2011/12 Information Template, Allconnex Water has budgeted \$75.79 M in the 2011/12 financial year increasing to \$85.87 M in the 2013/14 financial year.

**Table 41** shows the proposed cost of the Allconnex Water employee expenses within the entity's budget for the next three financial years commencing 2011/12.



■ **Table 41 Allconnex Water – proposed operating expenditure profile**

Source	Costs (\$000s)		
	2011-12	2012-13	2013-14
2011/12 Information Template	75,794	85,765	85,875

**6.6.2. Provided documentation**

The key reference documents used for this review are:

- Allconnex Water’s 2011/12 Submission
- Responses to SKM’s requests for information
  - *RFI-0001 – Operating expenditure review – sample review list*
  - *RFI-0014 – Operating expenditure – employee costs*

**6.6.3. Prudence**

The expenditure on employee expenses is used to meet the following driver categories:

- Legal obligations
- Operations and maintenance of existing infrastructure

Allconnex Water is required to supply drinking water and treat wastewater to meet license conditions for public health and environmental discharge limitations. The engagement of labour to operate and maintain the infrastructure under the responsibility of Allconnex Water is required to fulfil its obligations and hence, is prudent.

**6.6.4. Efficiency**

**Calculation of costs**

Labour costs are developed bottom up on an employee by employee basis. A base salary is calculated for each employee, statutory on-costs are then applied and an allowance is made for overtime based on historical trends. Labour costs are escalated consistent with Allconnex Water’s Enterprise Bargaining Agreement, which specifies an escalation of 3.9 percent in Gold Coast and 4 percent in Redland from 1 July 2011. Future negotiations on enterprise bargaining agreements have been placed on hold pending decisions relating to structural changes of Allconnex Water. Allconnex Water has forecast labour cost increases of four percent per annum for the review period after the expiry of the current enterprise bargaining agreement.

There are a total of 609 employees attributable to the provision of water and wastewater services. The total labour costs for water and wastewater services is \$75.79 M, corresponding to an average of \$124,450 per employee, noting that the overall cost estimate includes allowance for overtime.



The base salary is 70-75 percent of total labour costs with superannuation, leave allowances and payroll tax in addition.

### **Delivery of service**

The operation of water and wastewater services is conducted in house by a total of 609 employees. There is insufficient detail provided in Allconnex Water's 2011/12 Submission, Information Template and subsequent responses to requests for information to split the workforce between water and wastewater operations.

### **Market conditions**

The labour market for the water industry in Australia has experienced an average growth in prices of slightly over four percent<sup>4</sup> per annum over the last four years. This has influenced the negotiation processes surrounding new enterprise bargaining agreements with annual wage increases being locked into increases between 3.9 percent and 4.25 percent through the SEQ water industry.

The budget forecasts by Allconnex Water has set labour prices to increase at 6.6 percent per annum, allowing for wage increases of four percent as per the forecast new enterprise bargaining agreement and a further 0.5 percent for wage increases between award bands and the remainder taking into account the filling of the vacancies present in the Allconnex Water operations group.

### **Efficiencies and economies of scale**

Allconnex Water has not identified any efficiency in employee expenses in its 2011/12 Information Submission.

### **Benchmarking**

Allconnex Water has not undertaken any internal benchmarking of operating expenditure in the development of the 2011/12 budget forecasts.

Compared to the other two entities, Queensland Urban Utilities and Unitywater, Allconnex Water has a similar percentage breakdown of employee costs versus total operating expenses with it averaging approximately 21 percent of annual expenditure.

The 2011/12 budget forecast developed by Allconnex Water has provision for the 137 vacancies present in the organisation being filled this would result in the average cost per employee reducing from \$124,450 to \$101,600. This compares to an average employment cost per full time equivalent of \$97,860 for Queensland Urban Utilities. However, given the decision by the participating councils to disestablish Allconnex Water, we understand that Allconnex Water has put on hold indefinitely recruitment of permanent staff.

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<sup>4</sup> Australian Bureau of Statistics - ABS 6345.0



### 6.6.5. Summary

The engagement of labour to operate and maintain the infrastructure under the responsibility of Allconnex Water is required to fulfil its obligations and hence, is prudent.

The expenditure for labour in operating and maintaining the infrastructure under the responsibility of Allconnex Water is efficient.

## 6.7. Electricity costs

### 6.7.1. Overview of operating expenditure

Allconnex Water uses electricity for their water and wastewater pumping, wastewater treatment and corporate offices.

In its 2011/12 Information Submission, Allconnex Water has budgeted \$14.43 M in the 2011/12 financial year increasing to \$17.06 M in the 2013/14 financial year. Electricity is supplied to Allconnex Water for use at its sites by the following two retailers following an amalgamation of suppliers from previous council contracts:

- ERM Power supply electricity to the large contestable sites (>100MWh consumption per annum)
- TRUenergy supply electricity to the small contestable sites (<100MWh consumption per annum)

Allconnex Water has engaged ERM Power in a 24 month contract with the term expiring on 31 December 2012 and TRUenergy on a 42 month contract with the term expiring on 30 June 2014.

**Table 42** shows Allconnex Water's forecast electricity costs for the next three financial years commencing 2011/12.

#### ■ Table 42 Allconnex Water – proposed electricity costs profile

Source	Costs (\$000s)		
	2011/12	2012/13	2013/14
2010/11 Information Template	14,930	16,730	-
2011/12 Information Template	14,430	15,931	17,060

### 6.7.2. Provided documentation

The key reference documents used for this review are:

- 2011/12 Submission
- Responses to SKM's requests for information



- *RFI-0001 – Operating expenditure review – sample review list*
- *RFI-0015 – Operating expenditure – electricity costs*

### **6.7.3. Prudence**

The expenditure on electricity is used to meet the following driver categories:

- Legal obligations
- New growth
- Operations and maintenance of existing infrastructure

Allconnex Water is required to supply drinking water and treat wastewater to meet license conditions for public health and environmental discharge limitations. Electricity provides motive and process energy for the operation of these services.

As the population of SEQ grows, additional water and wastewater services are required to be supplied. Electricity consumption is proportional to the quantity of water supply and wastewater processing and will therefore increase with population growth in the service area.

Electricity is an integral part of the operation and maintenance of the existing infrastructure under the responsibility of Allconnex Water. All pump stations, process plants and office facilities require electricity to function and operate safely.

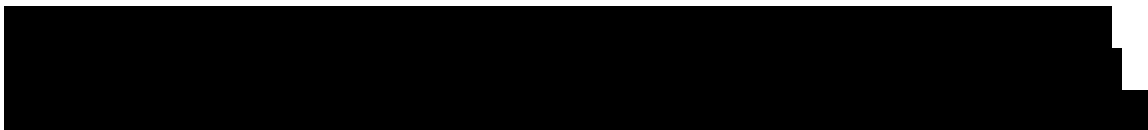
The purchase of electricity for the operation of water supply, wastewater treatment plants and office facilities is required to fulfil Allconnex Water's obligations and hence, is prudent.

### **6.7.4. Efficiency**

#### **Calculation of costs**

Allconnex Water has calculated electricity costs using the following inputs:

- Previous year consumption and cost history
- Flow increase forecasts from growth
- Cost escalation calculated via the two electricity supply contracts entered into by Allconnex Water with ERM Power and TRUenergy and forecast increases to network and distribution charges.





For future years Allconnex Water utilised the same method as previous years in calculating electricity costs based on BRCI increases for the small and large contestable sites once contract terms have expired. Allconnex Water’s electricity expenditure increase (incorporating both growth and unit price increase) is shown in **Table 43**.

■ **Table 43 Allconnex Water – electricity cost increase**

2011-12	2012-13	2013-14
17.64 %	10.40 %	7.09 %

	2011/12	2012/13	2013/14
Electricity expenditure, annual increase	17.6%	10.4%	7.1%
Bulk water demand increase	10.3%	2.1%	2.4%
Assumed electricity cost escalation	6.6%	10.4%	10.4%

Source: 2011/12 Information Template, 2011/12 Submission

**Delivery of service**

Electricity is provided to Allconnex Water by two external parties selected via a competitive tender process. In the second half of 2010, Allconnex Water released an invitation to tender to the retail electricity market in an effort to amalgamate electricity supply providers for their sites inherited from the various councils. The tender consisted of the following requirements:

- Supply of electricity to all large contestable sites over a 12, 24, 36 or 42 month period
- Supply of electricity to all small contestable sites over a 12, 24, 36 or 42 month period

The tender submissions for the two parts were:

- Large contestable sites – Four retailers provided tenders for the supply of electricity.
- Small contestable sites – Six retailers provided tenders for the supply of electricity.

Tender evaluations were undertaken using internal Allconnex Water processes and external Local Buy Pty Ltd processes. The recommendation from the review was for Allconnex to select the following:

- ERM Power for the large contestable sites for a period of 24 months
- TRUenergy for the small contestable sites for a period of 42 months

**Market conditions**

For the tender process Allconnex Water received offers from four retailers for the large contestable sites and from six retailers for the small contestable sites. This gives evidence to the competitive



nature of the electricity retail market in that suppliers are willing to pursue competitive opportunities to sell electricity to industrial and utility companies. Allconnex Water's ability to lock in a 24 month supply contract for its large contestable sites and a 42 month contract for its small contestable sites has enabled it to sterilise the impact of external forces on electricity prices.

### **Efficiencies and economies of scale**

Allconnex Water has combined their sites into two categories, large and small contestable sites. The large contestable sites provide real time electricity consumption data to the retailer whilst the small contestable sites are either unmetered or have in-situ meters that require physical reading for each billing period to record consumption.

By combining the site supplies to two retailers, Allconnex Water has sought to benefit from economies of scale in seeking electricity supply contracts. Forecast savings for Allconnex Water over the two financial years 2011/12 financial year and 2012/13 financial year are \$1.3 M for all sites compared to the Allconnex Water 2010/11 Submission.

Allconnex Water has not provided any additional efficiency improvements with respect to electricity consumption other than the amalgamation of electricity suppliers undertaken in December 2010.

### **Benchmarking**

The forward market for electricity supply is influenced by a number of variables that impact the price a retailer is willing to offer for future supply. An example of some of these variables is listed below:

- Recent (to retail offer) spot electricity market volatility
- Policy announcements and decisions – both State and Commonwealth
- Availability of market supply
- Consistency of load profile

A review of retailer supply price offers before and after the Commonwealth Government's announcement of a carbon tax in February 2011 showed an average 25 percent increase in prices following the announcement. Retailers have priced future carbon tax impacts into their offers based on the level of industry compensation and average market carbon intensity.

In the retail electricity supply market, customers are price takers and have limited ability to influence the price offered by retailers. Comparing the tenders received by Allconnex Water for the supply of electricity, the spread of peak and off peak prices for the large contestable sites was within  $\pm 4$  percent of the average price for the all periods offered. This close grouping of prices further demonstrates the competitive nature of the retail electricity supply market.



It is difficult to provide a direct comparison between entities as electricity consumption is a function of:

- Population demand habits
- Local topography and water and wastewater piping hydraulic characteristics
- Number of pumping stations

A possible alternative method for benchmarking entities in terms of assessing energy efficiency could be reviewing energy consumption in wastewater treatment operations. However the data provided is not available in sufficient detail to undertake the assessment and results could be distorted by inclement weather influencing regional wastewater flows.

#### **6.7.5. Summary**

The purchase of electricity for operation of water supply and wastewater treatment plant is required to fulfil Allconnex Water's obligations and hence, is prudent.

Purchasing electricity via long term supply contracts for the large and small contestable sites is efficient as the process has sought to secure electricity supply for the lowest cost to the end consumer. We therefore conclude that Allconnex Water's electricity costs are efficient.

### **6.8. Chemical costs**

#### **6.8.1. Overview of Allconnex Water Chemical Costs**

Allconnex Water's chemical costs are the costs associated with the operation and maintenance of existing infrastructure. The chemicals are generally dosed during treatment processes, and are required to ensure that Allconnex Water meets service standards.

Allconnex Water's operating expense budget reported in its 2011/12 Submission (excluding bulk water costs) for the 2011/12 and 2012/13 years is higher than that reported in the 2010/11 submission by 1.3% and 1.4% respectively. No explanation for the increase in chemical costs for these years has been provided.

Overall, Allconnex Water's operating costs for the 2010/11 year were \$36,300,000 lower than budget, with \$24,000,000 less bulk water and \$9,500,000 less labour expenses. No information has been provided as to the percentage of the remaining \$2,800,000 reduction in operation costs that may have arisen from chemical operational expenses as a result of treating lower volumes of water and wastewater than budgeted.

**Table 44** shows the proposed cost of Allconnex Water's chemical costs within the entity's budget for the 2011/12 to 2013/14 period as provided in its 2011/12 Information Template and 2011/12 Submission. **Table 45** provides a breakdown of chemical costs by geographic region and service.





■ **Table 44 Allconnex Water Chemical Costs – proposed operating expenditure profile**

Source	Costs (\$000s)		
	2011-12	2012-13	2013-14
2011/12 Information Template	\$4,549	\$4,663	\$4,497

Allconnex Water’s chemical by geographic region and service is shown in **Table 45**.

■ **Table 45 Allconnex Water Chemical Costs by geographic region and service**

Geographical Area	Service	Costs (\$000s)		
		2011/12	2012/13	2013/14
Gold Coast	Water	\$1,203	\$1,233	\$1,189
	Wastewater (incl. trade waste)	\$1,988	\$2,037	\$1,965
Logan	Water	\$0	\$0	\$0
	Wastewater (incl. trade waste)	\$739	\$757	\$730
Redlands	Water	\$0	\$0	\$0
	Wastewater (incl. trade waste)	\$620	\$635	\$613

Source: 2011/12 Information Template, 2011/12 Information Submission

**6.8.2. Provided documentation**

The key reference documents used for this review are:

- Response to Information Request, Allconnex Water, 14/09/2011
- Price Monitoring Submission 2011-2012, Allconnex Water, 2011

**6.8.3. Prudence**

The response to our request for information identifies operations and maintenance of existing infrastructure as the cost drivers.

We agree that operations and maintenance of infrastructure is the appropriate cost driver.

No information has been provided as to the type and quantity of chemicals required by Allconnex Water. However, chemicals are required for wastewater treatment processes to meet license conditions and for drinking water to meet the Australian Drinking Water Guidelines. Therefore, we find the chemical budget proposed by Allconnex Water to be prudent.



#### 6.8.4. Efficiency

##### Calculation of costs

The chemical costs provided in Allconnex Water's 2011/12 Information Template have been calculated by applying escalation factors directly to the expenditure forecasts identified in the 2010/11 budget. These new chemical costs reflect inflation forecasts reported in the Economic Statement issued by the Australian Government in July 2010. The escalation factors applied to chemical costs are provided in **Table 46**.

■ **Table 46 Escalation factors utilised in chemical cost estimates**

	2011/12	2012/13	2013/2014
Chemical cost escalation	2.7%	2.5%	2.5%
Bulk water demand increase	10.3%	2.1%	2.4%

Source: 2011/12 Information Template, 2011/12 Information Submission

The escalation factors applied in the 2011/12 Submission vary to those applied in the 2010/11 Submission of 3% cost index plus growth factor. No explanation is provided for the change in escalation factor between the 2010/11 and 2011/12 price monitoring submissions nor why growth forecasts have not been taken into consideration in determining the escalation factors.

In comparison, for the 2011/12 Submission Queensland Urban Utilities applied escalation factors of 4%, 2.75% and 3% for the 2011/12, 2012/13 and 2013/14 years respectively.

No further information has been provided on the type or quantity of chemicals used, nor has information been provided on unit cost or total costs of chemical expenses. No information has been provided as to Allconnex Water's chemical usage in 2010/11 compared to the 2010/11 budget. However, as less bulk water was purchased by Allconnex Water than budgeted for in 2010/11 we would expect actual chemical usage and hence expenditure to be below the budgeted amount.

##### Delivery of service

In its response to our request for information on chemical purchases, Allconnex Water advised that chemicals are purchased under multiple small contracts or purchase orders with a range of different suppliers. During an interview on the 28<sup>th</sup> September 2011 Allconnex Water also advised that chemicals were purchased on a geographic basis using a diverse range of contracts. A number of these contracts were novated from the participating councils at the formation of Allconnex Water but a number of new contracts have been put in place subsequent to formation of Allconnex Water.



### Market conditions

In an interview on the 28<sup>th</sup> September, Allconnex Water advised that the market that they were operating in was small and not competitive, with some chemicals only being able to be single sourced and some suppliers only supplying a limited range of chemicals.

### Efficiencies and economies of scale

Allconnex Water stated during the interview on the 28 September 2011 that as the chemical market they were operating in is small they did not consider it would be possible to aggregate all chemical purchases into a single contract and that there were limited opportunities to achieve economies of scale through reducing the number of suppliers and amalgamating contracts. However they advised that it would be possible to amalgamate contracts for a single chemical type across the regions.

We note that in its 2011/12 Submission, Allconnex Water states that *'efficiencies have also resulted from the consolidation of the three former council businesses into Allconnex Water, including through the negotiation of new contracts for electricity and some chemicals'*. However, no information has been provided of any contracts for chemicals or for any efficiency savings achieved.

From our discussions with other water utilities, we consider that efficiency gains should be capable of being achieved by Allconnex Water reducing the number of contracts and suppliers in place for chemicals and in seeking to aggregate chemical purchases across its operating regions.

### Benchmarking

In **Table 47** we benchmark Allconnex Water's chemical costs with those of other SEQ water retail/distribution entities. In comparison with the other entities, Allconnex Water has the middle range unit cost of chemicals for water and wastewater for the 2011/12 to 2013/14 period.

#### ■ Table 47 Benchmarking of chemical costs

Service	Entity	Chemical Cost (\$'000)	Volume/connections	Chemical Cost per Volume/Connection
Per volume of drinking water demand	<b>Allconnex Water</b>	<b>\$4,549</b>	<b>80,507 ML</b>	<b>\$56.50</b>
	Other SEQ retail/distribution entity	\$4,514	108,914 ML	\$41.45
	Other SEQ retail/distribution entity	\$4,859	66,000 ML	\$73.62
Per wastewater connection	<b>Allconnex Water</b>	<b>\$4,549</b>	<b>370,591</b>	<b>\$12.27</b>
	Other SEQ retail/distribution entity	\$4,514	493,383	\$9.15
	Other SEQ retail/distribution entity	\$4,859	293,493	\$16.56

Source: 2011/12 Allconnex Information Template, 2011/12 Allconnex Information Submission, 2011/12 QUU Information Template, 2011/12 Unitywater Information Template

Qualitative factors that may vary across the three entities that should be read in conjunction with the above benchmarking are:



- Consistency of return factor (the ratio of water volume returned to the sewer network to the volume of drinking water consumed).
- Inclusion of recycled water treatment costs and the variety of treatment processes used at wastewater treatment plants
- Network size and requirements for odour control
- Wastewater discharge and other environmental license conditions

From our review of efficiency, our benchmarking that Allconnex Water's Chemical Costs are comparable to other SEQ retail/distribution entities. We do, however, highlight potential cost savings through economies of scale by consolidating supply agreements, as the agreements novated from contributing councils expire. We further note that that method used for the calculation of costs and application of growth and cost escalation indices are reasonable.

We conclude that Allconnex Water's chemical costs are efficient.

#### **6.8.5. Summary**

Benchmarking has shown that Allconnex Water's Chemical Costs are comparable to other SEQ retail/distribution entities. We further note that that method used for the calculation of costs and application of growth and cost escalation indices are reasonable. Subject to the future direction of the organisation we would recommend that Allconnex water include market analysis as part of its five year plan, to confirm any opportunities for efficiency gains by consolidating chemical supply contracts.

We conclude that Allconnex Water's chemical costs are efficient.

### **6.9. Sludge handling**

#### **6.9.1. Overview of operating expenditure**

The expenditure is due to the requirement to transport and treat bio-solids from Allconnex Water's Wastewater Treatment Plants. The three former council areas have their own contracts for the provision of these services by third parties. This has made the assessment difficult as there are differing degrees of detail in the documentation provided.

**Table 48** shows the proposed cost of the Allconnex Water sludge handling costs within the entity's budget for the next three financial years.



■ **Table 48 Allconnex Water sludge handling costs – proposed operating expenditure profile**

Source	Costs (\$000s)		
	2011-12	2012-13	2013-14
2011/12 Information Template	5,367	5,501	5,469

Sludge handling rates were not disaggregated in the 2010/11 submission to the Authority.

**6.9.2. Provided documentation**

The key reference documents used for this review are:

- *QCA Information Requirements Templates Confidential Final*, Allconnex Water
- *Allconnex Water Price Monitoring Submission 2011-2012*, Allconnex Water hereafter called the *Price Monitoring Submission*
- *Response to QE09969-2000-OEC-RI-M3-0001*, Allconnex Water
- *O5 Gold Coast Biosolids contract extract*, Gold Coast City Council, 23 June 2010
- *O6 - Logan Biosolids Contract*, Logan City Council, 6 October 2010
- *O7a - Redland Biosolids Tender Assessment Report*, Redland City Council, April 2009 hereafter called the *Redland Tender Assessment Report*
- *O7b - Redland REMOVAL & TREATMENT OF BIOSolids*, Redland City Council hereafter called the *Redland Invitation to Tender*
- *O7c - Redland Biosolids CONDITIONS OF CONTRACT*, Redland City Council. It should be noted that this document has no Contractor details entered and so has not been considered in this exercise however the following document is a copy of the signed contract.
- *1199-2009-RWW-0000 Formal Instrument of Agreement Tender Number 1199-2009-RWW Removal and Treatment of Biosolids*, Allconnex Water , 15 June 2009 hereafter called the *Redland City Council contract*
- *Response to QE09969-2000-OEC-RI-M3-0016*, Allconnex Water , 6 October 2011

**6.9.3. Prudency**

In its response to our requests for information, Allconnex Water states that ‘*the majority of sludge handling expenditure is related to operation and maintenance at existing wastewater infrastructure sites (proportion not quantified).*’

This implies that a proportion of the expenditure is due to other drivers. The other drivers that could result in a sludge handling operating expenditure are:

- Legal obligations, including:



- *The Water Act (2000)* mandates water and sewerage service providers to prepare a Total Management Plan (TMP) and a Strategic Asset Management Plan (SAMP). The Bio-solids Management Sub-Plan is a component of the combined TMP and SAMP.
- *The Environmental Protection Act (1994)* classifies sludge, grit and screenings as 'regulated waste.'
- The Environmental Protection (Waste Management Plant) Regulation (2000) details requirements management of bio-solids
- The Public Health Act (2005) must be complied with
- New growth

The expenditure has been demonstrated to be prudent.

#### **6.9.4. Efficiency**

##### **Calculation of costs**

Contracts have been received that correspond to each of the regions that comprise Allconnex Water, which allow a high level review of the costs. The costs are for recurrent expenditure.

The services defined in the Logan City Council contract are for the transportation and disposal of de-watered sludge, grit and screenings from two wastewater treatment plants. The bio-solid transportation and disposal rates have been applied to five contamination levels that correspond to the grading tables in the Use and Disposal of Bio-solids Products in the New South Wales *Environmental Protection Act (1997)*.

[REDACTED] These rates compare favourably to rates for similar services that are known to us from previous high level assessment of sludge handling costs.

Additionally the Logan City Council contract defines rates for the transportation and disposal of grit and screenings from two wastewater treatment plants. These rates are per service and do not contain a breakdown of the costs that would allow a review of the costs.

The Gold Coast City Council contract with Arkwood Pty Ltd defines two sets of rates for the collection and removal of bio-solids for each wastewater treatment plant. These sets of rates have been defined for bio-solids that are suitable for re-use and for bio-solids that are not suitable for re-use.

[REDACTED] Again these high level rates correspond with rates that we are aware of for similar services.



The costs submitted by Thiess Services to Redlands City Council for each wastewater treatment plant are split into two categories, the first being for the removal of de-watered bio-solids including individual quantities report and the second for treatment of de-watered bio-solids.

The treatment is defined in the *Redland City Council contract* as the beneficial re-use of bio-solids at the Swanbank Waste Management Facility through the production of recycled organic material.



These high level rates correspond with rates for similar services known to us and so demonstrate the efficiency of the project in terms of cost.

It is stated in the *Redland City Council contract* that “no maximum or minimum bio-solids quantities are guaranteed.” Likewise the contract for the former Gold Coast City Council states that the quantities are “based on an estimated annual amount (and) actual quantities for each site will be subject to orders and/ or requested supply in accordance with the terms of Contract.” Similarly the former Logan City Council contract states that “the Principle (the council) does not guarantee the sludge production ... The Contractor will be required to accept all sludge irrespective of the quantity.”

Although no explanation has been given of how the annual bio-solids volumes are calculated this is assessed as reasonable. This is because Allconnex Water has limited control over the volume of sludge produced and larger volumes of sludge is unlikely to result in a reduction in the rates quoted as the makeup of these rates is largely volume related.

### **Delivery of service**

These services are provided by external companies as is shown in the provided contracts for each of the former council areas.

The contract issued by Gold Coast City Council to Arkwood Pty Ltd is for the transportation and disposal to beneficial re-use of bio-solids and for the disposal of bio-solids not suitable for re-use. The contract period is from June 2010 to September 2011 with options to extend it to September 2012 and then September 2013.

Similarly the contract between Logan City Council and Arkwood Pty Ltd is for the transportation and disposal of bio-solids, grit and screenings. This contract is for 12 months with options to extend it twice by 12 months.



The contract issued by Redland City Council is for the transportation and disposal to beneficial use of bio-solids. The contract is for three years with an option to extend the contract by one year.

In its response to our requests for information, Allconnex Water states that *“Allconnex Water is therefore bound to the existing provisions of this contract. However, in the circumstances of the business continuing, negotiation of a consolidated contract in the future, incorporating the three districts would have occurred. This would potentially provide efficiencies and savings to the business.”* This demonstrates that Allconnex Water is not in a position to capitalise on economies of scale arising from consolidation of contracts across its three regions for sludge disposal due to the recent decision to disestablish Allconnex Water. The lengths of the contracts are reasonable.

The bio-solids are required to be sent to beneficial re-use due to obligations of the legislation previously stated. Additionally very few landfill sites have licences to dispose of bio-solids.

### **Market conditions**

The *Redland Tender Assessment Report* details the tender assessment process undertaken on behalf of Redland City Council. The assessment took cognisance of the following factors:

- Economic
- Environmental and social
- Technical

It is not known if the other contracts went through a similar process.

Grit and screenings handling is a fairly competitive market however, there are currently only two sizeable companies who provide sludge handling services in South-East Queensland, meaning that the market is not as competitive as for grit and screenings handling. This is because a company requires a licence to provide sludge handling services which is seen as a barrier to entry.

### **Efficiencies and economies of scale**

We believe a more cost effective way to deliver the services may have been to contract the services out in one contract to benefit from any economies of scale. This was part of Allconnex Water’s five year plan. The approach would have been to benefit from great buying power, however as there are a limited number of companies in the market, and many of the costs are volume related the anticipated efficiencies may not be realised.

### **Benchmarking**

As previously stated the costs for the contracts from Redland City Council and Logan City Council correspond to the expected market rates for cost per tonne. However the costs should be stated in a cost per tonne per kilometre of sludge transported in order to assess the efficiency of the rates effectively.





### 6.9.5. Summary

The project has been assessed as prudent.

The project has been assessed as efficient.

It would aid the review if the sludge handling service cost could be provided in an average cost per tonne per kilometre transported for sludge and, if relevant, for grit and screenings for each Wastewater Treatment Plant. Additionally the estimated annual sludge volume and the estimated annual grit and screenings volume should be submitted for each Wastewater Treatment Plant.

### 6.10. Overall summary of operational expenditure review

Allconnex Water has provided details of forecast operating expenditure in its 2011/12 Information return template. Total expenditure is \$385.5M, \$424.9M and \$453.8M in 2011/12, 2012/13 and 2013/14 respectively.

For the 2011/12 budget, 61% of total operating expenditure is attributable to water services, 38% to wastewater services and 1% to non-regulated services. Due to the relative population within each of the geographic areas, Gold Coast attracts 64% of total operating expenditure. Logan and Redland account for 25% and 11% of total operating expenditure respectively.

We have compared the forecast operating expenditure with that detailed in the 2010/11 Information Return approved by the Authority. It was observed that:

- The 2011/12 Information Return forecasts total operating expenditure in 2010/11 will be \$37.8M less than the budget approved in the 2010/11 Information Return
- The 2011/12 Information Return forecasts operating expenditure in 2011/12 and 2012/13 will be respectively \$18.6M and \$24.9M less than approved in the 2010/11 Information Return
- The primary reason for the reduction in forecast cost for 2011/12 and 2012/13 is a reduction in bulk water costs. As the price path for bulk water costs is fixed, we conclude that the reduction in bulk water costs is due to demand being less than forecast

We have reviewed Allconnex Water's forecast aggregate operating expenditure for 2011/12, 2012/13 and 2013/14. We note the following:

- Total operating expenditure has been compared with the other retail/distribution entities in SEQ using customer base, network size and volume metrics. Our analysis shows the following:
  - Customer base: total operating costs are higher than those of national peer organisations, but similar to the other retail/distribution entities in SEQ
  - Network size: total operating costs are higher than both national peer organisations and other retail/distribution entities in SEQ



- Volume: total operating costs are higher than those of national peer organisations, but less than the other retail/distribution entities in SEQ
- We have benchmarked the operating expenditure for water services with Australian industry peers. Our analysis shows that Allconnex Water, and the other SEQ retail/distribution entities, are seen to be higher than those of national peer organisations when benchmarked against customer numbers, network size and volume of water delivered. A large portion of water costs is for bulk water delivery – the cost of which is not controllable by Allconnex Water and greater in SEQ than the other Australian capital cities used in the comparison.
- We have benchmarked the operating expenditure for wastewater services with Australian industry peers. Our analysis shows that Allconnex Water’s wastewater services operating costs are greater than those of national peer organisations and other SEQ retail/distribution entities.

We conclude that when considered in aggregate, Allconnex Water’s operating expenditure is higher than other Australian water authorities, but still within a range that we consider to be reasonable, particularly when taking into account the higher bulk water charges carried by Allconnex Water than other non SEQ water entities in Australia.

We have reviewed forecast expenditure in detail for a sample of operating categories and applied a prudence and efficiency test. The sample included both water and wastewater services and covered 64% of total operating expenditure in 2011/12 (excluding bulk water expenses and non-regulated services). A summary of our findings is shown in **Table 49** in which the revised costs take into account our assessment of prudence and efficiency only and not our recommended changes in water and wastewater growth projections (Section 8).

■ **Table 49 Summary of prudence and efficiency of operating expenditure sample.**

Category	Cost 2011/12 \$ ('000)	Prudent	Efficient	Revised cost 2011/12 \$('000)
Corporate costs	30,376.2	Prudent	Efficient <sup>1</sup>	30,376.2
Employee expenses	79,655.0	Prudent	Efficient <sup>1</sup>	79,655.0
Electricity costs	14,429.8	Prudent	Efficient	14,429.8
Chemical costs	4,549.1	Prudent	Efficient	4,549.1
Sludge handling	5,853.4	Prudent	Efficient	5,853.4

1. Our assessment of efficiency takes into account the maturity of the business and legislative constraints that are imposed on the business (eg Workforce Framework Agreement).

From our analysis of the sample selected all expenditure categories are considered prudent and efficient.



## 7. Capital Expenditure

This section contains the review of prudence and efficiency of Allconnex Water's proposed capital expenditure for the 2011/12 financial year. The section includes the following sub-sections:

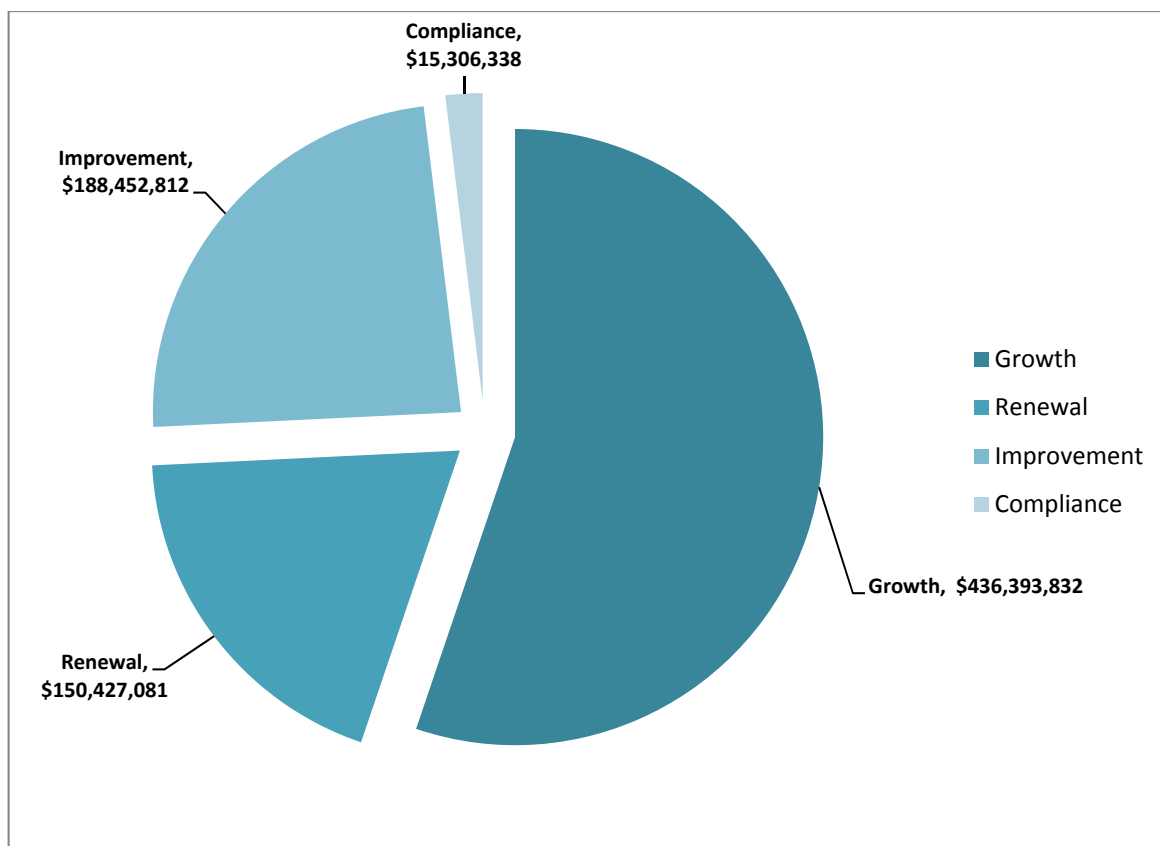
- Overview of Allconnex Water's capital expenditure for 2011/12
- SKM's sample selection
- Overview of prudence and efficiency of Allconnex Water's capital expenditure
- Detailed prudence and efficiency reviews of the each selected sample
- Summary and recommendations

### 7.1. Overview of capital expenditure

The Authority required that to assess the prudence of capital expenditure, Allconnex Water must attribute one or more of the following drivers to the capital expenditure projects submitted:

- *Growth* - capital expenditure designed to provide an increase in the capacity or capability of an asset in response to increased demand, growth or variations required by a customer
- *Improvement* - capital expenditure associated with upgrading service outcomes to improve asset efficiency; reliability or increase the anticipated life of an asset to prevent a service non-compliance or capacity shortfall
- *Compliance* - capital expenditure associated with the replacement and or enhancement of an asset to prevent a non-compliance with legislative requirements such as the Water Act, Water Market Rules, Grid Services Contract, Water Quality Guidelines and Occupational Health and Safety.
- *Renewal* - capital expenditure associated with the replacement and or enhancement of an asset that is currently compliant with service performance standards and legislative requirements but faces an unacceptable risk of future non compliance

Allconnex Water proposes to invest \$800M in the three years to the end of the financial year 2013/14. The breakdown of costs for the 2011/12 to 2013/14 financial years budgets can be seen in **Figure 10** below. Total capital expenditure, capital expenditure by cost driver, service and geographical area are shown in **Table 50**.



Source: *Data template* (Allconnex Water, 2011)

■ **Figure 10 Forecast capital expenditure for 2011/12 to 2013/14 by cost driver**

**Figure 10** illustrates the expenditure by driver. **Table 51** documents the expenditure by driver and the service.

■ **Table 50 Capital expenditure (\$M)**

	2011/12	2012/13	2013/14	Total
Capital expenditure (Allconnex)	151.20	224.89	414.49	790.58
Capital expenditure (including contributed assets and establishment costs)	182.97	257.45	447.86	888.28
Difference	31.77	32.56	33.38	97.70

■ **Table 51 Forecast capital expenditure by cost driver and water and wastewater (\$M)**

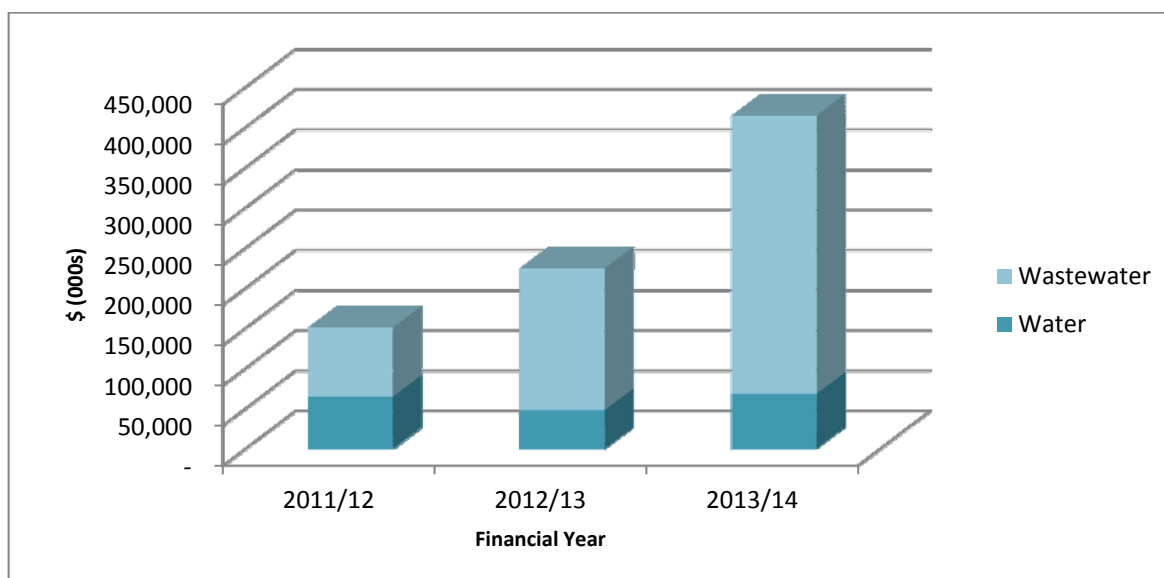
	2011/12	2012/13	2013/14	Total
Growth	62.43	114.58	259.39	436.39
Renewal	39.57	44.92	65.94	150.43
Improvement	46.79	64.34	77.32	188.45
Compliance	2.42	1.05	11.84	15.31
<b>Total</b>	<b>151.20</b>	<b>224.89</b>	<b>414.49</b>	<b>790.58</b>



	2011/12	2012/13	2013/14	Total
<b>Comprising</b>				
<b>Water</b>	64.81	48.34	68.94	182.08
<b>Wastewater</b>	86.39	176.55	345.55	608.50

Source: *Data template* (Allconnex Water, 2011)

Review of **Table 51** indicates that the proposed expenditure for renewals and improvements are increasing at a moderate rate to be approximately 50 percent after two years. In addition, the disaggregation by service illustrates a steady increase in expenditure in water services and a step change in expenditure in wastewater services in 2013/14. Expenditure on growth is increasing by approximately 100 percent per year compounded. This is a significant increase and is an illustration of the recommencement of delayed capital expenditure resulting from the recent restructure.



Source: *Data template* (Allconnex Water, 2011)

■ **Figure 11 Forecast capital expenditure for 2011/12 to 2013/14 by category**

The generally steady expenditure in water services is reasonable as Allconnex Water is responsible for the distribution of water only, not the supply, treatment or conveyance of bulk water to key grid nodes. Conversely for wastewater, Allconnex Water is responsible for the entire suite of municipal service, including treatment and release. As such there is expected to be step increases (and subsequent decreases) in capital expenditure as a result of the augmentation of wastewater treatment plants that had previously been deferred.

A key future challenge for Allconnex Water will be to maintain compliant service whilst managing concurrent augmentations and the implementation of a significantly large capital budget.

**Table 52**, **Table 53** and **Table 54** detail the capital expenditure by district.



■ **Table 52 Capital expenditure for water by geographic area (\$M)**

	2011/12	2012/13	2013/14	Total
Gold Coast	34.62	28.45	49.41	112.48
Logan	23.38	13.32	13.14	49.84
Redland	6.81	6.57	6.39	19.76
<b>Total</b>	<b>64.81</b>	<b>48.34</b>	<b>68.94</b>	<b>182.08</b>

Source: *Data template* (Allconnex Water, 2011)

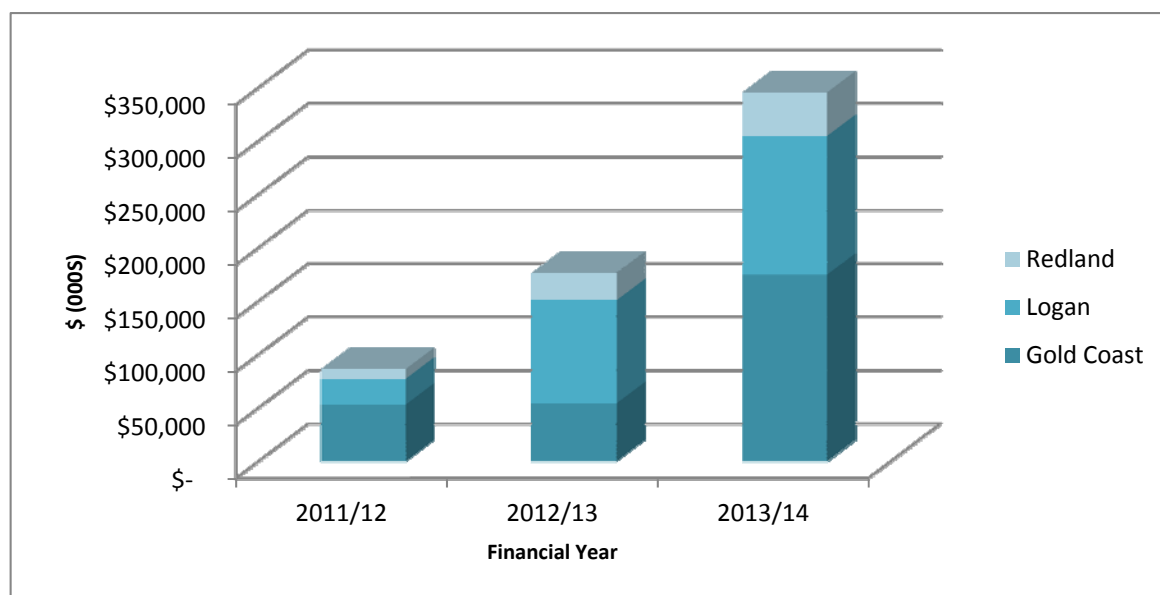
Review of **Table 52** illustrates a reasonably steady expenditure for water service in the Gold Coast and Redlands areas. The expenditure in the Logan district decreases due to the completion of specific projects and is then steady.

■ **Table 53 Capital expenditure for wastewater by geographic area (\$M)**

	2011/12	2012/13	2013/14	Total
Gold Coast	53.16	54.65	174.85	282.67
Logan	24.17	96.53	129.87	250.58
Redland	9.06	25.37	40.83	75.25
<b>Total</b>	<b>86.39</b>	<b>176.55</b>	<b>345.55</b>	<b>608.50</b>

Source: *Data template* (Allconnex Water, 2011)

Review of **Table 53** illustrates a generally concurrent increase in wastewater related capital expenditure in all districts, with a steep increase in expenditure associated with specific projects. This illustrates the effect of augmentation of wastewater treatment plants.



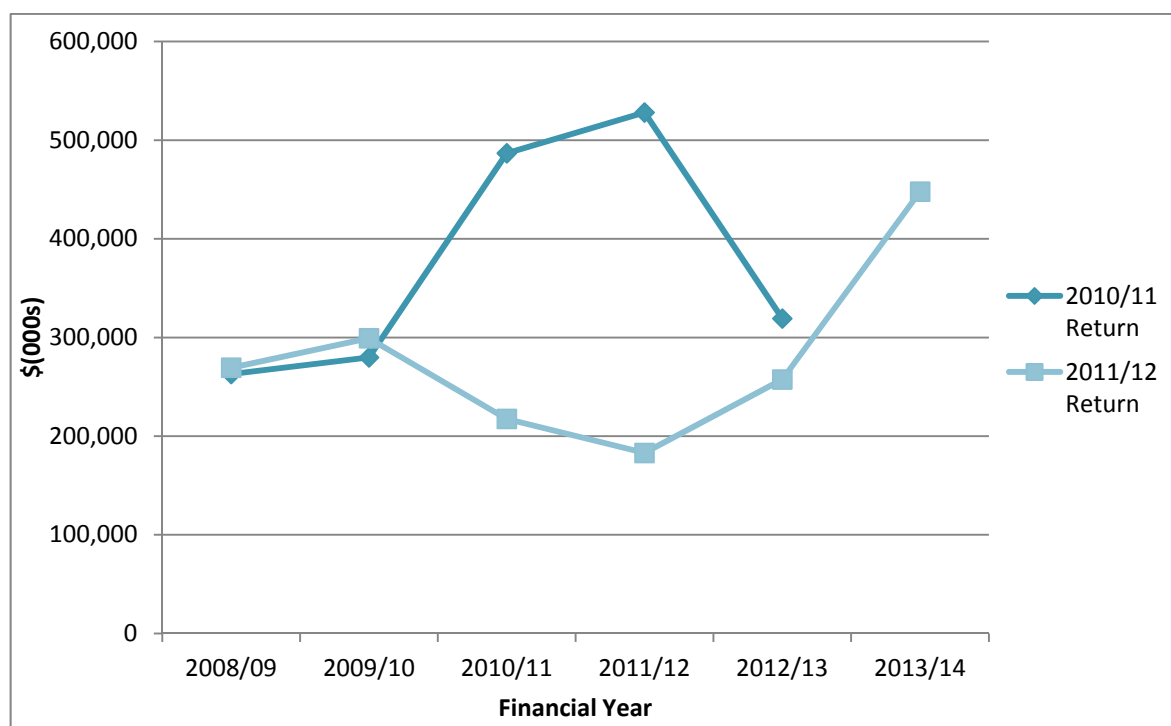
Source: *Data template* (Allconnex Water, 2011)

■ **Figure 12 Forecast capital expenditure for 2011/12 to 2013/14 by geographic area**



## 7.2. Historical Delivery

Significant variances exist between the forecasts submitted by Allconnex Water between the 2010/11 Information Template and the 2011/12 Information Template. The variation for the 2010/11 and 2011/12 financial years are most pronounced as shown in **Figure 13** (comparison of as commissioned capital expenditure forecasts).



- **Figure 13 Comparison of forecasts – 2010-11 Information Template and 2011-12 Information Template (\$000s)**

The variation between the 2010/11 and 2011/12 forecast for as commissioned capital expenditures are outlined below in **Table 54**.

- **Table 54 Comparison of forecasts – 2010-11 and 2011-12 Submissions (\$000s)**

Forecasts	Source	2010-11	2011-12	2012-13
2010-11 Submission (\$000s)	2010/11 Information Template	486,744	528,071	319,162
2011-12 Submission (\$000s)	2011/12 Information Template	217,504	182,968	257,452
Variance (\$000s)		-269,240	-345,103	-61,710

Source: 2011/12 Information Template



Allconnex Water in its 2011/12 Submission included a table outlining comparison between as expensed capital forecast figures provided in the 2010/11 submission and in the 2011/12 submission, as shown in **Table 55**.

■ **Table 55 Comparison of forecasts – 2010-11 Submission and 2011-12 Submission (\$'000's)**

Forecasts	2010-11	2011-12	2012-13	2013-14*
2010-11 Submission (\$'000)				
Revenue	698,551	822,418	993,739	n/a
Operating expenditure	366,715	404,164	449,802	n/a
Capital expenditure	486,744	528,071	319,162	n/a
2011-12 Submission (\$'000)				
Revenue	648,076	712,767	763,981	817,919
Operating expenditure	369,712	390,539	430,011	458,905
Capital expenditure	217,504	289,484	363,052	326,167
Variance (%)				
Revenue	-7%	-13%	-23%	n/a
Operating expenditure	1%	-3%	-4%	n/a
Capital expenditure	-55%	-45%	14%	n/a

\* 2013-14 forecasts were not provided for the 2010-11 submission, hence not applicable.

Source: 2011/12 Information Template

Allconnex Water states that the original forecasts were largely informed by previous council data and forecasts, and the business has since undertaken a financial re-forecasting exercise throughout the year. Allconnex Water attributes the \$269 million reduction in forecast capital expenditure to a comprehensive review of council's forward capital program early in 2010-11. Allconnex Water attributes this significant reduction from the original forecast to:

- An overly ambitious original program
- Significant disruption to processes and procedures as part of the transition to a new operating environment, including dispersed responsibility for capital project development and delivery
- A prolonged wet season with monthly rainfall (for each month) around twice the long-term average rainfall
- Review and re-scoping of a number of major investment projects in an advanced stage of development and/or design
- A lack of integrated financial and project reporting systems

Re-scoping of the two largest major projects: Staplyton Wastewater Treatment Plant; and Merrimac West Wastewater Upgrade; had a significant impact on capital expenditure. Both projects were reviewed internally based on principles of prudence and efficiency and, after extensive





investigation, were considered to be able to be delivered in an alternative form, while still achieving key project objectives.

### 7.3. Cost drivers

The Authority has identified four cost drivers for the assessment of prudence for capital expenditure projects. Projects are considered prudent if they are required to meet:

- Growth – ie volume-related growth, due to increase in demand/customers
- Improvements – ie driven by imposed standards of service, or reduce future OPEX
- Renewals – ie replacement of aged/time expired assets
- Compliance – ie more demanding environmental legislation (eg nutrient emissions, pump station overflows, odour, etc.)
- A combination of the above

#### 7.3.1. Growth driver

Growth is the most significant cost driver. It is dependent on several factors, including:

- **Accurate forecasts of increased usage per customer.** Trends in water usage have been impacted by the recent drought and water conservation measures introduced. Future forecasts have to take into the consideration “bounce back” effect after the drought. Whilst increases are expected once water conservation measures are reduced, some factors, such as the implementation of water-efficient fittings and fixtures and rain water tanks, will have a long term effect, limiting ‘bounce back’
- **There is limited historic demand data available.** Where it was available it was drawn from multiple sources (councils) and the data collection methods varied
- **There are changes in usage patterns.** Alternative sources of water have been introduced to reduce the reliance on potable water, such as rainwater and recycled water. The introduction of these alternative water sources will impact the demand for potable water. As a number of these systems have only recently been introduced on a large scale, there is limited data available on the quantum of this impact
- **Accurate forecasts in the increase in the number of customer connections.** South East Queensland is experiencing rapid growth and there are also lifestyle changes which can be linked to economic growth
- **Reliable long-term forecasting for long term assets.** Water and wastewater assets can have asset lives in excess of 50 years. Therefore, it is necessary to adequately size these assets for future years. Design of these assets has to incorporate population growth, as well as peaking



factors. The impact of demand forecasting and water conservation measures also has to be taken into account

### **7.3.2. Renewals**

This category relates to those capital projects triggered by the need to replace aged assets. Ideally, the assessment should be based on not only age of the asset, but the condition of the asset and its ability to meet future service delivery requirements without experiencing excessive maintenance costs. As such, the ability to draw accurate and current information from a robust asset database is key to justifying capital project expenditure against these criteria. The level of data collected by each of the previous councils on asset age and maintenance history will impact the current level of justification available for renewal of assets.

There is generally a trend towards proactive asset management, where entities are moving towards a system based on condition assessments and risk assessment to select and prioritise asset renewals. Allconnex Water is embarking on processes of updating council asset information and incorporating risk and condition assessment as part of its asset management processes which will facilitate the future justification of renewals projects.

### **7.3.3. Improvements**

This driver underpins capital projects driven by a requirement to meet improvements in services standards.

For the initial price monitoring, assessment against this category was complicated by the fact that, historically, there had not been a common set of service standards adopted across the councils previously providing the services. Common standards of service have been developed by Allconnex Water that will enable the harmonising of standards of service applied across its geographic region as discussed in Section 5.

### **7.3.4. Compliance**

Compliance includes capital expenditure associated with meeting price monitoring or legislative obligations. This category is predominantly driven by changes in environmental legislation eg reduction in nutrient discharge levels, wastewater overflows, odour and operational health and safety requirements. This is perhaps the most definitive driver against which to assess prudence.

Of particular note for entities is the augmentation of wastewater treatment plants. In general, where a wastewater treatment plant is augmented (for any reason), resulting in capacity increases over a predetermined level (usually 10%), it triggers a requirement for the entire plant (not just the expansion project), to meet modern-day licence conditions. This is a unique feature of the water industry and is a significant contributor to capital expenditure in wastewater services.



#### 7.4. Sample selection

As part of this analysis, a sample of the capital expenditure projects for the 2011/12 budget have been analysed in detail in terms of their prudence and efficiency. The capital expenditures sample selection chosen by SKM in consultation with the Authority for detailed analysis is shown below in **Table 56**. These projects are assessed in the following sections with an overview of the final assessment provided in **Table 57**.

■ **Table 56 Capital expenditure programs reviewed (\$000s)**

Project	Driver	2011/12	2011/12 - 2013/14
Alfred Street to Loganholme WPCCC Rising Main Augmentation	Growth	\$9,600	\$60,807
ERP Base Infrastructure Program	Growth	\$9,123	-
Billing System (tactical)	Growth	\$8,267	-
Burleigh WWPS B47 RM & GM upgrade	Growth	\$7,600	-
Meter Renewals program	Renewal	\$4,880	\$10,467
Operational Management Program	Growth	\$4,734	\$5,502
Alliance Program Management	Improvement	\$3,933	-
Round Mountain Reservoir and Link Mains	Growth	\$5,000	-
Logan Village Treatment and Effluent Reuse Upgrade	Growth	\$2,728	-
Currumbin Waters - Water Supply District Upgrade	Improvement	\$670	-
<b>Total Sample (10 projects)</b>		<b>\$56,535</b>	<b>\$76,776</b>

The sample has been selected based on the overall value of costs within the 2011/12 budget and to be representative of the various categories of costs. The review has focused on projects that are forecast to be commissioned in 2011/12, as subsequent to commissioning they will be added to the RAB.

The focus, combined with the short timeframe since the creation of Allconnex Water and the fact that large capital expenditure projects are generally multi-year projects by their nature and extent, means that some of the projects were initiated by participating councils and utilised the procedures applicable at the time.

#### 7.5. Overview of prudence and efficiency

**Table 57** shows an overview of the final assessment made for each project of the project sample chosen for assessment of prudence and efficiency. A full summary with recommendations for each project can be found in the following sections of this report.



■ **Table 57 Overview of prudence and efficiency of capital expenditure sample selection (\$'000s)**

Project	Cost 2011/12	Prudent	Efficient
Alfred Street to Loganholme WPCCR Rising Main Augmentation	\$9,600	Prudent	Efficient
ERP Base Infrastructure Program	\$9,123	Prudent	Efficient
Billing System (tactical)	\$8,267	Prudent	Efficient
Burleigh WWPS B47 RM & GM upgrade	\$7,600	Prudent	Efficient
Meter Renewals program	\$4,880	Prudent	Efficient
Operational Management Program	\$4,734	Prudent	NA as project not proceeding
Alliance Program Management	\$3,933	Prudent	Efficient
Round Mountain Reservoir and Link Mains	\$5,000	Prudent	Efficient
Logan Village Treatment and Effluent Reuse Upgrade	\$2,728	Prudent	Efficient
Currumbin Waters - Water Supply District Upgrade	\$670	Prudent	Efficient

**7.6. Alfred Street pump station to Loganholme WPCCR Rising Main Augmentation Project**

**7.6.1. Proposed capital expenditure**

Table 58 details the proposed capital expenditure of the Alfred Street pump station to Loganholme WPCCR Rising Main Augmentation Project within the 2011/ 2012 to 2013/14 budget and additional years have been included to provide further details.

■ **Table 58 Alfred Street pump station to Loganholme WPCCR Rising Main Augmentation Project – Proposed capital expenditure profile**

Source	Costs (\$'000s)						Total
	2010-11	2011-12	2012-13	2013-14	2014-15	Subsequent	
QCA SEQ Interim Revenue Monitoring spreadsheet	-	9,600	30,084	30,723	-	-	70,407
Project Initiation Form	-	12,000	35,900	35,000	-	-	82,900
Optioneering Report	9,827	70,972	2,094	0	864	13,398	97,155
Detailed Planning Report	734	27,090	36,419	-	-	-	64,243

As the table shows there is a large variance in the predicted costs and in the predicted spend profile that have been recorded in the provided documentation. Three of the documents detailed above, namely the *QCA SEQ Interim Revenue Monitoring spreadsheet*, the *Optioneering Report* and the *Detailed Planning Report*, have been produced in 2011 and it is not clear why there are such



discrepancies in their respective cost details. As the 2011/12 Information Template is the latest document to be produced it is considered to be the most relevant.

### 7.6.2. Project description

The existing assets from Alfred Street wastewater pump station to the Loganholme Water Pollution Control Centre Inlet Works pump station are operating either at or beyond their design capacity. The project aims to increase the capacity of these sewerage network assets in order to reduce spills and to accommodate future growth in the catchment. This will be achieved through:

- The augmentation of the Alfred Street to Loganholme Water Pollution Control Centre rising main (about 7 km of 1085 mm diameter rising main)
- Works to upgrade the Loganholme Water Pollution Control Centre Inlet Works pump station
- A new pump station is required in 2026 at the location of the current Alfred Street pump station in order to transfer the future flows. This new pump station is outside the scope of our review.

### 7.6.3. Provided documentation

The key reference documents used for this review are:

- *Project Initiation Form*, Allconnex, Version 2, 1 February 2011
- *Prudency & Efficiency Test*, Allconnex, Rev. 3, 5 April 2011
- *Logan North Wastewater Strategy*, Logan Water Alliance, Rev. 6, 15 June 2010
- *Alfred St to Loganholme WPCC Wastewater Conveyance Optioneering*, Logan Water Alliance, Rev. 1, 17 November 2010, here after referred to as the *Optioneering Report*
- *Alfred St to Loganholme WPCC Rising Main Augmentation Detailed Planning Report*, Logan Water Alliance, Rev. 1, 14 April 2011, here after referred to as the *Detailed Planning Report*
- *Approval for Logan Water Alliance Package 26 Target Outturn Cost Development Budget - Alfred St to Loganholme WPCC Rising Main Augmentation*, Allconnex
- *Paper for COO Approval Logan Water Alliance Budget - Alfred St to Loganholme WPCC Conveyance Detailed Planning*, Allconnex
- *Prudence & Efficiency Audit Report*, Cardno, Version 1, August 2011
- *SEQ Interim Revenue Monitoring - Information Requirement Template*, Allconnex 2011 (2011/12 Information Template)



#### 7.6.4. Prudency

##### Cost driver

The *Project Initiation Form* nominates the following drivers for the project:

- Growth
- Improvements

The improvement driver is defined by the Authority as an increase in the reliability or the quality of supply that is explicitly endorsed or desired by customers, external agencies or participating councils. This is not relevant to this project as the project drivers are not due to third party requirements.

In addition the following ‘impacts of delaying/ terminating the project’ are listed in the *Project Initiation Form*:

- ‘Potential for prosecution under the EP Act as a result of wastewater overflows from assets (that do not meet the) DSS capacity
- ‘Increase incidence of wastewater overflows at Alfred Street pump station and Loganholme WPC Inlet works pump station overflow at Chetwynd Street
- ‘The network will not support predicted growth in the Logan North catchment
- ‘Impact to Allconnex Water reputation – Erosion of public/ shareholder confidence in Allconnex Water’

The proportion of expenditure is detailed in the *QCA SEQ Interim Revenue Monitoring* spreadsheet with 100 percent being assigned to ‘growth’.

Although it is not stated why ‘improvements’ is not detailed as a driver in this document (as it was stated in the *Project Initiation Form*) its exclusion is considered appropriate as ‘improvement’ has been assessed as not a relevant driver for this project.

The project has used two population models, one for Logan North catchment from 2006 and one for Logan East catchment from 2010. The Logan North catchment has been updated to reflect changes to the population growth forecasts by Logan City Council. The Loganholme Water Pollution Control Centre inlet works pump station and Loganholme trunk sewer are already under the required capacity and so the timing of these works will not be able to resolve this immediate issue. However it is expected to meet the future growth in the catchment once the works are complete.

One of the project’s aims is to ensure compliance with the *Environmental Protection Act* by increasing the capacity of the sewerage network. It has been identified that the Loganholme Water Pollution Control Centre inlet works pump station is under the required capacity and during peak



wet weather flows all of the pumps operate resulting in no redundancy in the configuration. For example if one pump was to fail then spills of up to 1,000 L/s would occur, of which 500 L/s would be attributable to capacity deficiencies relative to the desired standards of service.

The project proposes to achieve this obligation by augmenting the existing rising main that transfers flows from Alfred Street pump station to Loganholme Water Pollution Control Centre. The proposed rising main will discharge flows to the inlet works at Loganholme Water Pollution Control Centre and by doing so reduce the flows to the Loganholme Water Pollution Control Centre inlet works pump station. Other options have been considered for this project and have been detailed in the *Optioneering Report*.

The primary driver of 'growth' has been demonstrated.

### **Decision making process**

The *Optioneering Report* details the analyses completed in order to determine the most cost efficient solution. Several options were initially considered during the preliminary assessment phase involving high level analysis including cost estimation and risk assessment of the options. During the preliminary assessment phase the 'do nothing' approach was discarded as it did not meet the project's objectives.

As part of the detailed assessment phase, those options that were carried forward from preliminary assessment were further assessed, including:

- A Net Present Value calculation
- A sensitivity analysis of three key costs, that are:
  - pipe-jacking costs
  - pump station construction costs
  - energy costs
- Design sensitivity – impact of reduction in Peak Wet Weather Flow due to revised Desired Standards of Service that were being produced at the time of the review
- Construction sensitivity – assessment of impact on project cost with respect to increases in pipe-jacking costs
- A design risk assessment of the proposed options
- A construction risk assessment of the proposed options
- A Non-Cost Criteria Analysis (assessment of technical, environmental and social criteria)

As recommended in the *Optioneering Report*, the above analysis was re-assessed in the *Detailed Planning Report* following revision of the Desired Standards of Service (DSS) and Infrastructure Demand Model. This is discussed in the following section.



The project has been assessed as prudent as the primary driver of 'growth' has been demonstrated and is assigned 100 percent of the project's cost in the QCA *SEQ Interim Revenue Monitoring* Information Requirement Template.

#### 7.6.5. Efficiency

##### **The scope of works**

With regard to the scope of works of the proposed option the analysis documented in the *Optioneering Report* shows that the proposed option is the most efficient option assessed.

The proposed option was found to have the lowest Net Present Value (capital cost plus operating cost) and also scored best in the sensitivity analysis and in the risk analysis. In addition the proposed option scored best in the Non-Cost Criteria Analysis.

Included within the *Detailed Planning Report* analysis is a Net Present Value comparison of various options of rising main diameters and corresponding pump station sizes. Additionally an exercise was undertaken to optimise the proposed rising main alignment through consideration of environmental, physical and stakeholder constraints.

The scope of works is assessed as appropriate.

##### **Standards of service**

The project's aims correspond to both of the Key Result Areas (KRA) in the *Asset Management Strategy*, which are:

- KRA 1 – Product Quality. Customer and environmental requirements for safe and reliable products are achieved
- KRA 2 – Asset Lifecycle Planning. Asset management effectiveness and efficiency resulting in maximum utilisation and economic value of assets over their lifetime

As recommended in the *Optioneering Report* a detailed route assessment phase was implemented in the *Detailed Planning Report*. This used the revised Design Service Standards and revised Infrastructure Demand Model to confirm the rising main diameter. In addition, an exercise was undertaken to optimise the route of the proposed rising main and the outcomes of this have been recorded in the *Detailed Planning Report*.

The scope of works has been developed to comply with the requirements of the *Environmental Protection Act* in terms of limiting spills from the network. However, no investigation on the impact of the proposed works on the Meakin Road Overflow (upstream of Alfred Street pump station) is recorded. The *Optioneering Report* (Section 2.3) states that the Meakin Road Overflow currently spills in excess of 20 million litres during wet weather.

##### **Project cost**

The cost estimate breakdown provided in the *Detailed Planning Report* has used values for pipeline construction that correspond to those used in previous projects. A contingency of 20 percent has





been applied to the project, which corresponds to values used in other projects reviewed. A value corresponding to 16 percent of the total capital cost has been assigned in the *Detailed Planning Report* for ‘design, management, tender and tender assessment’, which is consistent with previous project costs.

#### **7.6.6. Timing and Deliverability**

A preliminary delivery schedule is defined in the *Detailed Planning Report* that details the project from design development through to construction completion.

The *Detailed Planning Report* also contains details of the identified key project risks, their likelihood and actions to mitigate the risks.

There are two risks that are ranked as ‘almost certain’ that if realised, would delay the project’s completion, namely:

- Inclement weather
- High volumes of groundwater and working in tidal zones

In addition, other risks have been identified that if realised, could also cause delays to the project and so these will require managing in order to ensure the successful completion of the project.

There are entries in the table of key risks that imply that further design is required that could impact on the design and consequently the Net Present Value and the completion date. Of note are the following two risks:

- The existing wet well ‘suction’ conditions will result in cavitation due to the proposed incoming sewer being larger and lower. The mitigation is stated as ‘undertake Computation Fluid Dynamics (CFD) modelling’
- ‘Revised flow projections into Alfred Street (pump station) that could result in a different diameter rising main. Changes in the flow projection could result from:
  - Revised population demand loadings
  - Not implementing the ‘Park Ridge Wastewater Conveyance Strategy’, which proposes to send flow directly to Loganholme WPCC and not to Alfred Street pump station

■ Potential for future cross-catchment diversions from Queensland Urban Utilities’  
The mitigation is to ‘ensure proposed rising main is sized to result in an ultimate flow velocity of approximately 2 m/s. This allows for future growth by potentially increasing pipe velocity in the rising main up to 2.5 m/s (which is the upper limit as per DSS).’



It is not clear from the schedule when the mitigation actions are to be conducted, if at all. As the risks and actions to mitigate their impact on the project have been identified it is assessed that their impact on the project's delivery will be limited.

The proposed timescale for the works proposed will enable the demand due to future growth in the catchment to be met.

#### **7.6.7. Efficiency Gains**

The *Detailed Planning Report* states the following items in Section 11.6 Value-added initiatives:

- 'Use of multiple subcontractors, minimising the delivery times for the whole work package and minimising the project management costs. Shared risk for a project of this value is also an advantage
- 'Omission of one tunnel by changing the alignment to cross under the Logan Motorway Bridge (CH 2050 metres) rather than tunnelling
- 'Extension of the Alfred Street pump station facility, which identified that the existing pumps in the bypass pump station can be used for the new rising main and have capacity to cater for catchment growth until 2031, thereby delaying the required replacement allowed for in the previous study
- 'Proposed new rising main and associated pump station control philosophy has been developed to facilitate operational flexibility allowing either operational or bypass pump stations to pump via both directions
- 'Use of vertical risers either side of tunnels reduces excavation by using shaft excavation and provides access for filling and testing of pipeline, and for maintenance
- 'Engaged in early negotiation with key stakeholders to identify constraints, encourage operations input to the project and provide understanding of the project objectives thereby reducing the potential for delays during the detailed design phase of the project'

No values were assigned to the efficiencies detailed above.

#### **7.6.8. Allocation of overhead costs**

No overheads are allocated to this project.



### 7.6.9. Policies and procedures

■ **Table 59 Alfred Street pump station to Loganholme WPCP Rising Main Augmentation Project - compliance with the Authority's initiatives**

Initiative	Achievement Yes/No/Partial	Comment
Consideration of prudence and efficiency of capital expenditure from a regional (whole of entity) perspective	N/A	This is not applicable to this project due to the localised nature of the scheme.
A standardised approach to cost estimating, including a standardised approach to estimates for items such as contingency, preliminary and general items, design fees and contractor margins, so that there is uniformity of cost estimating across all proposed major projects	Yes	A contingency rate of 20 percent has been applied in the cost estimate detailed in the <i>Detailed Planning Report</i> .
A summary document to be prepared for identified major projects so as to facilitate standardised reporting	No	The documents supplied to date do not fulfil this function.
An implementation strategy to be developed for each major project that includes recommendation on delivery methodology, program and a risk review process	Yes	The <i>Detailed Planning Report</i> fulfils this function for the project.
A 'toll gate' or 'gateway' review process to be implemented so that appropriate reviews are undertaken at milestone stages for selected projects	Yes	The <i>Paper for COO Approval Logan Water Alliance Budget - Alfred St to Loganholme WPCP Conveyance Detailed Planning</i> document is evidence of this review process.

### 7.6.10. Summary

The project has been assessed as prudent. The primary driver of 'growth' has been demonstrated and is assigned 100 percent of the project's cost in the QCA SEQ Interim Revenue Monitoring spreadsheet.

The project has been assessed as efficient. An appropriate scope of works, acceptable standards of service, reasonable project costs, and achievable delivery have been demonstrated.

Value of expenditure not considered to be prudent or efficient – NIL.



## 7.7. ERP Base Infrastructure Program

### 7.7.1. Proposed capital expenditure

**Table 58** shows the proposed cost of the Enterprise Resource Planning (ERP) Base Infrastructure Program Project within the 2011/12 budget.

#### ■ **Table 60 ERP Base Program Project – Proposed capital expenditure profile**

Source	Costs (\$000s)	
	2011-12	Total
2011/12 Information Template	9,123	9,123
<b>ICT portfolio plan (ERP base infrastructure program)</b>		<b>10,995</b>
ERP evaluation	456	
ERP basic architecture	2,740	
ERP finance	7,194	
ERP master data	605	

### 7.7.2. Project description

On 1 July 2010 the water businesses of Gold Coast City Council, Logan City Council and Redland City Councils merged to form the new entity: Allconnex Water. Under the terms of the SLAs agreed with the three councils, the provision of systems and associated services relating to finance, procurement, asset management, inventory management, contract management and customer relationship management will expire on 30 June 2013. The provision of billing, human resources and payroll systems and associated services was intended to expire on 30 June 2011, however agreement has been reached to extend the deadline for termination of the SLAs with the councils. The human resources and payroll systems and associated services are addressed separately as individual projects by Allconnex Water and do not form part of the capital expenditure projects selected for our review by the Authority.

The Allconnex Water Strategic ICT Vision and Strategic ICT Roadmap mandates an ERP solution to ensure a system and associated services is in place at the time of expiry of SLAs to deal with finances, procurement, asset management, inventory management, contract management and customer relationship management within the newly formed Allconnex Water. The ERP Base Infrastructure Program Project, the subject of this review, is the first phase of the overall ERP deployment and will:

- Define the Information strategy and master data architecture
- Undertake the ERP evaluation process and procurement for the full suite of ERP modules within scope. This activity includes an evaluation of GIS and Works Management solutions



- Design the basic ERP solution architecture
- Undertake the installation of the base ERP infrastructure
- Identify, integrate and implement supporting technologies and tools as part of the base ERP infrastructure

The objective of the ERP Base Program project is to select and install the base ERP infrastructure that will enable Allconnex Water to deliver functional capability for each of the other platforms that will utilise the ERP solution.

### 7.7.3. Provided documentation

The key reference documents used for this review are:

- Allconnex Water – ICT Portfolio Plan, IBM Team, Version 0.90, 24 September 2010
- Strategic ICT Vision, Allconnex Water, IBM Team, Version 1.03, 26 October 2010
- Enterprise Resource Planning (ERP) Project Brief, Allconnex Water, Version 2.0, dated 20 January 2011
- Prudency & Efficiency Test – Base ERP Program, Allconnex Water, Version 0.2, 4 February 2011
- Enterprise Resource Planning Project – Significant Procurement Plan, Allconnex Water, Version 0.5, 9 February 2011

### 7.7.4. Prudency

#### Cost driver

The identified business driver for this project is new (not growth). As described within the project description section above the newly formed Allconnex Water requires a system and associated services relating to finance, procurement, asset management, inventory management, contract management and customer relationship management to be in place before 30 June 2013. This project will enable Allconnex Water to undertake the business information system activities currently performed under SLAs by the three councils who formerly had ownership and control of the water and wastewater businesses prior to the formation of Allconnex Water.

The cost driver of new does not exist. The ERP will facilitate Allconnex Water's response to growth, will renew an existing system, extending the life of the platform and assist with ensuring compliance. Consequently growth, renewal and compliance have been assessed as the relevant drivers.

Allconnex Water has undertaken a significant procurement plan study. The report states: *“There are existing issues relating to a lack of alignment in existing processes, low asset data quality and difficulty in retrieving data from the multiple council-owned systems. For effective asset*



*management and reliability, these issues must be overcome in order to move up the scale of asset management maturity and in being responsive to regulatory demands.”*

The Allconnex Water Strategic ICT Vision states in section 4.4: “*After extensive consultation, it was determined that Allconnex Water should pursue an integrated ERP solution, with a phased implementation.*” This project therefore aligns with the direction as stated within the Strategic ICT Vision in that it is the first phase of implementation.

The procurement plan study has identified procurement risks and documented a mitigation strategy for each of the risks identified.

### **Decision making process**

Allconnex Water considered the following three options:

- Continue using the existing council SLAs (do-nothing option)
- Acquire business specific applications, and
- Implement an integrated ERP suite

In December 2010 the Board approved the Allconnex Water Strategic ICT Vision that determines that the preferred option is to implement an integrated ERP solution. The Allconnex Water Strategic ICT Vision document also includes the ERP decision discussion as an appendix. We consider the three options considered to be sufficient to enable Allconnex Water to make an informed decision as to the most appropriate ICT solution for their business.

Allconnex Water also considered the following alternatives of implementing an integrated ERP suite:

- Single tier solution. An integrated suite of applications from a single software package that is provided by a single vendor.
- Multi-tiered applications. A component of the integrated ERP to be supplied by a prime vendor through a prime contract arrangement, the other components to be supplied by other vendors and managed by the prime vendor.
- Best of breed (components). Multiple vendors supplying the different components through separate agreements. Allconnex Water to manage and coordinate integration process.

The project brief states: “*A single-vendor solution has been mandated with a single evaluation and acquisition of the solution based on requirements for all business functions.*” This statement therefore excludes the best of breed alternative. We agree with the project steering committees decision to exclude the best of breed alternative (multiple vendors) and to proceed with a single vendor solution as representing good industry practice.



Given that the ERP is required to replace the ICT services currently provided by the participating Councils and that the proposed implementation is appropriate for Allconnex Water's business we conclude that the project is prudent.

#### **7.7.5. Efficiency**

##### **The scope of works**

Allconnex Water has undertaken a supply market analysis. The following dimensions of the supply analysis framework were considered:

- market structure
- competition
- supply chain
- substitution products available
- organisations values as a customer

The supply market analysis has highlighted the position that Allconnex Water has as a client and also what options for implementing an ERP are available. From the information presented above a decision has been made to procure a single vendor to implement the whole of the ERP. Further the decision has been made to follow a staged approach of implementation.

The base ERP program is the first stage of the overall ERP program deployment. The first stage is set to undertake the following components:

- Define the information strategy and master data architecture
- Undertake the ERP evaluation process and procurement for the full suite of ERP modules within the scope. This activity includes an evaluation of GIS and works management solutions
- Design the basic ERP solution architecture
- Undertake the installation of the base ERP infrastructure
- Identify, integrate and implement supporting technologies and tools as part of the base ERP infrastructure.

We consider the phased approach to be effective in managing the implementation process and that the components of the base ERP program are logical.

##### **Standards of service**

The standard of the service is a function of the implementation stage and how well the new system can link with the existing infrastructure or base database. With the limited information at our disposal we are not in a position to provide comment on the standard of service to be provided. We will however comment on the systems that Allconnex Water is proposing to implement to manage the end product.



Allconnex Water has divided the implementation of the ERP into smaller more manageable components. Various components have been grouped together to make up the different stages. Allconnex Water is proposing to make use of a single vendor ensuring a single point of contact and therefore responsibility in delivering a system that meets the requirements.

Allconnex Water is proposing to make use of the PRINCE2™ project methodology blended with an agreed fit for purpose ERP implementation methodology. This strategy will provide a way to direct, manage and control the entire project.

### Project cost

The Significant Procurement Plan states: “*Indicative cost are: a once off expenditure in the order of \$29 million - \$35 million for implementation including:*

- *Initial software licences in the order of \$8m*
- *Hardware cost in the order of \$1.8m*
- *Implementation, data conversion, project management, testing and deployment cost in the order of \$19.2m to \$25.2m”*

For projects of this nature, which tend to be tailored in their scope and implementation to the individual business needs, a detailed cost estimate is required to be developed against which the project costs can be compared to enable absolute cost efficiency to be determined. Development of such a detailed comparison cost estimate is deemed to be outside the scope of our assignment. Also, the information that is required to compile a rough order cost estimate is not publically available. In light of the above and in absence of other benchmarking data the costing undertaken by the three water utilities, (Allconnex Water, QUU and Unity Water) for implementing a business wide ICT system has been compared to one another. A summary of the comparison is given in the table below.

■ **Table 61 ICT cost comparison between the three Water Utilities**

Component	Cost (\$ 000)		
	Allconnex Water	QUU	Unitywater <sup>6</sup>
ERP components	29,522		Implementation model differs
Other ICT components	22,128		Implementation model differs
Total ICT cost	51,650		

<sup>6</sup> The information provided by Unitywater does not clearly define their method of implementing an ICT framework and ERP program.





The information presented in the cost comparison table above indicates that the ERP component budget capital cost submitted by Allconnex Water and Queensland Urban Utilities is within the same range. It is to be noted that due to the highly variable cost and contributing factor of implementation and that each of the utilities have a different existing configuration and final product expectation the final cost of implementation may vary considerably. Further, Allconnex Water has contracted IBM to independently benchmark the individual project costs, from their experience, based on a Tier 1 ERP implementation

Allconnex Water is also proposing to test the market via the procurement process with vendors being provided the opportunity to present what they believe to be the best option. It is also proposed to include the implementation services as part of the tender process. Based on the competitive tender process proposed and the fact that the current estimate is a market related estimate and in line with cost estimate of the other utilities, the capital expenditure is assessed to be efficient.

#### **7.7.6. Timing and Deliverability**

The ERP base project is the first phase of implementing the ERP.

One of the risks identified in delivering the project is the availability of suitable project resources. It is noted that three new water entities have been formed within SEQ. The mitigation strategy is noted as: “Source contract resources where possible” and “Engage resources as soon as possible.” The resource constraint that could be expected has not been quantified nor has any market research been conducted to determine the available resources versus the additional resource requirement arising from the three new water entities.

The prudence and efficiency test document states that the risk management will be addressed as part of the PRINCE2™ project methodology. As part of the implementation plan for each component the procurement risks are identified. With the exception of the possible resource constraint arising from three similar organisations contracting in the market place for delivery of similar ICT business infrastructure solutions, we consider the project implementation program put in place by Allconnex Water to be reasonable.

We have received the following advice from Allconnex Water: *“The Base ERP Infrastructure Program was put on hold and resources released upon the Premier’s announcement to allow councils to opt out of the water reform agenda. Hence the ERP Evaluation Project was suspended following the closure of the tender period and no evaluation work progressed. No other related projects commenced”*. By putting the whole of the ERP base program project indefinitely on hold the ERP base program has effectively been cancelled by Allconnex Water in recognition of the participating Councils’ decision to disestablish Allconnex Water.



### 7.7.7. Efficiency Gains

The project brief states the following business benefits could be expected by implementing an integrated ERP solution:

- *“Increased efficiency in completing day to day tasks*
- *Reduction in the cost of maintaining disparate systems*
- *Elimination of redundant and duplicated activities*
- *Elimination of data silos by creating a single, centralised repository of timely and accurate data resulting in a single version of the truth*
- *Increased effectiveness in resource allocation and management*
- *Increased productivity in completing cross-functional activities*
- *Eliminate SLA costs”*

The prudence and efficiency test document produced by Allconnex Water states that the base ERP program will allow Allconnex Water to go to the market for the full ERP solution and that this will provide economies of scale in negotiating contracts and services.

We consider the benefits to be gained to be feasible although not quantified.

### 7.7.8. Allocation of overhead costs

As this is an enterprise wide ICT business system implementation project, the whole of the project costs reviewed fall into the category of overhead costs.

### 7.7.9. Policies and procedures

Compliance with the Authority’s initiatives

■ **Table 62 ERP base infrastructure project - compliance with the Authority’s initiatives**

<b>Initiative</b>	<b>Achievement Yes/No/Partial</b>	<b>Comment</b>
Consideration of prudence and efficiency of capital expenditure from a regional (whole of entity) perspective	Yes	The project is deemed to be prudent as it is in line with the ICT Strategic Vision. The project is also efficient based on comparison with the other two water entities. The project is being implemented as a whole of business solution and hence meets the regional (whole of entity) perspective criteria.
A standardised approach to cost estimating, including a standardised approach to estimates for items such as contingency, preliminary and general items, design fees and	Partial	Allconnex Water has applied a standard approach to cost estimating in so far as a standard approach applies to this type of project given that the project is unique in nature and dissimilar to water/wastewater infrastructure capital projects.



Initiative	Achievement Yes/No/Partial	Comment
contractor margins, so that there is uniformity of cost estimating across all proposed major projects		
A summary document to be prepared for identified major projects so as to facilitate standardised reporting	Yes	Provided in the Project Brief and supported by the Significant Project Plan
An implementation strategy to be developed for each major project that includes recommendation on delivery methodology, program and a risk review process	Yes	An Implementation Plan has been developed for the billing solution.
A 'toll gate' or 'gateway' review process to be implemented so that appropriate reviews are undertaken at milestone stages for selected projects	No	The documentation provided does not contain any reference to a toll-gate or gateway review process to be implemented.

The above table documents the compliance of the project to the initiatives that the Authority has set out in the 2011/12 report. Each initiative has been rated as to whether it complies completely, partially or not at all with the initiatives. Given the nature of the project, the procedures adopted for defining, costing and implementing the project largely complies with the initiatives set out by the Authority.

#### 7.7.10. Summary

The project has been assessed as prudent. The primary drivers of growth, renewal and compliance have been assessed as relevant.

The project has been assessed as efficient. An appropriate scope of works, acceptable standards of service, reasonable project costs and achievable delivery prior to being put on hold have been demonstrated.

Value of expenditure assessed not to be prudent or efficient – NIL. However we have set the proposed approved capital expenditure to zero for this project in the revised capital expenditure summary table (**Table 97**) given that the project will now no longer proceed.

### 7.8. Billing System

#### 7.8.1. Proposed capital expenditure

**Table 63** shows the proposed cost of the Billing System Project within the 2011/12 budget. Expenditure in the previous years is included for completeness.



■ **Table 63 Billing System Project – Proposed capital expenditure profile**

Source	Costs (\$000s)		
	2010-11	2011-12	Total
2011/12 Information Template		8,267	8,267
<b>Implementation Stage Plan</b> – July 2011 (Latest report at our disposal)	3,737	8,267	12,004

The proposed expenditure from both sources is the same for the current (2011/12) review.

**7.8.2. Project description**

On 1 July 2010 the water businesses of Gold Coast City Council, Logan City Council and Redland City Councils merged to form the new entity: Allconnex Water. Under the terms of the SLAs agreed with the three councils, the provision of billing systems and associated billing services from each of the councils was due to expire on 30 June 2011, 12 months after commencement and we understand that Allconnex Water has sought for the term of the SLA to be extended.

Allconnex Water is therefore required to implement a billing solution prior to the expiry of the SLA to allow Allconnex Water to operate without services provided by each of the three participating councils. The total budget allowed for this project is \$12 million.

Additionally, present legislation, the *Fairer Water Price Bill*, requires Allconnex Water to process quarterly bills in all areas by 1 July 2011. Furthermore, Allconnex Water is required to be able to undertake consumer-based billing by 1 July 2013 as required under the *South-East Queensland Water (Distribution and Retail Restructuring) Act (2009)*.

**7.8.3. Provided documentation**

The key reference documents used for this review are:

- Billing System Project – Implementation Stage Plan, Version 1.0, Allconnex Water, 19 July 2011
- Billing System Project – Design Stage Plan, Version 1.0, Allconnex Water, 14 March 2011
- Billing System Project – Project Plan, Version 1.0, Allconnex Water, 26 January 2011
- Billing System Project – Business Case, Version 1.0, Allconnex Water, 9 November 2010
- Billing System Project Brief, Version 1.0, Allconnex Water, 28 July 2010
- Billing System Project – Significant Procurement Plan, Version 1.0, Allconnex Water, 28 July 2010



#### 7.8.4. Prudency

##### Cost driver

The nominated cost driver by Allconnex Water for this project is growth.

The business case as referenced above presents various business drivers and reasons for the project. The main driver for this project is the expiry of SLAs with the councils and the need for Allconnex Water to implement billing system independent of the councils. The business case as referenced above state: *“The council-provided billing solutions may not be available to Allconnex Water post 30 June 2011.”*

Allconnex Water also provided a list of business benefits and needs that can be achieved by implementing an independent billing solution, they are as follow:

- the ability to control the core business function (billing)
- the ability to achieve separation of business and ownership from councils
- the ability to obtain full legislative compliance with the South-East Queensland Water (Distribution and Retail Restructuring) Act 2009
- the ability to implement consumer-based billing over time (rather than property-based billing) as required under the South East Queensland Water (Distribution and Retail Restructuring) Act 2009
- the ability to control and manage billing cycles
- the ability to implement continuous billing over time
- the ability to obtain a single source of customer data
- the ability to consolidate meter reading functions into one uniform solution with a single interface to a supplier therefore achieving core process efficiency
- the ability to apply uniform policies and processes to customer data and ensure data integrity of Allconnex Water's customer and property database
- enhance Allconnex Water's asset and demand management capabilities
- the ability to implement, measure and control a uniform meter connection, meter testing and meter replacement function
- enhance Allconnex Water's credit management capability
- enhance Allconnex Water's sundry debtor management capability

We do not agree with the allocated cost driver of growth and consider a more appropriate driver to allocate to the project is that of legal obligation in respect of Allconnex Water's obligation to manage a water distribution and waste water collection and treatment business and recover payment for its services.



We concur with the identification of compliance (regulatory) as the primary driver. The project is assessed to be prudent.

### **Decision making process**

Allconnex Water undertook an options investigation documented within the business case. The options investigated were as follow:

- Do nothing – This option is not possible as the billing system implemented within the Gold Coast City Council will not be available post 30 June 2011 and the system implemented by Logan City Council does not fully comply with the South East Queensland Water (Distribution and Retail Restructuring) Act 2009
- Purchase a billing services as a managed service – This option was not recommended due to no proven model being available within the Australian water utility market, limited control of core business functions (billing) and loss of total ownership of core billing functions
- Implement a billing system similar to the council billing systems – The three systems in use, at each participating council, was evaluated and none were found to be suitable to address the business needs
- Implement a billing system – recommended option. The advantages of this option are recorded in the section above.

The billings system is projected to cost \$12 million to install. We understand that it is to be used as an interim billing system until a planned Enterprise Resource Planning system (ERP) is fully installed which contains its own billing system component. The ERP is budgeted to cost \$29 million of which \$3.6 million is allocated for the billing system package. We have seen no evidence in the documentation provided of any analysis as to whether the interim solution can be incorporated into the ERP, potentially saving \$3.6 million, or whether the ERP billing system component could be brought forward.

We consider the options investigated as part of the business case to be reasonable.

### **7.8.5. Efficiency**

#### **The scope of works**

The scope of the billing system includes, as defined within the business case:

- Procurement of a billing solution using a process compliant with the *State Procurement Policy* (i.e. using an invitation to offer (ITO) process)
- Selection of a preferred billing approach



- Procurement of the necessary technical infrastructure and services or appropriate hosting services to support the billing solution using a process compliant with the *State Procurement Policy*
- Configuration, testing and implementation of the billing solution
- Implementation of required customer management functionality to facilitate the production of customer billing
- Procurement of the print services and payment channels to support the billing solution using a process compliant with the *State Procurement Policy*
- Interfacing or integration between the billing solution and the following as a minimum:
  - external printing house
  - payment agencies including, but not limited to, participating financial institutions, Australia Post and BPAY®
  - meter reading software
  - financial software
  - Geographical Information Systems (GIS) software
  - customer management system
  - an industry-standard reporting solution (e.g. Business Intelligence)
  - State and Federal Government authorities for data validation including Centrelink, Department of Environment and Resource Management (DERM)
- Negotiation and implementation of any necessary contracts with external third parties
- Determination and implementation of the required billing support capability
- Procurement of data migration software tool
- Migration and cleansing of customer, billing and necessary billing history data from the three participating council solutions
- Business processes and procedures required for the billing solution
- Organisational change management and training for all impacted staff
- Acquisition and implementation of necessary services for the printing of billing base stock, actual accounts and associated mailing services
- Any necessary customer communication and marketing
- Reporting and metrics

The project has been divided into five stages; with each end of a stage marking a decision point. The stages are as follow:

- Initiation Stage



- Procurement Stage
- Design Stage
- Implementation Stage
- Closure Stage

Allconnex Water is required to develop a scope of work for each stage as it progresses past the previous. This information is contained within each stage plan that is prepared in accordance with the Project Plan.

The scope of works is assessed as appropriate.

### Standards of service

The Project Plan stipulates that project controls and a quality management system are to be followed to ensure that the project meets the standard. The proposed project control measures to be implemented are:

- Reports and Assessment Points – Making use of reporting in a standardised format and meetings at set frequencies
- Defined Tolerances – Making allowance for inherent inaccuracies in estimating and unforeseen changes in development and how these are to be recorded

The quality management system proposed the following measures to be implemented:

- Applicable standards – Divided into corporate quality standards and project specific standards. The project specific standards contain specifics for project management, procurement, business solutions and technology
- Quality management approach. All quality review checks or updates will be formally documented within the Quality Register
- Responsibility – Defining the responsibilities of each participating member

We consider the measures proposed for project implementation and management to be effective and in line with current industry practice

### Project cost

The Design Stage Plan contains costing information as presented in **Table 64** below:

■ **Table 64 Revised project cost as at February 2011**

No.	Cost Type	Revised project cost (February 2011)
1	Operating Staff	\$674,832
2	Capital	
	2.1 Consultants and Contracted Staff	\$1,842,324





No.	Cost Type	Revised project cost (February 2011)
	2.2 Technology – software and implementation costs	\$3,009,306
	2.3 Technology – Data centre establishment	\$2,000,000
	2.4 Print house	\$800,000
	2.5 Fee for SLA services for data migration	\$200,000
	2.6 Fee for extension of SLA services with each council	\$1,000,000
<b>3</b>	<b>Sub-Total A</b>	<b>\$9,526,462</b>
4	Contingency (26%)	\$2,473,538
<b>5</b>	<b>Total (Approved Budget)</b>	<b>\$12,000,000</b>

For cost comparison purposes the ERP billing system package costs (\$3,664,635), detailed in the ICT Portfolio Plan, can be compared with Item 2.2 from **Table 64** and arguably with a component of Item 2.1. The two costs are within the same range. The other cost components are within the range that is expected based on our understanding of the scope of each component. The contingency allowed for this project was in the order of 30% at the start. We consider the contingency allowed for to be in line with the associated risk of a project of this nature. It is worth noting that there is a possibility of some duplication with the ERP project but this is not evident in the information provided.

The business case detailed within the Investment Appraisal that two scenarios were considered as a result that the billing solution may be replaced by an ERP solution. The investment appraisal made use of the following cost benefit as stated within the Business Case: *“This option provides benefits in the form of savings of SLA cost of approximately \$6m per annum (adjusted annually by CPI).”* The two scenarios considered were:

- Billing system not replaced by an ERP solution – 10 year life
- Billing system replaced by an ERP solution, 4 years after implementation of billing system

The internal rate of return and net present value for both scenarios were calculated. The internal rate of return is 31.3% and 11.4% respectively for the two scenarios. The calculated internal rate of return for the 4 year, interim scenario, justifies the implementation of the temporary billing system to meet Allconnex Water’s requirements, in absence of the SLAs continuing, until the ERP based billing system is implemented and operational.

#### **7.8.6. Timing and Deliverability**

The Billing Systems Project has a project plan including a risk management strategy. The project plan requires each stage of the project to identify the risks to deliver that stage of the project and to document the risks within the stage plan.



The project will not meet the initial deadline of 30 June 2011 to have the capability to run an independent billing system. The implementation stage plan documents that it assumed that the SLA will be extended with the three participating councils up until 30 September 2011. No information is provided as to whether the negotiations were successful or not. A cost was included in **Table 64**, item 2.6 to provide for the associated cost of extending the SLA.

The Implementation Stage Plan states that the current status of the various stages is:

- Procurement stage – 98% complete (managed network services contract placed on hold)
- Design stage – 80% complete
- Implementation stage – 9% complete

As a consequence of the decision by Gold Coast City Council to opt out of Allconnex Water, Logan City Council and Redland City Council withdrew resources and support for the data migration activities. At this time system integration testing and data migration activities for Gold Coast only are continuing.

Subsequent to the final decision by the participating Councils to disestablish Allconnex Water, the majority of project activities were halted while discussions were held with Gold Coast City Council as to whether the Gentrack solution was their preferred billing solution post transition of the business activities of Allconnex Water back to the Councils. The project is currently halted awaiting written advice from Gold Coast City Council. Activities put on hold include:

- vendor services
- end user training
- user acceptance testing
- go live

The project activities currently continuing (under specific approval by the Project Steering Committee) are limited to those activities required as an input into the re-scoping exercise, required regardless of the configuration of the eventual system delivered or those undertaken to close the project activity at a logical point. These include:

- Business transition planning and development of the work procedures, work instructs and internal controls documentation (and associated system reporting)
- Data Migration and reconciliation
- Finalising payment channels and interfaces
- Documenting the technical support model and roles and responsibilities

No revised timetable for delivery has been provided



### 7.8.7. Efficiency Gains

A high level benefits statement is included within the Project Plan. Two of the benefits stated relate to efficiency gains. The two benefits stated are as follow:

- Reduced cost – A reduction in cost is associated with the provision of services through the SLA from each participating council
- Implementation of independent and industry best practice processes – Removing the reliance on participating council business processes and enabling Allconnex Water to function independently

We agree that the above gains in efficiency could be ascribed to the Billing System Project.

### 7.8.8. Allocation of overhead costs

No information was provided regarding this issue.

### 7.8.9. Policies and procedures

Compliance with the Authority’s initiatives

#### ■ Table 65 Billing System Project - compliance with the Authority’s initiatives

Initiative	Achievement Yes/No/Partial	Comment
Consideration of prudence and efficiency of capital expenditure from a regional (whole of entity) perspective	Yes	The project is required to ensure the continuance of the core business. The options investigated are sufficient and consider implementing it across the whole of the entity.
A standardised approach to cost estimating, including a standardised approach to estimates for items such as contingency, preliminary and general items, design fees and contractor margins, so that there is uniformity of cost estimating across all proposed major projects	Partial	Allconnex Water has applied a standard approach to cost estimating in so far as a standard approach applies to this type of project given that the project is unique in nature and dissimilar to water/wastewater infrastructure capital projects.
A summary document to be prepared for identified major projects so as to facilitate standardised reporting	Yes	A standard progress report has been set up for this project summarising the risks, issues and change requests for the project.
An implementation strategy to be developed for each major project that includes recommendation on delivery methodology, program and a risk review process	Yes	A stage plan is required by the Project Plan for each stage.
A ‘toll gate’ or ‘gateway’ review process to be implemented so that appropriate reviews are	Yes	Table 2 of the Project Plan shows the key milestones and completion dates for each. The Project Plan requires the review to be undertaken as part of each



Initiative	Achievement Yes/No/Partial	Comment
undertaken at milestone stages for selected projects		stage.

**Table 65** above documents the compliance of the project to the initiatives that the authority has set out in the 2011/12 report.

### 7.8.10. Summary

The project has been assessed as prudent. The primary driver of compliance (regulatory) has been demonstrated.

The project has been assessed as efficient. An appropriate scope of works, acceptable standards of service and reasonable project costs have been demonstrated. An appropriate timeline for delivery has not been demonstrated as a number of project elements are currently on hold. Allconnex has indicated that testing of the system is occurring for the Gold Coast region. Allconnex Water has advised that the Gentrack system will not be utilised in the Logan and Redlands regions.

Value of expenditure not considered to be prudent or efficient – NIL.

## 7.9. Burleigh WWPS B47 RM & GM upgrade

### 7.9.1. Proposed capital expenditure

**Table 66** reports the proposed capital expenditure of the Wastewater Pump Station B47 Diversion Project within the 2011/ 2012 to 2013/14 budget. The previous year has been included for completeness.

#### ■ **Table 66 Wastewater Pump Station B47 Diversion Project – Proposed capital expenditure profile**

Source	Costs (\$000s)				Total
	2010-11	2011-12	2012-13	2013-14	
QCA SEQ Interim Revenue Monitoring spreadsheet	-	7,600	-	-	7,600
Prudency & Efficiency Test	90	1,450	6,150	-	7,690
Infrastructure Planning Summary	-	-	-	-	7,600
Project Plan	-	-	-	-	7,111
Options Analysis Report (Table 11.1)	-	-	-	-	7,654
Options Analysis Report (Appendix 4)	-	-	-	-	7,756

Note: Costs entered are of diversion works only.



### 7.9.2. Project description

The project's aim is stated as to strategically accommodate growth in the Elanora Wastewater Treatment Plant catchment by diverting the flows from Burleigh Waters Wastewater Pumping Station B47 to the Merrimac Wastewater Treatment Plant catchment. In addition the *Board Meeting Document* states that the lack of capacity of Elanora Wastewater Treatment Plant has resulted in DERM Licence breaches, which are believed to be the result of wet weather flows.

The costs listed in **Table 66** show a consistent estimate of the project's cost through the various documents and are in the range of plus two percent to minus six percent of the cost submitted to the Authority.

The review of the project has been complicated by the path that the project has followed to date. This has involved revisiting the options analysis and is further complicated as some of the works have been constructed. This is confirmed in the *Project Plan* that states:

*'The project commissioned Worley Parsons to carry out an options analysis to determine the best option for diverting B47 flows. ... It has become apparent that Worley Parsons was directed to undertake a design report (dated May 2010) for a Rising Main only solution without considering alternative options. ... The BMP (Beenleigh/ Merrimac/ Pimpama) Alliance originally constructed a length of Rising Main along Christine Avenue and provided an Options Analysis in the report titled B47 Design Report (dated January 2010) for the remaining sections along to Bermuda Street. This report considered the capital costs only of a number of solutions relating to Gravity Main/ Rising Main and opportunities for decommissioning of additional WWPS. It would appear that this report has not been included in the work undertaken by Worley Parsons.*

*'To ensure the most cost effective long term solution it is proposed to change the scope of this project to include a full options analysis of the solutions proposed in the B47 Design Report.'*

The *Infrastructure Planning Summary* details the following works as constructed. The works are part of the programme of works to optimise and rationalise the wastewater catchments of Elanora Wastewater Treatment Plant and Merrimac Wastewater Treatment Plant.

- Beenleigh/ Merrimac/ Pimpama (BMP) Alliance's work (2008).

The BMP Alliance was delivering projects to optimise the Merrimac East catchment. At the time that the *Infrastructure Planning Summary* was drafted the majority of infrastructure affected by the diverted B47 pump station flows had been constructed. It is stated in the *Infrastructure Planning Summary* that the diversion of B47 was part of their work but as the Alliance ceased operation in 2008 the remaining work was handed over to Allconnex Water for completion through their internal infrastructure delivery program.



- Merrimac Wastewater Treatment Plant and Elanora Wastewater Treatment Plant augmentations.

The *Infrastructure Planning Summary* states that the 2006 upgrade of Merrimac Wastewater Treatment Plant has been commissioned and now has capacity of 57.5 ML/d. Elanora Wastewater Treatment Plant is currently operating beyond its capacity. The *Infrastructure Planning Summary* documents the current Average Dry Weather flow as 24 ML/d and the capacity is 20.7 ML/d. A new inlet structure and preliminary treatment facility are currently being constructed however this will be sized to treat the existing flow rates.

As stated in the *Options Analysis Report* the proposed project consists of the construction of:

- 1,345 metres of 600 mm diameter Ductile Iron (DI) pipe
- 210 metres of 900 mm diameter Polycrystalline concrete jacking pipe
- 50 metres of 900 mm diameter Glass Reinforced Plastic (GRP) pipe
- An upgrade to B47 Burleigh Waters Wastewater Pumping Station at 20 year intervals starting in 2030
- Modification to Wastewater Pump Station B7 and construction of 120 m of 150 mm diameter rising main (material not stated)
- Modification to Wastewater Pump Station SS9 and connection of existing rising main to proposed rising main from B47 pump station to Shaft 22/1.
- Modification to Wastewater Pump Station SS10 and construction of DN150 rising main (length and material not stated)
- A connection from a previously constructed pipe at Lemana Lane to B47 Burleigh Waters Wastewater Pumping Station

### 7.9.3. Provided documentation

The key reference documents used for this review are:

- *Allconnex Water Board Meeting of 28 July 2011 – Matter for Approval – Wastewater Pump Station B47 Diversion Project* (including the Prudency & Efficiency Test as an Appendix) hereafter called the *Board Meeting Document*
- *QP2241 – Prudency & Efficiency Test; Wastewater Capex – 2011/12; Wastewater Pump Station B47 Diversion Project*, Allconnex Water, Rev 4, 13 July 2011
- *Wastewater Pump Station B47 Diversion Project Significant Procurement Plan*, Allconnex Water, Rev 0.6, 14 June 2011
- *QP-2201 Project Creation Form*, Allconnex Water, Rev 1, 4 April 2008
- *QP-2234 Change Request Form No.1 Define Scope of Project and issued to ID*, Allconnex Water, 27 May 2010



- *QP-2234 Change Request Form No.2 Options Analysis for B47 diversion*, Allconnex Water, 3 November 2010
- *QP-2234 Change Request Form No.3 Construction of Preferred Item for B47 Diversion*, Allconnex Water, 11 June 2011
- *Elanora North (Pump Station B47) Wastewater Catchment Diversion – Infrastructure Planning Summary*, Allconnex, Rev. 2, 17 February 2011 hereafter called the *Infrastructure Planning Summary*
- *QP2027 Project Plan*, Allconnex Water, Rev. 2, 4 April 2011
- *Burleigh Waters Sewer Diversion for Pump Station B47 – Options Analysis*, MWH, Rev 1, 8 December 2010 hereafter called the *Options Analysis Report*
- Extract from *Strategic Wastewater Category 1 Planning Report* (Sections 4.5.1 to 4.5.7), Cardno
- *Merrimac East Sewerage Catchment Master Plan*, Gold Coast Water, September 2004. This document has not been considered as it appears to be in a draft state.
- *Asset Management Strategy*, Allconnex, 6 December 2010
- *2011/12 Information Template*
- *Elanora group 1 & 12 Infrastructure Design Report*, Worley Parsons, 28 May 2010

#### 7.9.4. Prudence

##### Cost driver

The nominated cost driver for this project by Allconnex Water is ‘growth’ as stated in the *Project Creation Form*.

The *Board Meeting Document* confirms the growth in the catchment and states that ‘*the treatment plant (Elanora) has reached its capacity and has had some DERM Licence breaches, especially in wet weather flows.*’

The proportion of expenditure is detailed in the 2011/12 Information Template with 100 percent being assigned to ‘growth’.

The Options Analysis Report states that the Allconnex Water Population Model ‘GCCC\_IDM\_2004\_v5.6’ has been used to calculate the project growth in the catchment using the 2011, 2016, 2021 and 2056 Equivalent Tenement figures. 2056 is the ultimate development of the respective Gold Coast City Council Land Use plan and as such there is no growth beyond 2056. This population model was the most current at the time of its application.

The sewage loads have been calculated using the latest Allconnex Water Desired Standards of Service. Analysis of the Average Dry Weather Flow values in Appendix 7 of the Options Analysis



Report shows that a value of 770 L/ET/day has been used which is in line with the current version of the Allconnex Water Desired Standards of Service.

The primary driver of 'growth' has been demonstrated.

### **Decision making process**

The *Infrastructure Planning Summary* states that several planning studies have investigated the diversion of the Elanora North Wastewater catchment to Merrimac Wastewater Treatment Plant. The following is a review of the studies along with a summary of their findings:

- Halliburton KBR (September 2002)

This study involved an optimisation and rationalisation study of the Elanora and Merrimac wastewater catchments in order to progress away from the traditional approach of upgrading the sewerage network when it was under-capacity

Five diversion options were developed and the capital costs plus the results of a multi-criteria assessment of the options were compared. The multi-criteria assessment incorporated the following criteria:

- Environmental sustainability
- Customer focus
- Accountability
- Chosen employer
- Quality service provision

The results of the initial assessment are not included in the *Infrastructure Planning Summary*.

Two of the diversion options were then chosen at this stage for comparison to an option incorporating the traditional approach (of upgrading the under-capacity network). The second round of assessment included the following stages:

- A calculation of Net Present Value
- Identification of strengths and weaknesses
- A multi-criteria assessment (as above)

Option 5 was chosen as the preferred option.

- Merrimac East Sewerage Catchment Master Plan - Gold Coast Water (2004)

The plan included a fully costed augmentation strategy for the Merrimac East Wastewater catchment and the diversion from Elanora North. A modified version of Option 5 from the Halliburton KBR study was analysed in this study. The study was supported by detailed system modelling and a detailed constructability assessment. The report proposed a three





stage strategy for the diversion works including two options of the Stage 1 works. Further analysis of the options was recommended by the study prior to construction of Stage 1.

- Merrimac WWTP Stage 5 Augmentation Planning Report – GHD (April 2004)

The report investigated the diversion of the wastewater flows from Mermaid Beach and Miami Beach in the Elanora Wastewater Catchment to Merrimac Wastewater Treatment Plant. It was proposed that the permanent diversion of the wastewater flows from Mermaid Beach and Miami Beach be adopted as it minimises operating costs and optimises future capital investments.

An excerpt from the *Merrimac WWTP Stage 5 Augmentation Planning Report* is included in the *Infrastructure Planning Summary* that compares the costs of three options considered however it is not clear if these are capital costs or Net Present Values.

The *Options Analysis Report* completed by MWH in December 2010 reviewed five options of the diversion works. As detailed in the report the assessment was undertaken in order to determine the preferred diversion option. This included a multi-criteria assessment involving the following criteria:

- Financial (the Net Present Value)
- Construction risk
- Asset life (septicity, turbulence and corrosion)
- Community impact
- Environmental impact

The *Infrastructure Planning Summary* provides an additional insight into the decision process of the project since the handover to Allconnex Water. The document recommends that the flows from B47 pump station be diverted to Merrimac Wastewater Pump Station. The justification for this is given as the:

*‘Elanora WWTP upgrade would cost approximately \$32M in comparison to the remaining diversion works that were recently costed at approximately \$7.6M.*

*‘It should be noted that for comparison purposes the \$20.4M cost to upgrade the Elanora WWTP, which was originally calculated in 2002, has been recalculated to 2010 dollars using the December 2010 Produced Price Index ([www.abs.gov.au](http://www.abs.gov.au)), hence the source of the \$32M value. Furthermore, it could be expected that additional costs would be incurred by the Elanora WWTP upgrade with the likely changes in DERM DA requirements, such as more stringent odour control, which were not considered in 2002 costings for the upgrade.’*

The capital cost of the preferred option, as stated in the Options Analysis Report, is \$7,654,496 and so it is assumed that the costs noted above are capital costs. It should be noted that this indicates



that no Net Present Value analysis of the overall program of works (diversion works plus upgrades to Elanora Wastewater Treatment Plant and Merrimac Wastewater Treatment Plant) has been completed.

The extract from the *Strategic Wastewater Category 1 Planning Report* from 2006 states that in 2004 Merrimac Wastewater Treatment Plant was 2.8% under capacity and that the combined catchments of Merrimac Wastewater Treatment Plant and Elanora Wastewater Treatment Plant have a combined spare capacity of 2.6%. This contradicts other documentation such as the *Infrastructure Planning Summary* that concludes:

*‘Rigorous options analysis, which included a comparison to traditional planning, during previous planning studies indicated that the diversion of parts of Elanora North to the Merrimac WWTP would not only be the least cost option for both capital costs and whole life costs, it would also provide greater customer/ social, environmental, accountability and operation/ technical benefits.*

*‘Elanora WWTP is already at capacity and therefore would require a capacity upgrade of the diversion does not go ahead. To date no detailed planning for the upgrade of Elanora WWTP has been undertaken, however, the costs to upgrade the plant has been estimated at \$32M plus additional costs for tighter DERM DA requirements. This is in comparison to completing the diversion, which would cost approximately \$7.6M. Furthermore, there have already been significant works designed, constructed and commissioned, including the construction of the Bermuda Street wastewater tunnel and Merrimac WWTP upgrades, with provision for the B47 catchment.*

*‘It is recommended that the works initiated by the BMP Alliance to divert the Mermaid Beach area (B47 catchment) in the Elanora North catchment to the Merrimac catchment be completed, to alleviate flows (and load) on the Elanora WWTP.’*

Without Net Present Value analysis of the overall project (diversion works plus upgrades to Elanora Wastewater Treatment Plant and Merrimac Wastewater Treatment Plant) it is difficult to assess the cost effectiveness of the overall project.

With regards to the diversion works only, which is the project that has been commissioned to be reviewed; the decision process shows that sufficient options have been assessed such that the project can be considered prudent with regards to the growth driver criterion.

The project has been assessed as prudent.



### 7.9.5. Efficiency

#### The scope of works

The multi-criteria assessment contained in the *Options Analysis Report* indicates that of the remaining diversion works, the proposed scope of works is the best means of achieving the desired outcomes. The Net Present Value calculations show that the proposed option is the 4<sup>th</sup> lowest comparable Net Present Value; however it is within 2.5% of the lowest Net Present Value. Additionally the proposed option scored second best in terms of the asset life and community impact of the project. The proposed option was also ranked second lowest in terms of construction cost.

The scope of works as detailed in the project description is assessed as appropriate for this project.

These analyses for the works being reviewed demonstrate that the selected option of the B47 diversion works can be assessed as efficient. Proceeding works and their overarching strategy were not part of the scope of this review.

#### Standards of service

The project's aims correspond to both of the Key Result Areas (KRA) in the *Asset Management Strategy*, which are:

- KRA 1 – Product Quality. Customer and environmental requirements for safe and reliable products are achieved
- KRA 2 – Asset Lifecycle Planning. Asset management effectiveness and efficiency resulting in maximum utilisation and economic value of assets over their lifetime

The project corresponds to the latest Allconnex Water Desired Standards of Service, as stated previously, which is assessed as appropriate.

The project takes into account existing infrastructure including wastewater pump stations and the section of diversion rising main constructed by the BMP Alliance and also the proposed works at Elanora Wastewater Treatment Plant and Merrimac Wastewater Treatment Plant.

#### Project cost

Several estimated costs have been identified in the various documents supplied. The cost submitted to the QCA (\$7,600,000) corresponds with the other costs. The costs listed in **Table 66** show a consistent estimate of the project's cost through the various documents and are in the range of plus two percent to minus six percent of the cost submitted to the Authority.

Notwithstanding that there is minor inconsistency in the *Options Analysis Report*, Table 11.1 states a cost of \$7,654,000 and in Appendix 4 states a cost of \$7,756,342. The cost in Appendix 4 does not state a cost for the modification to wastewater pump station B7; however a cost of \$64,433 is



supplied in Table 11.1 for mechanical and electrical modifications. This implies that the cost in Appendix 4 could be yet higher.

Additionally the cost detailed in the *Prudence & Efficiency Test* document states a cost of \$7,690,000 that is again higher than the cost submitted to the Authority.

A review of the unit costs in the *Options Analysis Report* Appendix 4 for the supply of pipework has been completed with unit rates recently provided by Tyco Water for ductile iron and PVC pipework for this review. The unit rates used in the cost estimate provided by Allconnex Water are comparable with the values provided by the pipe manufacturer as is indicated in the **Table 67**.

■ **Table 67 Comparison of pipework unit costs**

Pipework	Options Analysis Report Appendix 4 supply cost (\$/m)	Tyco Water supply cost (\$/m)	Percentage (Appendix 4/ Tyco Water)
DN600 Ductile Iron	375	350	107%
DN150 PVC	30	30	100%
DN225 PVC	55	65	85%

Only one cost for the provision of pipework was estimated at a lower value than that provided by Tyco Water. If the DN225 PVC pipework was to be costed at the Tyco Water rate then the additional cost would be \$3,900, approximately 0.05% of the \$7,600,000 project cost.

Allconnex Water utilises a GIS linked unit rate database. This database is periodically reviewed by a consultant and updated with contemporary industry data. The unit rate methodology has factors to allow for such as:

- Acid sulphate soils
- Levels of urbanisation
- Rock strength

Excavation rates for the various pipes laid in trenches are provided in the *Options Analysis Report* Appendix 4, which have been compared to values contained in Rawlinsons' *Australian Construction Handbook 2011*. **Table 68** includes a comparison of the rates. It should be noted that Rawlinsons' *Australian Construction Handbook* does not include rates for trench excavations greater than three metres. It has been assumed that the trench width corresponds to Water Services Association of Australia's drawing SEW-1201-V.

■ **Table 68 Comparison of excavation unit costs**

Pipework	Options Analysis Report Appendix 4 Rate (\$/m)	Options Analysis Report Appendix 4 Rate (\$/m <sup>3</sup> )	Rawlinsons' Soft Rock (\$/m <sup>3</sup> )	Rawlinsons' Hard Rock (\$/m <sup>3</sup> )
DN600 DI	390	162.5	100	185



Pipework	Options Analysis Report Appendix 4 Rate (\$/m)	Options Analysis Report Appendix 4 Rate (\$/m <sup>3</sup> )	Rawlinsons' Soft Rock (\$/m <sup>3</sup> )	Rawlinsons' Hard Rock (\$/m <sup>3</sup> )
Depth 1-2m DN600 DI	495	137.5	112	205
Depth 2-3m DN900 DI	480	160	100	185
Depth 1-2m DN900 DI	610	135.5	112	205
Depth 2-3m DN150 PVC	200	111.1	100	185
Depth 1-2m DN225 PVC	230	219	100	185
Depth 1-2m				

All bar one of the values are in the range to be expected for excavating in rock. The Options Analysis Report states that a geotechnical investigation has yet to be undertaken and so the approach is a conservative one. The value that is not within the range is higher than the upper end of the range which suggests that it is a conservative value and likely to be less once put out to tender.

The above assessment of pipe supply rates and pipework construction rates demonstrate that the estimate is reasonable and the project cost is assessed to be efficient.

#### 7.9.6. Timing and Deliverability

Included in the *Project Plan* is a high level program that details the proposed sequence of tasks for completion of the project and the *Project Delivery Risk Assessment*.

The Project Delivery Risk Assessment details several risks with a 'significant' classification after mitigations measures. As the program shows that the project is due for completion in April 2011 then it is likely that the project will be completed in the 2011/ 2012 year even if some risks are realised.

The following risks have been ascribed a 'significant' classification after mitigations measures:

- Awarding contract to correct contractor.

This risk is due to the internal restrictions of the tender analysis and procurement procedures. The *Project Delivery Risk Assessment* states that 'until Allconnex Water procurement policy is known then no mitigation. Likely that procurement will NOT change in short term ie next couple of years.'

- Construction Manager.



This risk is due to the Project Manager having responsibility for construction delivery with no authority over the Construction Manager or contract. The mitigation is stated as *'ensure experienced Construction Manager is assigned to the project with sufficient time allocation and/ or adequate support from assigned inspector. Note that if the aforementioned is not actioned then risk remains high.'*

- Time frame.

The project was due for delivery in the 2010/ 2011 financial year but was delayed due to late receipt of the change request along with lack of documentation for the historical decision process of selecting the design option for a significant valued project.

No mitigation is given as it is deemed 'inevitable' that the project delivery will extend in the 2011/ 2012 Financial Year. It is detailed that the impact that the project timing has on the affected treatment plants is uncertain. Furthermore it is stated that options analysis has been commissioned that includes Net Present Value calculations.

- New approvals process.

The risk is due to the new internal approval process within Allconnex that requires Board approval for delivery strategy and for award of contract. The mitigation is stated as *'None. New process unable to be expedited. TBA if any other mitigation measures for interim period.'*

Due to the Elanora Wastewater Treatment Plant operating beyond its design capacity the project has to be completed as soon as possible, assuming that Merrimac Wastewater Treatment Plant can accommodate the flows. The *Project Delivery Risk Assessment* demonstrates that analysis has been undertaken to manage the identified risks, which contributes to the meeting of the 'deliverability' criteria. The April 2011 delivery milestone date in the project plan has passed. Given the above risks and mitigation measures we consider the project should be capable of being delivered in the 2011/12 financial year.

### 7.9.7. Efficiency Gains

The *Benefits Realisation Plan* attached in Appendix G of the *Project Plan* contains details of benefits identified for the project. These are:

- *'Internal service performance improvement: available capacity in adjacent gravity system*
- *'Internal service performance improvement: reducing retention time for sewerage and therefore reducing overall odour problems to local residents*
- *'Efficiency gains: Elanora Treatment Plant will not be overloaded and process efficiency is expected improve at plant*



- 'Efficiency gains: reducing existing SRM (sewerage rising main) by injecting surrounding WWPS (wastewater pump stations) to proposed SRM and decommissioning existing redundant SRM's. Reduced assets for O&M to maintain
- 'Avoided costs: costs to upgrade Elanora WWTP to increase capacity'

No costs were provided for the efficiency gains listed above.

### 7.9.8. Allocation of overhead costs

No overheads have been assigned to this project.

### 7.9.9. Policies and procedures

- **Table 69 Wastewater Pump Station B47 Diversion Project - compliance with the Authority's initiatives**

Initiative	Achievement Yes/No/Partial	Comment
Consideration of prudence and efficiency of capital expenditure from a regional (whole of entity) perspective	Yes	The project demonstrates consideration on a regional perspective.
A standardised approach to cost estimating, including a standardised approach to estimates for items such as contingency, preliminary and general items, design fees and contractor margins, so that there is uniformity of cost estimating across all proposed major projects	Partial	A contingency rate of 20 percent has been applied in the cost estimate detailed in the <i>Options Analysis Report</i> . This corresponds to the figure used on other projects reviewed on behalf of the Authority. The cost estimate is provided in an MWH document and does not match templates used in other projects that have been reviewed on behalf of the Authority.
A summary document to be prepared for identified major projects so as to facilitate standardised reporting	Yes	Yes, the <i>Project Plan</i> fulfils this function.
An implementation strategy to be developed for each major project that includes recommendation on delivery methodology, program and a risk review process	Yes	Yes, document is titled <i>Infrastructure Planning Summary</i>
A 'toll gate' or 'gateway' review process to be implemented so that appropriate reviews are undertaken at milestone stages for selected projects	Yes	Project has been submitted for Board level approval as shown in the <i>Board Meeting Document</i> .

### 7.9.10. Summary

The project has been inherited by Allconnex Water and several key decisions have been made prior to their founding. Several linked projects (plus a section of rising main) have already been



constructed. The decision to implement a program of new works to transfer the flows to Merrimac Wastewater Treatment Plant is beyond the scope of this review. Only the diversion works associated with pump station B47 are in the scope of this review.

The project has been assessed as prudent. The primary driver of growth has been demonstrated.

The project has been assessed as efficient. An appropriate scope of works, acceptable standards of service, reasonable project costs, and achievable delivery have been demonstrated

Value of expenditure not considered to be prudent or efficient – NIL.

## 7.10. Water Meter Replacement Strategy 2011-2012

### 7.10.1. Proposed capital expenditure

The Water Meter Replacement Strategy 2011-2012 is a business wide initiative which covers the Gold Coast, Logan and Redlands districts. We have been commissioned to review the Gold Coast portion of the strategy. **Table 70** shows the proposed costs associated with the Gold Coast portion of the Water Meter Replacement Strategy 2011-2012 within the 2011/12 to 2013/14 budget.

- **Table 70 Water Meter Replacement Strategy 2011-2012– Proposed capital expenditure profile for the Gold Coast region**

Source	Costs (\$000s)			
	2011-12	2012-13	2013-14	Total
2011/12 Information Template	4,880	5,112	5,355	15,347
Water Meter Replacement Strategy 2011-2012	4,850	-	-	4,850

**Table 71** shows the proposed total costs of the Water Meter Replacement Strategy 2011-2012 for all regions within the 2011/12 to 2013/14 budget.

- **Table 71 Water Meter Replacement Strategy 2011-2012 – Proposed capital expenditure profile**

Source	Costs (\$000s)			
	2011-12	2012-13	2013-14	Total
2011/12 Information Template	8,000	8,380	8,778	25,158
Water Meter Replacement Strategy 2011-2012	8,000	-	-	8,000

The information in the 2011/12 Information Template provided to the Authority for the Gold Coast district for the 2011/12 to 2013/14 financial year does not completely agree with the information provided in other supporting documentation. The Water Meter Replacement Strategy 2011-2012 does not specify expenditure for beyond the 2011/12 financial year.





### 7.10.2. Project description

Water meters are used extensively throughout the Allconnex Water region to record the volume of water supplied to a customer during a billing period. Allconnex Water has an obligation to measure water consumption through the provision and maintenance of accurate water meters.

Allconnex Water has implemented a water meter replacement strategy to consolidate the water meter replacement processes currently undertaken across Allconnex Water, against a range of replacement parameters and philosophies, as a legacy of the participating councils. The Gold Coast district has had an approach in place since 1997, the Logan district has had a program since November 2008 and the Redland district's water meter replacement program commenced in 2006.

The strategy will prioritise for replacement initially, any stopped or damaged meters, then the oldest meters with high consumption records, finally meters with high consumption across all three districts as part of an entity wide approach.

### 7.10.3. Provided documentation

The key reference document used for this review is:

- *QE09969 SEQ Interim Price Monitoring Report Allconnex Final Rev 3 (mark up).docx1.3*, Allconnex Water, July 2011

### 7.10.4. Prudency

#### Cost driver

The nominated cost drivers according to the *Water Meter Replacement Strategy 2011-2012* are:

- Legal obligation (compliance)
- Renewal

The conclusion that this project is driven by legal obligation is supported by the following:

- Under the *Customer Water and Wastewater Code, SEQ Water (Distribution and Retail) Restructuring Act 2009*, reasonable steps must be taken to read the meter at each customer's premises at least once every 12 months and must ensure that an estimated meter read does not occur in two or more consecutive billing cycles
- The *Australian Standard 3565 Part 4: In-service compliance testing* sets out the criteria for testing 20 mm water meters. The standard came into effect in 2007 and deemed all meters to have an initial compliance testing period of 1920 kL or 8 years from the date they were



installed. Meter populations in excess of the initial compliance period shall be tested within 5 years of the standard implementation date

Water meters are predominately mechanical devices with limited life due to wear mechanisms and small meters (between 20 mm and 40 mm) are generally not repairable. Allconnex Water has decided that replacing old meters with new meters is the best solution.

The conclusion that this project is driven by renewals is supported by the following:

- The project involves the direct replacement of water meters
- Meter accuracy degrades over time and is characterised by an increase in measurement error. The age of the meter and the usage are the two main factors which determine need for replacement

Given this information, legal obligation and renewals are assessed as the appropriate drivers of this project.

### Decision making process

The course of action adopted by Allconnex Water for addressing the issue of impaired water meters was arrived at through a process of continuation of business as usual.

Meters selected for inclusion in the program are determined based on a number of criteria. The criteria are used not only for inclusion of meters in the program but also for prioritisation. The criteria used by Allconnex Water are:

- 1) Stopped and damaged meter
- 2) Meters older than 12 years with more consumption recorded than set in the consumption based replacement criteria table
- 3) Meters older than 12 years with less consumption recorded than set in the consumption based replacement criteria table
- 4) Meters of any age with more consumption recorded than set in the consumption based replacement criteria table

**Table 72** outlines the usage criteria utilised by Allconnex Water for consumption based replacement of water meters.

- **Table 72 Criteria for consumption based replacement**

Meter Size (mm)	Usage (KL)
20	5,000
25	20,000



Meter Size (mm)	Usage (KL)
32	25,000
40	25,000
50	35,000
80	250,000
100	250,000
150	350,000
200	500,000
250	500,000
300	500,000

Note: Extract from the *Meter Replacement Strategy 2011-2012* (Allconnex Water, 2011)

Allconnex Water indicates that benchmarking was undertaken against criteria used by Barwon Water, SA Water and Sydney Water. Allconnex Water adopted the consumption based replacement criteria used previously by Gold Coast Water, except for 20 mm water meters, for which the results from benchmarking have been adopted.

Due to the number of meters included in the program for the 2011/12 we have been unable to confirm if the process described in supporting documentation was followed.

In summary, water meters are important components in the water supply network and Allconnex Water has an obligation to maintain accurate meters. The project replaces existing water meters based on accuracy bound risk assessment to ensure the accurate recording of water consumption, which impact billing revenue and asset management functions.

The project has been assessed as prudent. The primary driver of renewal has been demonstrated. We do not agree with the allocation of its driver to legal obligation as failure to meet this obligation is a consequence of the condition of the time expired meters

#### **7.10.5. Efficiency**

##### **The scope of works**

The 2011/12 water meter replacement program will not only be the start of the Allconnex Water replacement program, but a continuation of programs that have operated under the previous councils.

It is expected that approximately 40,000 water meters (ranging in diameter from 20 mm to 200 mm) will be replaced under the whole program with approximately 30,000 of these in the Gold Coast district. Allconnex Water's target date for completion is June 2012.



### Standards of service

This project is supported by the Customer Water and Wastewater Code, SEQ Water (Distribution and Retail) Restructuring Act 2009 and the Allconnex Water Customer Service Standards. These requirements are as follows:

- s99AG of the SEQ Water (Distribution and Retail) Restructuring Act 2009
  - Each meter recording each of its customers' water consumption is read at least once each year.
- s99AH of the SEQ Water (Distribution and Retail) Restructuring Act 2009
  - (1) A distributor-retailer may use methods of charging for water supplied or sold by it to its customers the distributor-retailer considers appropriate, including, for example—
    - (a) giving an account based on meter readings; and
    - (b) giving an estimated account.
  - (2) However, a distributor must not give an estimated account to a customer for 2 or more consecutive periods.
- Under the Customer Water and Wastewater Code South East Queensland (QWC, 2011) Allconnex Water must take reasonable steps to read the meter at each customer's premises at least once every 12 months and must ensure that an estimated meter read does not occur in two or more consecutive billing cycles. This will mean that any stopped or damaged meters will need to be put on the replacement program as a priority to ensure that estimations are not required in two or more consecutive billing cycles.

We note that an amendment to SEQ Water (Distribution and Retail) Restructuring Act has been published however the content of the sections referred to by Allconnex Water has not changed substantially. In addition, we understand that bills must be forwarded to customers on a quarterly basis.

### Project cost

The budget for the program has been estimated based on unit rates from contracts and supply arrangements. Each of the districts had in place contracts and supply arrangements prior to the formation of Allconnex Water. According to Allconnex Water the following arrangements were in place:

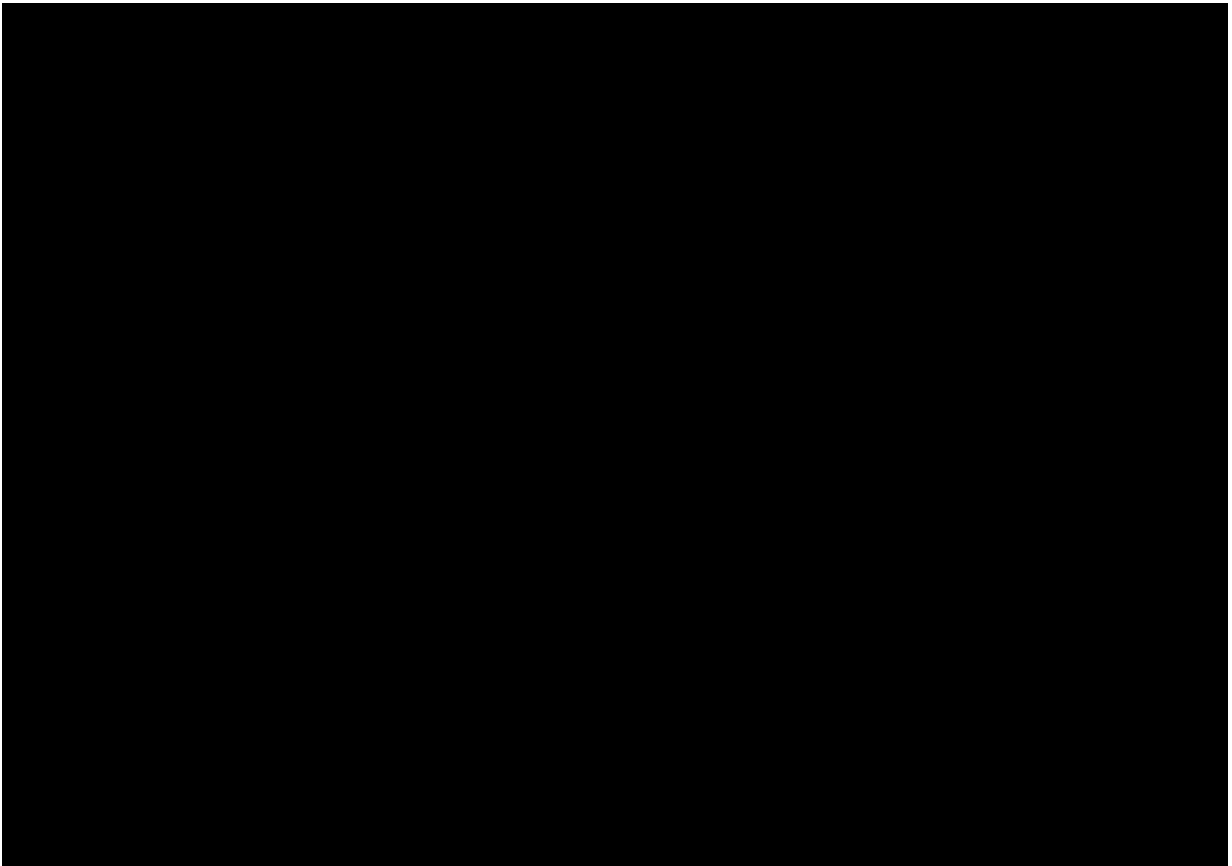
- Gold Coast district –
  - all meters greater than 150 mm were replaced under a contract with Skilltech which was due to expire on 30 June 2011
  - ABB is the sole supplier of electromagnetic meters, Allconnex Operations and Maintenance staff replace electronic meters and ABB commission them



- A contract is in place between Gold Coast City Council and Elster Metering Australia for the supply of meters from 20mm up to 300mm

No information has been provided by Allconnex Water in relation to how the process will proceed now that the contract with Skilltech has expired.

The information provided by Allconnex Water for the estimation of costs for the replacement of meters is reasonably comprehensive. For each meter size the cost for replacement for different scenarios is outlined and an approximate number of meters within that scenario to be replaced. From this an average cost of replacement is determined. This average cost is used to estimate the budget for the program. [REDACTED]



The average cost per meter, for 20 mm water meters, used by Allconnex Water for estimating program costs is comparable to the unit rates used in other recent projects SKM have been involved with.

**Table 73** summarises the costs involved in water meter replacement program in 2011/12.



■ **Table 73 Meter replacement budget breakdown 2011 - 2012**

Region	Meter Size	Budget Allocated (\$)	Totals (\$)
Gold Coast North	20mm - 25mm	1,600,000	
	>25mm - <100mm	350,000	
	100mm – 300mm	80,000	
	Maintenance replacements	100,000	
Gold Coast South	20mm - 25mm	1,900,000	
	>25mm - <100mm	275,000	
	100mm – 300mm	445,000	
	Maintenance replacements	100,000	4,850,000
Logan	20mm - 25mm	850,000	
	>25mm - <100mm	280,000	
	100mm – 300mm	370,000	
	Maintenance replacements	50,000	1,550,000
Redlands	20mm - 25mm	50,000	
	>25mm - <100mm	280,000	
	100mm – 300mm	60,000	
	Maintenance replacements	10,000	400,000
Meter Testing and Sampling			200,000
Electronic Meter Replacement and Maintenance			1,000,000
TOTAL			8,000,000

Note: Extract from the *Meter Replacement Strategy 2011-2012* (Allconnex Water, 2011)

Comparing historical information with the proposed expenditure for the 2011/12 financial year, relating to the number of meters replaced and the expenditure, the average cost per meter has increased significantly as shown in **Table 74**. We understand that this is due to an increase in the number of larger meters being replaced which due to higher costs per meter would increase the overall average cost per meter. As numbers of meter replaced per meter size were not provided we could not confirm this.

■ **Table 74 Average cost per meter for Gold Coast region**

Year	Expenditure (\$)	Number of meters replaced	Average cost per meter (\$)
2008/09	345,265	9,606	35.94
2009/10	443,104	7,143	62.03
2010/11	5,547,500*	NA	NA
2011/12	4,850,000*	30,000	161.67

Note: Extract from the *Meter Replacement Strategy 2011-2012* (Allconnex Water, 2011); \*Proposed expenditure



We believe that the use of a cost estimation database which is updated to reflect changes in contract rates and supply arrangements is a satisfactory method of determining costs estimates. We conclude that the costs are efficient.

#### **7.10.6. Timing and Deliverability**

The program for the project is intended to take place over the entire 2011/12 reporting period. This involves the replacement of approximately 40,000 water meters with a budget of \$8,000,000 for the whole entity. For the Gold Coast region it has been estimated that 30,000 water meters will be replaced with a budget of \$4,850,000.

For the 2008/09 and 2009/10 financial years 9,606 and 7,143 meters, respectively were replaced with budgets of \$345,265 and \$443,104, respectively. Based on the number of meters replaced in previous years the program for this financial year may be ambitious. The use of a contractor should allow for appropriate increases in the number of resources required to achieve this.

Barriers identified for the project include:

- The implementation of the new billing system, Gentrack, during which the meter replacement program will be on hold to ensure data migration is not compromised
- Accessibility of meters for replacement (i.e. gated communities, large businesses) resulting in interruptions to the replacement schedule

#### **7.10.7. Efficiency Gains**

Allconnex Water had intended to apply lessons learned from previous meter replacement programs to improve efficiency of this program. The programs feasibility will be assessed throughout 2011/12 financial year as information is gained from meters replaced as part of this strategy. It is anticipated that the strategy will be revised where necessary and an optimum meter replacement age defined.

#### **7.10.8. Allocation of overhead costs**

Not applicable as no overheads have been allocated.

#### **7.10.9. Policies and procedures**

Compliance with the Authority's initiatives



■ **Table 75 Water Meter Replacement Strategy 2011-2012 - compliance with the Authority's initiatives**

<b>Initiative</b>	<b>Achievement Yes/No/Partial</b>	<b>Comment</b>
Consideration of prudence and efficiency of capital expenditure from a regional (whole of entity) perspective	Yes	The strategy has been developed to consolidate the three separate water meter replacement programs. Due to the announcement of the potential split of Allconnex Water this may not be possible.
A standardised approach to cost estimating, including a standardised approach to estimates for items such as contingency, preliminary and general items, design fees and contractor margins, so that there is uniformity of cost estimating across all proposed major projects	Partial	The method of estimating costs for the rolling program is based on contracts and current supply arrangements. This method is not adopted by for all projects.
A summary document to be prepared for identified major projects so as to facilitate standardised reporting	Yes	The strategy document presents a summary of the program.
An implementation strategy to be developed for each major project that includes recommendation on delivery methodology, program and a risk review process	No	The strategy document does not include delivery methodology, program and a risk review process.
A 'toll gate' or 'gateway' review process to be implemented so that appropriate reviews are undertaken at milestone stages for selected projects	No	No 'gateway' review process has been implemented by Allconnex Water.

**7.10.10. Summary**

The Water Meter Replacement Strategy 2011-2012 is a consolidation of programs run by respective councils prior to the formation of Allconnex Water. The project replaces existing water meters to ensure the accurate recording of water consumption, which impact billing revenue and asset management functions. The Gold Coast district portion of the strategy only, has been reviewed.

The project has been assessed as prudent. The primary driver of renewal has been demonstrated. We disagree with the allocation of legal obligation as a driver as any non compliance is a consequence of the condition and performance of time expired meters. The replacement of non-operational and malfunctioning water meter is required to provide accurate billing to customers and for revenue protection.





The project has been assessed as efficient. An appropriate scope of works, acceptable standards of service, reasonable project costs, and achievable the delivery with increased recourses by the contractor has been demonstrated.

Value of expenditure not considered to be prudent or efficient – NIL.

## 7.11. Operational Management Program

### 7.11.1. Proposed capital expenditure

**Table 76** shows the proposed cost of the Operational Management Program Project within the 2011/12 to 2013/14 budget.

■ **Table 76 Operational Management Program Project – Proposed capital expenditure profile**

Source	Costs (\$000s)			
	2011-12	2012-13	2013-14	Total
2011/12 Information Template	4,734	3,860	1,642	10,236

### 7.11.2. Project description

On 1 July 2010 the water businesses of Gold Coast City Council, Logan City Council and Redland City Councils merged to form the new entity: Allconnex Water. Under the terms of the SLAs agreed with the three councils, the provision of systems and associated services relating to finance, procurement, asset management, inventory management, contract management and customer relationship management will expire on 30 June 2013. The provision of billing, human resources and payroll systems and associated services was intended to expire on 30 June 2011, however agreement has been reached to extend the deadline for termination of the SLAs with councils. The human resources and payroll systems and associated services are addressed separately as individual projects by Allconnex Water but do not form part of the capital expenditure projects selected for our review by the Authority.

The Allconnex Water Strategic ICT Vision and Strategic ICT Roadmap mandates an ERP solution to ensure a system and associated services are in place at the time of expiration of SLAs to deal with finances, procurement, asset management, inventory management, contract management and customer relationship management within the newly formed Allconnex Water. The Operational Management Program Project, the subject of this review, builds on the base ERP program. The Base ERP Program project is the first phase of the overall ERP deployment.

The Operational Management Program as part of the ICT Portfolio Plan will deliver the functionality required by the Operational Business Functions



### 7.11.3. Provided documentation

The key reference documents used for this review are:

- Prudency & Efficiency Test, Operational Management Program, Allconnex Water, Version 0.1, 4 February 2011
- Allconnex Water, ICT Portfolio Plan, IBM Team, Version 0.9, 24 September 2010
- Allconnex Water, Strategic ICT Vision, IBM Team, Version 1.03, 26 October 2010

### 7.11.4. Prudency

#### Cost driver

The identified cost driver for this project is new (not growth). As described within the project description section above, the newly formed Allconnex Water requires a system and associated services relating to finance, procurement, asset management, inventory management, contract management and customer relationship management to be in place before 30 June 2013 in order to continue to meet its licence obligations.

The Allconnex Water Strategic ICT Vision and Strategic ICT Roadmap mandates an ERP solution to provide Allconnex Water with an integrated suite of applications to support major business functions including finance, asset management, inventory management, procurement, contract management, customer relationship management and project management.

The Allconnex Water Strategic ICT Vision states in section 4.4: “*After extensive consultation, it was determined that Allconnex Water should pursue an integrated ERP solution, with a phased implementation.*” This project therefore aligns with the direction as stated within the Strategic ICT Vision in that it will build on the Base ERP infrastructure by supplementing the Base ERP Program with additional solutions as required.

The operations management program will also deliver the ICT functionality required by the operational business functions.

We do not agree with the allocated cost driver of new (not growth) and consider a more appropriate driver to allocate to the project is that of legal obligation in respect of Allconnex Water’s obligation to manage finance, asset management, inventory management, procurement, contract management, customer relationship management and project management.

The project is assessed to be prudent.

#### Decision making process

The ICT Portfolio Plan requires that an operational management program be implemented to build on the Base ERP Program.



As part of the Base ERP Program decision process it was determined to make use of an integrated ERP suite and that “best of breed” applications will be preferred. This decision effects the execution of the operational management program.

Allconnex Water intends to utilise the technologies delivered as part of the Base ERP Program, being the common technologies and tools program and the ICT base infrastructure program, as the operational management platform.

This project is within the conceptual planning stage. No information has been supplied to us detailing the decision making process that will be followed.

#### **7.11.5. Efficiency**

##### **The scope of works**

The ICT Portfolio Plan makes provision for the following components as part of the Operations Management section:

- SCADA strategy
- SCADA standardisation
- GIS
- Environmental Monitoring Management
- Alert Monitoring and Remediation

The Prudency and Efficiency Test document sets the scope of the project as follow:

- SCADA strategy project
- SCADA standardisation project
- Asset management and works management project
- Operational reporting project
- GIS project
- Major development project management
- Alert monitoring and remediation project

The environmental monitoring management aspect documented within the ICT Portfolio Plan is not captured within the Prudency and Efficiency Test document. We consider that the additional components/aspects within the Prudency and Efficiency Test document can be ascribed to the fact that this project builds on the Base ERP Project. The additional components/aspects are deemed to be required such that the original components/aspects, as detailed in the ICT Portfolio Plan, are able to be implemented.



We consider the scope of works defined within the Prudency and Efficiency Test document to acceptably describe the whole of works required.

### **Standards of service**

The standard of the service is a function of the implementation stage and how well the new system can link with the existing infrastructure or base database. With the limited information to our disposal we are not in a position to provide comment on the standard of service to be provided.

This project is at conceptual level of planning and a project management plan has not been set up or issued for our review that details the implementation method that will be adopted. We are therefore not in a position to comment on the implementation method and the likelihood of the method attaining a set level. It is noted that a decision was made to implement the “best of breed” packages as part of the Base ERP program project.

### **Project cost**

The Prudency and Efficiency Test document states: “*Costs are broken down into Resource, Hardware and Software:*

- *Resources Costs are \$8,994,344*
- *Hardware Cost are \$0 (within the BASE ERP Program)*
- *Software Costs are \$1,050,000”*

For projects of this nature, which tend to be tailored in their scope and implementation to individual business needs, a detailed cost estimate is required to be developed against which the project costs can be compared to enable specific cost efficiency to be determined. Development of such a detailed comparison cost estimate is deemed to be outside the scope of our assignment. Also, the information that is required to compile a rough order cost estimate is not publically available.

The Prudency and Efficiency Test document indicates that Allconnex Water has engaged IBM to perform an independent benchmarking exercise based on a Tier 1 ERP implementation. The findings and results of this engagement have not been made available as part of our review.

Consequently there is insufficient information to assess the efficiency of the project.

### **7.11.6. Timing and Deliverability**

Allconnex Water has advised us as follows: “*The Operations Management Program was not commenced since the Premier’s announcement to allow councils to opt out of the water reform agenda.*”



Following the participating Councils decision to disestablish Allconnex Water, Allconnex Water has advised that they have now put this project on hold indefinitely ie the project has been cancelled. The decision to not commence the operations management program project will affect the implementation of the full ERP program.

#### 7.11.7. Efficiency Gains

No information was available to assess efficiency gains of the project.

#### 7.11.8. Allocation of overhead costs

Not applicable as no overheads have been allocated.

#### 7.11.9. Policies and procedures

Compliance with the Authority's initiatives

#### ■ Table 77 Operational Management Program Project - compliance with the Authority's initiatives

Initiative	Achievement Yes/No/Partial	Comment
Consideration of prudence and efficiency of capital expenditure from a regional (whole of entity) perspective	Partial	The project is prudent and will be implemented throughout the entity. The efficiency of the project could not be determined.
A standardised approach to cost estimating, including a standardised approach to estimates for items such as contingency, preliminary and general items, design fees and contractor margins, so that there is uniformity of cost estimating across all proposed major projects	No	No standard approach to cost exists for this type of project within Allconnex Water as the project is unique in nature and dissimilar to water/wastewater infrastructure capital projects.
A summary document to be prepared for identified major projects so as to facilitate standardised reporting	Yes	Prudence and Efficiency Test Document has been prepared by Allconnex Water and this type of document was prepared for this project.
An implementation strategy to be developed for each major project that includes recommendation on delivery methodology, program and a risk review process	No	None provided
A 'toll gate' or 'gateway' review process to be implemented so that appropriate reviews are undertaken at milestone stages for selected projects	No	No information provided



### 7.11.10. Summary

The project has been assessed as prudent. The relevant drivers have been assessed as compliance, renewal and growth.

There is insufficient information to assess the efficiency of the project. Additionally, the project has been put on hold indefinitely following participating Councils' decision to disestablish Allconnex Water. The revised capital expenditure profile is shown in **Table 78**.

■ **Table 78 Operational Management Program Project - revised capital expenditure profile**

Project	Costs (\$000s)			
	2011-12	2012-13	2013-14	Total
Operational Management Program Project	0	0	0	0

### 7.12. Alliance Program Management Project

#### 7.12.1. Proposed capital expenditure

**Table 58** shows the proposed cost of the Alliance Program Management Project within the 2011/12 budget.

■ **Table 79 Alliance Program Management Project – Proposed capital expenditure profile**

Source	Costs (\$000s)			
	2011-12	2012-13	2013-14	Total
Capital expenditure cost as put forward to QCA	3,933	0	0	3,933
<b>Program Budget (28 July 2011)</b>				
Fixed office costs	597	0	0	597
Program management	2,690	0	0	2,690
Other design and management costs and fees	3,257	0	0	3,257
<b>Sub-total</b>	<b>6,544</b>	<b>0</b>	<b>0</b>	<b>6,544</b>
KPI Allowance	250	0	0	250
Owner direction and governance costs	200	0	0	200
<b>Total Budget Submitted</b>	<b>7,000</b>	<b>0</b>	<b>0</b>	<b>7,000</b>

#### 7.12.2. Project description

The Logan City Council Logan established the Logan Water Alliance in 2009 prior to the creation of Allconnex Water to deliver a \$200 million capital works program over a three to four year



period. The Logan City Council deemed the Logan Water Alliance as an appropriate vehicle to deliver the significant infrastructure, planning and capital works program that was facing the new Logan City Council area following the transfer of significant areas of land from the Beaudesert Shire and Gold Coast City Council as part of local government area boundary redefinition. This included the future regional cities of Flagstone and Yarrabiliba.

The owner organisation area transitioned from Logan City Council to Allconnex Water in July 2010. In the new organisational and regulatory environment, Allconnex Water is required to ensure that the Logan Water Alliance is an effective and efficient planning and capital works delivery mechanism. For this purpose, Evans & Peck was commissioned to benchmark the Logan Water Alliance against other Alliances and to evaluate the efficiency and effectiveness of the Logan Water Alliance.

The Logan Water Alliance is a joint venture between Allconnex Water and Tenix. Tenix has contracted Cardno and Parsons Brinckerhoff to assist with the alliance, as stated within the Evans & Peck review: *“The PAA (Program Alliance Agreement) is an agreement between Logan City Council and Tenix Alliance (now trading as Tenix Australia PTY LTD). It is our understanding that the Alliance Contractor has a separate agreement or agreements in place with Parsons Brinckerhoff and Cardno. These separate agreements may take the form of sub contracts or Joint Venture agreements.”*

### **7.12.3. Provided documentation**

The key reference documents used for this review are:

- Project Initiation Form, Alliance Program Management – Wastewater, Version 1.0, 17 August 2011
- Allconnex Water Board Meeting of 28 July 2011, Independent Review of Logan Water Alliance and Potential Future Directions
- Allconnex Water Board Meeting of 24 June 2011, Logan Water Alliance Program Management Budget 2011-2012
- Allconnex Water, Logan Water Alliance, Alliance Review, Evans & Peck, Version 12, 12 June 2011

### **7.12.4. Prudency**

#### **Cost driver**

The identified cost driver for this project is improvement. The improvement driver is defined by the Authority as an increase in the reliability or the quality of supply that is explicitly endorsed or desired by customers, external agencies or participating councils.



The Logan City Council required a delivery vehicle to deliver the significant infrastructure, planning and capital works program. The Logan City Council decided to make use of an alliance model with a “planning led” focus.

Notwithstanding that Logan City Council sought an increase in the quality of water and wastewater services for its community, there was the delay by Logan City Council and Cogan Water to providing infrastructure in response to growth. Consequently growth has been assessed as the primary driver. It is acknowledged that there could be aspects of compliance and renewal, based on work associated with wastewater treatment plants and the expiry of the life of various elements of infrastructure. These are regarded as subordinate drivers. We consider that Allconnex Water should complete a follow up assessment of the drivers for all infrastructure projects and develop a cumulative percentage to apply to the drivers of growth, renewals and compliance for the Alliance Program Management.

### **Decision making process**

The term of the Logan Water Alliance Program Alliance Agreement is three years and is due to expire in August 2012. The Program Alliance Agreement provides for the potential to extend it annually, past August 2012, to a further two years. The Board Meeting of 28 July 2011 document dedicates a whole section to the potential future direction of the Logan Water Alliance. The documented options are as follows:

- Extend the Logan Water Alliance model within the northern area, and maintain the current planning and program delivery model in the southern area
- Extend the Logan Water Alliance model within the northern area and consider alternative planning and program delivery models in the southern area
- Do not extend the Logan Water Alliance model within the northern area and consider alternative planning and program delivery models across the whole of Allconnex Water.

A “do-nothing” option was not included in the options proposed. From the above options it appears that there is a drive to incorporate the Redland area within the Logan Water Alliance. This idea is discussed at length. It is to note that a Significant Procurement Plan will need to be developed, approved and endorsed by the delegated authority of the Chief Executive Officer. Evans and Peck recommended that high business risk and or high capital expenditure capital program or projects be excluded from the Logan Water Alliance.

No information was provided documenting the options that were investigated by the Logan City Council in 2009 before establishing the alliance, nor the process by which the preferred tender was selected. The following statement is presented within the Evans & Peck document: *“In reviewing the Logan Water/Logan City Council documentation relating to the procurement method selection process, there is clear documented evidence that many of the identified alliance relevant*





*characteristics and risk factors influenced Logan Water’s decision to prefer an alliance over other delivery methods.”*

#### **7.12.5. Efficiency**

##### **The scope of works**

One of the key reasons for the formation of the alliance was to deliver more cost effective solutions. The Logan City Council at the time decided to opt for a “planning led” alliance instead of the traditional design and construction alliances. Evans and Peck compared the ‘planning led’ alliance model used against other water utilities across Australia that deliver similar work. Evans and Peck found during the comparison *“that the use of an alliance model is not inconsistent to how other water utilities deliver their programs of works”*

The Evans and Peck document draws attention to the procurement method in that it states that the Logan Water Alliance Contractor selection process was conducted without any form of price competition. This approach was not at the time inconsistent with the State Procurement Policy (2008). It does however state that under contemporary State procurement policies and guidelines this approach would require a government exemption. Evans and Peck recommended that Allconnex Water *“should be prepared to subject the Logan Water Alliance program and its respective projects to appropriate levels of commercial scrutiny to establish value is being delivered to the State. This may include alliance audits, preparation of regular VfM reports to enable Allconnex Water to demonstrate to the State that the VfM being delivered from the Logan Water Alliance on an ongoing basis.”*

When compared to “best practice” alliances, the commercial framework of the Logan Water Alliance varies in the following key areas:

- The alliance contractors commercial driver is to maximise its shareholders return and accept lower levels of risk
- The target outturn cost scope and pricing is overly conservative – the non owner parties accept a lower risk profile and the owner accepts higher risk profile than in equivalent design and construct contracts and it is therefore logical that the overall pricing for an alliance contract should be lower than for an equivalent design and construct contract.
- The alliance contractor is reimbursed for actual cost incurred and not necessarily reasonable and properly incurred costs.

The Evans and Peck review did not deliver any evidence of commercial misalignment influencing the programs or projects performance outcomes.

The Logan Water Alliance governance arrangement for the approval of expenditure includes the following three parts to the approval process:



- Planning cost governance framework
- Program management cost governance framework
- Project target outturn cost governance framework

Each of the above expenditure approval processes includes a series of steps or hold points and at each step the expenditure is assessed and challenged by a review team that includes senior Allconnex Water managers.

The process review steps to approve expenditure resembles the process steps in a typical “gateway review” process adopted by State Treasury. Evans and Peck reviewed the process and concluded that *“This is considered by E&P to include appropriate rigor to ensure that all Logan Water Alliance expenditure approved by Allconnex Water is prudent.”*

The Board Meeting of 24 June 2011 document states that *“Currently, the Logan Water Alliance is managing in the order of 90 planning and delivery projects ranging in individual value from a few thousand to multiple million dollars.”* The documentation provided does not give a breakdown of the projects that has been identified to be delivered making use of the Logan Water Alliance for the 2011/12 period.

The documentation provided indicates that the actual value of capital works to be delivered by the Logan Water Alliance is projected to increase from \$43 million in 2010/11 to \$80 million in 2011/12, an increase of 186%. From **Table 58** it can be seen that there is a matching increase in the program management, design management and work package delivery management components from the 2010/11 to the 2011/12 program budget.

Evans and Peck compared the performance of the Logan Water Alliance to four other similar alliances. When comparing the cumulative ratio between program management cost and capital expenditure they found that the Logan Water Alliance *“has consistently been lower than the benchmark alliances average.”*

The Evans and Peck documents note in regard to project delivery cost, the following:

- Based on the program of works, the forecasted outturn costs for all the projects, either completed or in progress is 1.51% below the agreed combined target outturn cost for all projects reviewed in 2010/11
- It is concluded that the solutions emanating from the Logan Water Alliance planning phase are robust and therefore allow relatively cost efficient delivery of the projects during the delivery phase.



- The Logan Water Alliance designs are progressed to between 50% and 80% completion before the projects target outturn cost is set. This allows the Logan Water Alliance to have a high level of understanding and certainty of each project.
- The projects that Logan Water Alliance has undertaken so far has been relatively straight forward however the upcoming projects have more complex scope of works and include projects requiring process solutions. Evans and peck indicated that *“E&P is of the opinion that investment in a robust planning and definition phase will greatly assist in the design, costing and ultimately the delivery of these more complex solutions...”*

Based on the provided information, the scope of works of the Alliance Program Management project is assessed as appropriate. The scope of works of any specific project has not been assessed in this project Alliance Program Management review.

### **Standards of service**

The governance of the Alliance has the following attributes:

- Alliance Manager, nominated by the alliance and endorsed by the owner
- Alliance Program Management Team – comprises the functional area leaders working within the alliance including representatives from the non owner participants and the owner
- Alliance Leadership Group comprises senior management representatives from each NOP and the owner. Alliance Leadership Group members do not form part of the alliance team and have separation from the Alliance Program Management Team and have the appropriate delegated authority to bind their respective organisations to any agreement reached by the Alliance Leadership Group. Allconnex Water is represented by the Chief Operations Officer and the Strategic Group Manager, Planning and Infrastructure Development, on the Alliance Leadership Group
- Owners representatives are considered outside of the alliance
- External auditing is undertake quarterly by BDO Kendalls
- Alliance Transaction Advisory services are provided to Allconnex Water by AQUA Projects
- Independent estimator services are provided by Project Services PTY Ltd
- Independent review of the Logan Water Alliance conducted by Evans & Peck

The Evans and Peck document, as referenced above state that *“the Logan Water Alliance has effective governance mechanisms in practice, however the PAA as it is presently drafted does not provide for Owner’s reserve powers nor does it deal with scope changes in a manner that is consistent with an Owner’s reserve powers in a ‘best practice’ alliance agreement.”*

We therefore consider the above governance structure to be largely in line with industry standard and an acceptable standard of service.



## Project cost

The Board Meeting documentation of 24 June 2011 stated that the “*procurement of the Alliance contractors was undertaken through a comprehensive and robust open market process*” and stated further that “*the negotiated consultant [REDACTED] and contractor fees [REDACTED] are very competitive. This has been confirmed through independent benchmarking.*”

The key cost areas for the program alliance are:

- Program management target outturn cost. This is the cost of “*maintaining the overall management capacity of the Alliance*”. The program management target outturn cost includes the participants fees
- Planning and project development. The projects identified for planning are individually approved and payment is made on a direct cost plus the agreed fee basis
- Functional design and target outturn cost development. The projects that have been agreed to proceed to work package definition, functional design and target outturn cost development are approved individually and funded as direct cost plus the agreed fee
- Project implementation works delivery. The alliance partners agree on a target outturn cost and payment is made in accordance with the final actual outturn cost. The alliance partners share in the pain or gain (over-run or under run) on the project outturn cost
- Owners risk (contingency). For each individual project the specific risks are identified that have a low likelihood of occurrence and a significant consequence should they occur. The risks identified are not built into the target outturn cost and are carried by the owner, Allconnex Water
- Key performance indicators allowance. This allowance recognises the longer term partnership arrangements of the Logan Water Alliance. For the program alliance they are measured across the total program rather than individual projects
- Owner direction and governance costs. The owners, Allconnex Water, direct costs in regard to oversight and governance of the alliance program are accounted separately to ensure probity and independence of advice from the owner’s perspective.

The review that was undertaken by Evans & Peck concluded that “*in the opinion of E&P, the cost of the program management team has demonstrated value for money through benchmark cost comparisons and through the achievement of above neutral KPI performance scores.*”

The Evans & Peck report highlighted that the Logan Water Alliance Program Management cost efficiency is in line with benchmark alliances and less than the average when measured as a cumulative ratio of program management cost/capital expenditure.

We therefore consider that the Logan Water Alliance Program Management is efficient.



#### **7.12.6. Timing and Deliverability**

One of the fundamental drivers for the Alliance was to establish a “planning led” alliance program that would ensure that the right project is undertaken at the right time. The planning and project development component of the alliance program offers a dedicated team with the focus to deliver the best infrastructure outcomes. The planning phase is also an opportune time to ensure that prudent decisions are made.

The majority of projects are delivered by sub-contractors sourced through a competitive tender process. Materials are also sourced making use of competitive tendering.

The Board Meeting of 24 June 2011 document also records key risks relevant to the organisation and its strategic objectives. Of note, is the risk that the organisation cannot recruit or retain the capacity or capability to operate successfully as a water distributor and retailer. It is cited that the Logan Water Alliance is a key component in ensuring that Allconnex Water delivers the capital works program within the Logan City Council area and without the Logan Water Alliance it would not be achieved within the short to medium term.

The Project Initiation Form lists the completion date for the Alliance Project Management as 30 June 2012, with an option for up to two twelve month contract extensions.

#### **7.12.7. Efficiency Gains**

The alliance has the opportunity to get involved at the planning stage of a project and this enables them to determine the implementation strategy. This in itself should reduce the operating cost, extend the asset life and save on design and implementation costs, the document prepared by Evans and Peck highlights the efficiencies gained by the Logan Water Alliance. In addition, all projects are managed from its inception to handover by a single entity; this should also reduce the cost due to continuity of knowledge.

#### **7.12.8. Allocation of overhead costs**

The project has the following two components that are allocated to overheads costs:

- Fixed office costs
- Owner direction and governance cost

We consider it appropriate to allocate the above costs to overhead costs.

#### **7.12.9. Policies and procedures**

Compliance with the Authority’s initiatives



■ **Table 80 Alliance Program Management Project - compliance with the Authority's initiatives**

<b>Initiative</b>	<b>Achievement Yes/No/Partial</b>	<b>Comment</b>
Consideration of prudence and efficiency of capital expenditure from a regional (whole of entity) perspective	Partial	We consider the Alliance Program Management Project to be both prudent and efficient as it delivers the capital works program for the Logan City Council region. It is legally not entitled to deliver in any of the other two areas of Allconnex Water at present however this is being removed
A standardised approach to cost estimating, including a standardised approach to estimates for items such as contingency, preliminary and general items, design fees and contractor margins, so that there is uniformity of cost estimating across all proposed major projects	No	This project is a one off project and therefore the cost estimating method is non standard within Allconnex Water as the project is unique in nature and dissimilar to water/wastewater infrastructure capital projects.
A summary document to be prepared for identified major projects so as to facilitate standardised reporting	No	A standard document has not been prepared or presented for our review that facilitates standard reporting
An implementation strategy to be developed for each major project that includes recommendation on delivery methodology, program and a risk review process	Yes	The documentation review has a clear delivery methodology, program and risk reviews.
A 'toll gate' or 'gateway' review process to be implemented so that appropriate reviews are undertaken at milestone stages for selected projects	Yes	Refer to Cost Driver Section

**7.12.10. Summary**

The project has been assessed as prudent. This project is a continuing project and the available information was limited. The primary driver of growth has been assessed. Subordinate drivers of renewal and compliance may be relevant.

The project has been assessed as efficient as the contract was led through a competitive tendering process and hence represents market rates. An appropriate scope of works, acceptable standards of governance and reasonable project have been demonstrated. The deliverability is acknowledged to be achievable. Insufficient specific program resourcing information was provided to confirm this expectation.

Value of expenditure assessed as not prudent or efficient – NIL.



## 7.13. Round Mountain Reservoir and Link Mains Project

### 7.13.1. Proposed capital expenditure

The Round Mountain Reservoir and Link Mains Project is comprised of two projects within the capital budget being the reservoir and the link mains. We have been commissioned to review the expenditure associated with the installation and construction of the link mains and access road only. **Table 81** shows the proposed cost associated with the link mains and access road portion of the Round Mountain Reservoir and Link Mains Project within the 2011/12 to 2013/14 budget.

- **Table 81 Round Mountain Reservoir and Link Mains Project – Proposed capital expenditure profile link mains portion**

Source	Costs (\$000s)			
	2011-12	2012-13	2013-14	Total
2011/12 Information Template	\$2,750	-	-	\$2,750
Project Initiation Form (Total project)	\$5,000	-	-	\$5,000
Board Meeting - Matter for Approval Appendix C	\$2,700	-	-	\$2,700

**Table 82** shows the proposed cost of the entire Round Mountain Reservoir and Link Mains Project within the 2011/12 budget to 2013/14.

- **Table 82 Round Mountain Reservoir and Link Mains Project – Proposed capital expenditure profile**

Source	Costs (\$000s)			
	2011-12	2012-13	2013-14	Total
2011/12 Information Template	\$5,000	-	-	\$5,000
Project Initiation Form	\$5,000	-	-	\$5,000
Board Meeting - Matter for Approval Appendix C	\$6,900	-	-	\$6,900

The information in the 2011/12 Information Template provided to the Authority for the link mains portion for the 2011/12 to 2013/14 financial years agrees with the information provided in other supporting documentation. There is variation between the information provided for the entire project. Allconnex Water advised that the variation is due to a change in proposed expenditure since the completion of the *Board Meeting of 28 October 2010 Matter for Approval* (Allconnex Water, 2010) supporting documentation.

### 7.13.2. Project description

The objective of the overall project is to provide a reservoir and trunk water mains to serve future growth in Flagstone and surrounding areas.



The Round Mountain Reservoir and Link Mains Project comprises of the following works:

- 1) Bulk earthworks to provide a level base for the Round Mountain Reservoir
- 2) Detailed design and construction of the 20 ML Round Mountain Reservoir
- 3) Construction of the 600 m long reservoir access road
- 4) Installation of a rising main to the reservoir from the north: 2530 m of 600 mm diameter ductile iron cement lined pipe along New Beith Road from approximately 1.5 km south of Tall Timber Road to the Round Mountain Reservoir
- 5) Installation of a gravity main from the reservoir to the south; 1880 m of 600 mm diameter pipe from the Round Mountain Reservoir, south along New Beith Road to near the site of the future Flagstone Reservoir
- 6) Supply of pipes, fittings and valves associated with the project

The review will assess items 3, 4 and 5 only.

### **7.13.3. Provided documentation**

The key reference documents used for this review are:

- *Report for South West Logan Water Supply Options Study*, GHD, December 2008
- *Flagstone and New Beith Reservoirs Options Analysis*, Cardno, June 2009
- *Lower Logan Strategic Water Master Plan Final Report*, Cardno & GHD, February 2010
- *Paper for CEO Approval - Round Mountain Infrastructure Agreement – Acquisition of Land for the Round Mountain Reservoir and Easements for Associated Road Access and Trunk Water Mains*, Allconnex Water, September 2010
- *Board Meeting of 28 October 2010 Matter for Approval – Logan Water Alliance Work Package 01 Round Mountain Reservoir and Link Mains*, Allconnex Water, October 2010
- *Project Initiation Form*, Allconnex Water, February 2011
- *Work Package Definition Statement Notice*, Logan Water Alliance, Various

### **7.13.4. Prudency**

#### **Cost driver**

The primary driver nominated by Allconnex Water for this project is growth. This project is needed to serve new development areas within the Flagstone, New Bieth and Teviot Downs areas and accommodate future population growth. The SEQ Regional Plan 2009-2031 identified large areas in Logan South as regional self-sustaining urban community development areas, which are required to be serviced with water and wastewater infrastructure. The total Logan South population is predicted to increase to more than 200,000 by ultimate development (current population





approximately 30,000). Logan Water engaged GHD and Cardno to jointly undertake a Master Plan for the Lower Logan Water Supply Area. This project identified that significant water supply infrastructure was required in the area, including the reservoir and link mains.

This cost driver is supported by growth population figures. The demand projections for the water supply network served by Round Mountain were confirmed as part of the preparation of the Priority Infrastructure Plan and supported by studies conducted by various consultants. The demand projections are displayed in **Table 84**.

■ **Table 83 Demand Projections**

Year	Equivalent Population
Current	9,505
2016	25,037
2031	54,065
2051	78,650

Allconnex Water advises that the Priority Infrastructure Plan (which will be incorporated into the NetServ Pan) as it is not yet available, as such these figures cannot be cross referenced.

Allconnex Water states that “Sensitivity analysis undertaken indicates that growth would need to lag current projections by more than ten years before staging of the works became cost effective”. A delay of this extent is considered unrealistic, particularly given the State Government’s intention to fast-track urbanisation of Flagstone.

Additional drivers for this project are compliance, both legislative and contractual. These are supported by:

- Existing capacity problems within the network mean that the proposed project provides reservoir storage and trunk capacity to meet customer service standards. Currently minimum pressure and flow, and fire fighting capacity do not meet the customer service standards. The ‘Logan Water Lower Logan Strategic Water Master Plan Final Report’ modelling results identified significant failures in the 2008 planning horizon for the mean day maximum month and maximum day models.
- The construction of this project is required to meet contractual obligations of infrastructure agreements. Agreements are in place with three developers under which Allconnex Water has an obligation to complete this project.

Potential impacts if this project does not proceed are:

- Failure to cater for the increased population growth



- Potential deferral of development
- Reduced reliability of water supply of the area
- Sub-standard level of service for existing and future customers
- Impact to Allconnex Water reputation
- Reduction of public/shareholder confidence in Allconnex Water
- Legal risk in terms of not fulfilling an obligation under existing Infrastructure Agreements

The project has been assessed as prudent. The primary driver of growth has been demonstrated. The subordinate drivers of compliance, both legislative and contractual, have also been demonstrated.

### **Decision making process**

Alternative options for serving the area have been considered, with the proposed works being the result of a review of available options. The proposed strategy was adopted by Logan City Council in November 2009.

A number of studies have been undertaken by consultants, including:

- *Lower Logan Strategic Water Master Plan Final Report*, Cardno & GHD, February 2010
- *Report for South West Logan Water Supply Options Study*, GHD, December 2008
- *Flagstone and New Beith Reservoirs Options Analysis*, Cardno, June 2009

The conclusion from the *Flagstone and New Beith Reservoirs Options Analysis* (Cardno, 2009) was to construct a 20 ML reservoir at the New Beith site (Round Mountain). A 20 ML reservoir was selected based on population projections and the required reservoir capacity outlined in the *Report for South West Logan Water Supply Options Study* (GHD, 2008).

The *Lower Logan Strategic Water Master Plan* (Cardno, 2010) proposed two alternate water source supply options to support population growth in the region, the Wyaralong Water Treatment Plant and the Southern Regional Water Pipeline. Both of these options identified the Round Mountain reservoir and link mains as essential assets and would assist in allowing the catchment to be served without additional pumping at ultimate development. The study identifies that the water main diameters were determined to allow the system to meet the desired standards of service, based on modelling scenarios. The on modelling studies conducted for the *Lower Logan Strategic Water Master Plan* (Cardno, 2010) indicate a 20 ML reservoir will have sufficient capacity up to 2026 planning horizon. The study further indicates that an additional 20 ML reservoir will need to be constructed for the 2031 planning horizon.

The development of the Round Mountain reservoir and link mains was selected as the best means of achieving the desired outcome from planning studies, network optimisation modelling and



‘Value for Money’ multi-criteria selection processes using “Whole of Life” and “Least Cost” option analysis.

In summary, the Round Mountain Reservoir and Link Mains Project is required to support continued growth in the region. We have assessed that an adequate options analysis has been completed, which included the analysis of a number of options and the consideration of risk and financial analysis. On the basis of the above information, we assess the project to be prudent.

#### **7.13.5. Efficiency**

##### **The scope of works**

The scope of works for the link mains portion of this project comprises:

- Construction of the 600 m long reservoir access road
- Installation of a rising main to the reservoir from the north: 2530 m of 600 mm diameter ductile iron cement lined pipe along New Beith Road from approximately 1.5 km south of Tall Timber Road to the Round Mountain Reservoir
- Installation of a gravity main from the reservoir to the south; 1880 m of 600 mm diameter pipe from the Round Mountain Reservoir, south along New Beith Road to near the site of the future Flagstone Reservoir

The installation of a new rising main to the reservoir and a new gravity main from the reservoir is required for the operation of the reservoir.

The current infrastructure does not have sufficient capacity to meet existing demands. Demand management measures were implemented during the recent drought and it is believed that further demand reductions will be difficult to achieve. There is no feasible alternative to providing additional capacity. This project provides the base underpinning infrastructure for development of the service area.

The scope of the works is assessed as appropriate.

##### **Standards of service**

Allconnex Water states that the standard of works will conform to all regulatory and industry practice, codes and manuals and Allconnex Water’s standard specifications where applicable. The following key documents have been referenced:

- WSAA WSA03-2002 Water Supply Code
- Logan City Council Standard Specification 4 (Water Supply Infrastructure) 2006
- Logan City Council Planning Scheme Policy 5 and Beaudesert Shire Planning Scheme 2007



- A range of other specifications such as AS2566 Buried Flexible Pipelines and WSAA product specifications
- The Workplace Health and Safety Act 1995, the Workplace Health and Safety Regulation 1997 and the Work Cover Act 1996 (Qld) and associated legislation
- Central District's Total Management Plan, relevant sub-plans;
  - Sub-plan 08: Infrastructure Planning
  - Sub-plan 09: Asset Delivery

In addition to these documents the Urban Land Development Authority is in the process of preparing Structure Plans for the Flagstone area.

### Project cost

The overall project costs were determined on the basis of tendered sub-contractor and supplier prices, allowance for project management costs (contract administration and supervision costs and design revisions) and a risk allowance. A high level cost break down is provided in **Table 84**.

#### ■ Table 84 High level cost breakdown

Item	Description	Total (\$000's)	Percentage (%)
1	Target Out-Turn Cost	\$11,570	84.0
	[REDACTED]	[REDACTED]	[REDACTED]
	[REDACTED]	[REDACTED]	[REDACTED]
	[REDACTED]	[REDACTED]	[REDACTED]
Total		\$13,780	100.0

Note: Extracted from Appendix C of the Board Meeting of 28 October 2010 Matter for Approval – Logan Water Alliance Work Package 01 Round Mountain Reservoir and Link Mains (Allconnex Water, October 2010)

The components delivered under competitive tendering account for approximately 70 percent of the total costs of the Target Out-Turn Cost. [REDACTED]

[REDACTED] Indirect costs associated with the project and program management through the Logan Water Alliance are on a cost plus fees basis. Program management costs associated with the Logan Water Alliance are discussed separately.

The costs of the works have been reviewed by an independent estimator, Project Support Pty Ltd. The independent estimator confirmed that the target outturn cost is a reasonable estimate to deliver the project using normal engineering design, construction and management practices. The Alliance also prepares a first principles estimate of the direct construction costs to confirm that tenders received from sub-contractors align with prevailing market rates.



The cost breakdown of the key elements of the target outturn costs and the components delivered through competitive tendering or through direct Alliance Delivery are presented in **Table 85**.

■ **Table 85 Cost breakdown of the key elements of the Target Out-Turn Cost**

Item	Description	Total (\$000's)	Percentage (%)
1	Alliance delivered (Design, Project Mgmt, Environmental Mgmt, Direct Costs (Road Mtce etc))	\$1,900	16.3
2	Vegetation Mgmt and Cultural Heritage	\$1,100	9.5
3	Competitive Tendered		
	3.1 Earthworks	\$1,000	8.6
	3.2 Reservoir	\$2,400	20.6
	3.3 Access Rd and Pipelines	\$2,700	23.2
	3.4 Materials	\$2,200	19.0
	<b>Subtotal (tendered)</b>	<b>\$8,300</b>	
4	Risk and Opportunity	\$330	2.8
	<b>TOTAL (Target Out-Turn Cost)</b>	<b>\$11,630</b>	<b>100</b>

Note: Extracted from *Appendix C of the Board Meeting of 28 October 2010 Matter for Approval – Logan Water Alliance Work Package 01 Round Mountain Reservoir and Link Mains* (Allconnex Water, October 2010)

The Alliance divided the works into separate contracts for earthworks, reservoir and pipeline construction to reduce costs. The pipes and fittings were being purchased under a bulk supply contract with volume discounts.

The costs have been arrived at through competitive tender, and therefore represent the current market value of the proposed project. This tender process involved three separate tender packages for the earthworks, construction of the reservoir and pipeline construction. The Logan Water Alliance initially tendered the works for the link mains and access road to seven subcontractors in January 2010. Preferred subcontractors were selected following interviews and clarifications.

For the link mains and access road we understand that the price for the works ranged from \$2.46 million to \$3.74 million, with a first principles estimate calculated at \$3.84 million. The preferred tender selected by Allconnex Water was within the lower region of this range, with a price of \$2.7 million. We have not reviewed the original tender documents.

Although it is outside of our scope of works for the assessment of the link main and access roads expenditure, we note that a project fee and risk allowance have been included separately in the high level cost breakdown for the project as well as the target outturn cost. We have not attempted to determine if this is a consistent approach within the Alliance or if it is an efficient method.

Based on the information provided, in so far as we are able, we conclude that as the portion of project reviewed has been competitively tendered, the costs for the work are consistent with conditions prevailing in the markets. We therefore conclude that the costs are efficient.



### 7.13.6. Timing and Deliverability

The project is being delivered by the Logan Water Alliance. A work package has been developed for the delivery of the project. This includes the proposed delivery methodology, program, approvals, costings and risks assessment.

It has been estimated that the project will take 18 months to complete, with design schedule to have commenced in October 2010. Allconnex Water advised in September 2011 that construction was almost complete.

Risk principles have been incorporated in the project design. Risks have been identified, the costs impact estimated and mitigation strategies proposed.

The Alliance has developed a program to undertake the works and used this estimate to check the program submitted by the subcontractor. The proposed timeframe reflects the outcome of this process and includes some allowance for potential delays arising from wet weather.

We conclude that this project can be delivered within the project timelines.

### 7.13.7. Efficiency Gains

No efficiency gains have been identified for this project.

### 7.13.8. Allocation of overhead costs

Not applicable as no overheads have been allocated.

### 7.13.9. Policies and procedures

Compliance with the Authority's initiatives

- **Table 86 Round Mountain reservoir and link mains project - compliance with the Authority's initiatives**

Initiative	Achievement Yes/No/Partial	Comment
Consideration of prudence and efficiency of capital expenditure from a regional (whole of entity) perspective	N/A	This is not applicable to this project due the localised nature of the scheme.
A standardised approach to cost estimating, including a standardised approach to estimates for items such as contingency, preliminary and general items, design fees and contractor margins, so that there	Partial	The Logan Alliance completed the cost estimation for the project. Unknown if this is a standardised approach to cost estimating.



Initiative	Achievement Yes/No/Partial	Comment
is uniformity of cost estimating across all proposed major projects		
A summary document to be prepared for identified major projects so as to facilitate standardised reporting	Partial	The Board Meeting - Matter for Approval report and appendices summaries the project. Unknown if this is a standardised approach.
An implementation strategy to be developed for each major project that includes recommendation on delivery methodology, program and a risk review process	Yes	The Logan Water Alliance Work Package 01 – Project TOC Report (LWA Job No. 7601) outlines the implementation strategy.
A 'toll gate' or 'gateway' review process to be implemented so that appropriate reviews are undertaken at milestone stages for selected projects	No	No 'gateway' review process has been implemented by Allconnex Water.

#### 7.13.10. Summary

The Round Mountain Reservoir and Link Mains Project was identified in the SEQ Regional Plan 2009 - 2031 and subsequent investigations and is essential to support growth within the region.

The Link Mains Project, being the installation and commissioning only of the pipes and the construction of the access road, has been assessed as prudent. The primary driver of growth has been demonstrated. The subordinate drivers of compliance, both legislative and contractual, have also been demonstrated.

The project has been assessed as efficient. An appropriate scope of works, acceptable standards of service, reasonable project costs, and achievable delivery have been demonstrated.

Value of expenditure not considered to be prudent or efficient – NIL.

#### 7.14. Logan Village Treatment and Effluent Reuse Upgrade

##### 7.14.1. Proposed capital expenditure

Table 58 shows the proposed cost of the Logan Village Treatment and Effluent Reuse Upgrade Project within the 2011/12 budget.



■ **Table 87 Logan Village Treatment and Effluent Reuse Upgrade – Proposed capital expenditure profile**

Source	Costs (\$000s)			Total
	2011-12	2012-13	2013-14	
2011/12 Information Template (Reference 276)	2,728	-	-	2,728
Project Initiation Form (dated 13/09/2011)	8,797	25	-	0
Logan Village Wastewater Network – Prudency & Efficiency Test (dated 13/09/2011)	8,797	25	-	0
Request for information responses	576	-	-	576

The costs presented in the supporting documentation do not agree with the costs in Allconnex Water’s 2011/12 Information Template provided to the Authority.

**7.14.2. Project description**

Since Allconnex Water’s creation in July 2010, Allconnex Water provides water and wastewater distribution and retail services within the Gold Coast, Logan and Redland areas. The Logan area constitutes approximately 29% of the population and 33% of the land area. Within the Logan area, the township of Logan Village is serviced by the Logan Village Wastewater Treatment Plant, a small, proprietary trickling filter plant with a capacity of 250 equivalent persons. The current load on the plant is estimated to be around 598 equivalent persons; and it is estimated that by 2016, the equivalent persons will increase to 2,517. Therefore the plant is significantly under capacity for the growth that is expected within the catchment.

In 2010 Allconnex Water and My Home and the River Pty Ltd entered into a Recycled Water Scheme Agreement whereby the upgrade of treated effluent storage and relocation of irrigation areas and other works would be completed as part of the development strategy for the area.

As part of the Logan Water Alliance, a number of planning studies were completed for both the Logan Village Wastewater Treatment Plant and the Logan South area to assess short term and longer term strategies to deal with the potential population increase. It was concluded after the options assessment, that in the medium and long term the wastewater in Logan Village network will be conveyed north via the Chambers Flat Road PS to the existing Loganholme Water Pollution Control Centre.

The relocation of the irrigation area and the upgrade of the storage, in addition to tankering sewage to Loganholme Water Pollution Control Centre where necessary, were identified as the short term solutions.

As a consequence of the development of the medium to long term solution, which allows for a larger area than Logan Village, various other works included in the Recycled Water Scheme





Agreement are not required and the Logan Village Wastewater Treatment Plant will be decommissioned in 2013.

#### 7.14.3. Provided documentation

The key reference documents used for this review are

- Logan Water Alliance “Priority Infrastructure Plan: Wastewater Planning Report – Logan South. Task Number: 90-10-57-011”, Logan Water Alliance, June 2011
- Logan Water Alliance “Logan Village WWTP Planning Study, Task Number: 90-10-87”, Logan Water Alliance, May 2011
- “Minutes of Workplace Meeting: Logan Village Tankering Stage 1 – QP-2901” Allconnex Water, 10 October 2010
- “Task Notice: Park Ridge East and Logan Village Wastewater Planning. Task Notice Number: PPD-058”, Logan Water Alliance, 20 May 2011
- “Logan Village Wastewater Network: Prudency and Efficiency Test” Allconnex Water, 13 September 2011
- “Project Initiation Form – Logan Village Wastewater Network, Project No: TLV00” Allconnex Water, 13 September 2011
- Email “Subject: FW: Request for information on Logan Village Wastewater Treatment and Effluent Reuse Upgrade”, 07 October 2011
- “Recycled Water Scheme Agreement – My Home and the River Short-term Recycled Water Scheme Agreement 2010”, Herbert Geer, 2010

#### 7.14.4. Prudency

##### Cost driver

The nominated cost drivers for this project are *new growth* and *legal obligation (compliance)*. This is supported by the documents “Logan Village Wastewater Network: Prudency and Efficiency Test” and “Project Initiation Form – Logan Village Wastewater Network”.

The conclusion that the project is driven by *new growth* is supported by the following:

- Logan Village was identified as one of the communities zoned for future residential and industrial development based on the SEQ Regional Plan 2005 -2026
- Logan Village population estimate included in Development Application Information and Infrastructure Demand Models, which predicts an equivalent persons of 2517 by 2016, including residential, commercial and industrial growth
- The Logan Village Wastewater Treatment Plant has a design capacity of 250 equivalent persons or 50 kilolitres per day capacity, but is currently treating approximate 598 equivalent persons



In addition the Recycled Water Scheme Agreement is a legally binding document, that has its basis in the provision of wastewater and recycled water services in response to growth.

The Logan Village Treatment and Effluent Reuse Upgrade Project is assessed as prudent. The prudence driver is growth; the secondary driver is contract compliance.

### Decision making process

The decision making process used to identify the option included as the basis of the agreed Recycled Water Scheme Agreement is not clear. Notwithstanding this the solution is a typical solution.

The decision making process utilised for the review of the Recycled Water Scheme Agreement solution and increased wastewater catchment area is well documented in the Logan Village Wastewater Treatment Plant Planning Study.

This includes short term and medium term options analysis, including cost estimates and net present value analysis of capital costs and yearly operational and maintenance costs separately. In addition the opportunities and risks were identified and a multi criteria analysis conducted. It is unusual however to not to combine the net present value of the capital and operating costs, to allow easier comparison.

A multicriteria assessment framework was used and the criteria are summarised in **Table 88** below:

#### ■ Table 88 Multi Criteria Assessment Framework

Technical/ Operation/ Risk	Environmental	Social
Performance against Desired Standard of Service	Greenhouse gas emission & energy consumption	Operation
Security/ redundancy/ reliability/ flexibility	Waste and resources	Construction
Incident Risk	Construction	Community
Operability and maintainability	Operation	Impact
Constructability		Public
Regulatory Compliance		

The options considered were:

- Short term options:
  - Tankering from the existing pump station Logan Village 2
  - Tankering from the existing Logan Village Wastewater Treatment Plant site
- Medium term options:
  - Installation of a Packaged Plant



- Installation of a Sequencing Batch Reactors
- Transfer of the wastewater flows to new Wastewater Treatment Plant at Yarrabilba
- Transfer of the wastewater flows to the Loganholme Water Pollution Control Centre.

The decision making process is reasonable.

#### **7.14.5. Efficiency**

##### **The scope of works**

The Recycled Water Scheme Agreement documents works which include:

- 4.5 (a) (i) (A) “construct Treated Effluent irrigation infrastructure in order to relocate the existing irrigation field...”
- 4.5 (a) (ii) (C) “construct and commission new Treated Effluent irrigation infrastructure... to enable irrigation of Treated Effluent on the Area...”
- 4.5 (a) (ii) (D) “design, locate and construct the Treated Effluent Storage Pond...”

The infrastructure required for the short term option includes:

- Wastewater balancing storage
- A new access road within the existing wastewater treatment plant site to ensure adequate space for turning of the tankers (semi-trailer size).
- Inlet works flow splitter and a wet well with pumps to allow the existing plant to continue operations with excess flows diverted to the new wet weather storage tanks  
2 x 198 kL storage tanks
- Sale of the wastewater balancing storage
- Decommissioning existing Logan Village Wastewater Treatment Plant after diversion works have been completed

This scope of the works is reasonable for the revised project.

##### **Standards of service**

No standards of service articulated in the Recycled Water Scheme Agreement, however they are expected to be in line with Logan Water Standards of Service.

Logan Village Wastewater Treatment Plant Planning report utilises that Allconnex Water Central District Desired Standards of Service of average dry weather flow (ADWF) of 200L/EP/d.

The standards of service for the storage are articulated in Appendix E of the Logan Village Wastewater Treatment Plant Planning report. They appear reasonable.

##### **Project cost**

The Logan Village Wastewater Treatment Plant Planning report documents the following costs.



■ **Table 89 Logan Village Wastewater Treatment Plant Planning report costs**

Item	Financial Year 2011/2012 (\$)	Financial Year 2012/2013 (\$)	Total (\$)
<b>Wastewater Balancing Storage</b> - Project Management & Design Costs	68,630		68,630
Prelims, Site Establishment, Management and Supervision	47,160		47,160
Supply & Install WW Storage Tanks – 2 x 191 kL	252,000		252,000
Earthworks & Pads (2 x 12m)	20,690		20,690
Concrete base slab for Storage Tanks	32,850		32,850
Tanker Hook Up – Pipework & valve arrangement	3,600		3,600
Access ladder for clean out	4,700		4,700
<b>Sale of Storage Tank in 2012</b>		-25,000	-25,000
<b>Decommissioning of Existing WWTP</b>		50,000	50,000
<b>Total</b>	<b>429,630</b>	<b>25,000</b>	<b>454,630</b>

In response to our RFI, the following information regarding the expenditure to date on this project was provided, as summarised in **Table 90**.

■ **Table 90 Capital Cost Summary for Major Infrastructure Item**

Item	Cost (\$000s)		
	Financial Year 2010/2011	Financial Year 2011/2012	Total Cost
Logan Water Alliance - Logan Village WWTP	24.5		24.5
LWA - Logan Village 5 ML Effluent Irrigation Lagoon	296.2	576.9	873.1
Upgrade of Logan Village WWTP			-
Irrigation Area Relocation - Logan Village WWTP	72.7		72.7
Logan Village STP 5000 L Water Tank	5.7		5.7
	399.2	576.9	976.0

The estimated cost of the storage (\$429,630) combined with the cost for irrigation area relocation (\$72,700) is \$502,330 which is comparable (87%) to the \$576,900 included in the request for information response.

This is assessed as reasonable for the works required.

**7.14.6. Timing and Deliverability**

The upgrade of the effluent lagoon and the relocation of the irrigation site had been completed by October 2011.



#### 7.14.7. Efficiency Gains

Not enough information has been provided to assess efficiency gains.

#### 7.14.8. Allocation of overhead costs

Not applicable as no overheads are allocated.

#### 7.14.9. Policies and procedures

Compliance with the Authority's initiatives

- **Table 91 Logan Village Treatment and Effluent Reuse Upgrade Project - compliance with the Authority's initiatives**

Initiative	Achievement Yes/No/Partial	Comment
Consideration of prudence and efficiency of capital expenditure from a regional (whole of entity) perspective	Yes	Assessed in the Prudence and Efficiency Test and Project Initiation Form
A standardised approach to cost estimating, including a standardised approach to estimates for items such as contingency, preliminary and general items, design fees and contractor margins, so that there is uniformity of cost estimating across all proposed major projects	Partial	20% contingency
A summary document to be prepared for identified major projects so as to facilitate standardised reporting	Yes	The Prudence and Efficiency Test document complies with this initiative
An implementation strategy to be developed for each major project that includes recommendation on delivery methodology, program and a risk review process	Yes	Project Initiation Form
A 'toll gate' or 'gateway' review process to be implemented so that appropriate reviews are undertaken at milestone stages for selected projects	No	No information is provided on any toll gate or gateway reviews.

#### 7.14.10. Summary

The Logan Village Wastewater Treatment Plant has a design capacity of 250 equivalent persons, but is currently overloaded as the plant is estimated to be servicing 598 equivalent persons. Further



it is estimated that by 2016, load will increase to 2,517 equivalent persons. Consequently the plant is significantly under capacity for the growth that is expected within the catchment.

Initially a Recycled Water Scheme Agreement identified the works. A subsequent review, considering a larger area identified short and medium to long term strategies. Consequently, part of the Recycled Water Scheme Agreement formed the basis of the short term strategy. The long term strategy is to convey wastewater to Loganholme Water Pollution Control Centre.

The short term strategy is the aspect reviewed here.

The project has been assessed as prudent. The primary driver of growth and the secondary driver of contractual compliance have been demonstrated.

The project has been assessed as efficient. An appropriate scope of works, acceptable standards of service, reasonable project costs, and achievable delivery have been demonstrated.

The revised capital expenditure profile for the Logan Village Treatment and Effluent Reuse Upgrade Project included in **Table 92**.

■ **Table 92 Logan Village Treatment and Effluent Reuse Upgrade Project - revised capital expenditure profile**

Project	Costs (\$000s)			
	2011-12	2012-13	2013-14	Total
Logan Village Treatment and Effluent Reuse Upgrade Project	\$576	-	-	\$576

**7.15. Currumbin Waters - Water Supply District Upgrade**

**7.15.1. Proposed capital expenditure**

Table 93 shows the proposed cost of the Currumbin Waters Water Supply District Improvement project within the 2011/12 to 2013/14 budgets.

■ **Table 93 Currumbin Waters Water Supply District Improvements Project – proposed capital expenditure profile**

Source	Costs (\$000s)		
	2011-12	2012-13	2013-14
2011/12 Information Template	\$670	\$0	\$0
QP2241 – Prudency and Efficiency Test Revenue Capex 2011-2012 Water	\$670	\$0	\$0
QP2201 Project Initiation Form Revenue Capex 2011-2012 Water	\$670 (capital expenditure and overheads including project management, design, contract	\$0	\$0



Costs (\$000s)			
Source	2011-12	2012-13	2013-14
QP2207 Project Plan	administration, tendering, operation and maintenance)		
	\$515 (capital expenditure only)	\$0	\$0
	\$670 (including design and documentation, tendering process, construction contract, project management, contract supervision, operation and maintenance inspections and contingency)	\$0	\$0
	\$500 (construction contract only)		

The costs presented in the supporting documentation are the same as the costs presented in Allconnex Water's submission to the Authority in the 2011/12 Information Template.

### 7.15.2. Project description

The objective of this project is to adapt to changes in the operational conditions of the water supply system. The operational conditions have changed due to the introduction of desalinated water from the Tugun Desalination Plant, new infrastructure associated with the desalination plant, the takeover of bulk water assets by LinkWater, and potential changes to the bulk water supply strategies from the Mudgeeraba Water Treatment Plant (water can be pumped from Tugun to the Elanora reservoir, obviating the need to supply the Elanora reservoir from the Mudgeeraba Water Treatment Plant). The proposed changes to operation in the water supply district of the southern region water supply network have warranted the review of the water supply systems to the Currumbin Waters Water Supply District and in particular, the decommissioning of Tallebudgera Pump Station.

An options analysis has been undertaken by Allconnex Water and has indicated the feasibility and preference for supplying the Currumbin Waters Water Supply District under gravity from the Mudgeeraba Water Treatment Plant. This project will involve the design and construction of pipes, pressure reduction valves, altitude control valves and will result in the decommissioning of Tallebudgera Pump Station T6.

This option (the possibility of converting the existing pumping system for Currumbin Waters Water Supply District into a gravity system), was first identified during investigations conducted by Gold Coast Water Infrastructure Planning Branch in July 2005.

### 7.15.3. Provided documentation

The key reference documents used for this review are:



- QP-2201 Project Initiation Form Revenue Capex 2011-2012 Water Currumbin Waters Water Supply District Improvements, Version B 03/02/2011, Allconnex Water
- QP-2241 Prudency & Efficiency Test Revenue Capex 2011-2012 Water Currumbin Waters Water Supply District Improvements, Version 2 13/09/2011, Allconnex Water
- QP-2207 Project Plan Currumbin Waters Water Supply District Improvements, Version 0.01 05/04/2011, Allconnex Water

#### 7.15.4. Prudency

##### Cost driver

The nominated business driver for this project as advised by Allconnex Water is improvement. Allconnex Water's Asset Management Strategy outlines in Section 5 KRA – 2 Asset Lifecycle Planning, the objective for asset management effectiveness and efficiency resulting in maximum utilisation and economic value of assets over their lifetime.

We agree that the changes to the Currumbin Waters Water Supply District, including decommissioning of Tallebudgera Pump Station and supply via a gravity network will increase utilisation and economic value over the assets lifetime.

The replacement of Tallebudgera Pump Station T6 will result in improvements in operational efficiencies through reduction of operating and maintenance expenditure, will improve Allconnex Water's environmental performance through reduction in electricity usage, and will improve levels of service to customers in the Currumbin Waters Water Supply District by removing the risk of interruption caused by failure of Tallebudgera Pump Station T6.

The improvement driver is defined by the Authority as an increase in the reliability or the quality of supply that is explicitly endorsed or desired by customers, external agencies or participating councils.

Notwithstanding the uncertainty of the driver, the project is assessed as prudent. We assess the most representative driver to be improvements.

##### Decision making process

In determining the appropriate course of action Allconnex Water performed an options analysis, as outlined below:

- **Do nothing:** Continued exposure to ongoing cost due to pumping system
- **Option 1:** Close Tallebudgera Pump Station T6 and supply the Currumbin Waters Water Supply District under gravity from the Reedy Creek reservoirs
- **Option 2:** Close Tallebudgera Pump Station T6 and construct a new 450 mm diameter connection from the 450 mm diameter main (supplying the Double View Drive reservoirs for





the Mudgeeraba Water Treatment Plant) to the existing 225 mm diameter main in Nineteenth Avenue

- **Option 3:** Close Tallebudgera Pump Station T6 and open the normally closed valve between the 450 mm diameter main from the Mudgeeraba Water Treatment Plant and the 600 mm diameter main to Currumbin Waters Water Supply District, close a line valve on the 375 mm main diameter supplying the Currumbin Waters Water Supply District, install a pressure reducing valve and flow control valve on the 600 mm diameter main to Currumbin Waters Water Supply District, install a pressure reduction valve on the 225 mm diameter main at Larch St, and install an altitude level control valve for the T6 and C01 reservoirs.
- **Non-infrastructure alternative(s):** A non-infrastructure alternative solution is not applicable in this case.
- **New infrastructure/asset:** The options were considered as described below

The three options were examined as part of a gravity system. Of the three options considered, modelling found that Option 1 failed to meet service objectives after 2016 and Option 2 failed to meet service objectives after 2026. Option 3 meets service objectives until at least 2056.

The Project Initiation Form demonstrates that this project is a substitution project, with long term operating costs (over the next 45 years) of \$2,384,753 associated with the operation of Tallebudgera Pump Station T6 being substituted with a \$573,158 capital cost. An NPV calculation in the Project Initiation Form shows NPV savings of \$1,811,595 across the next 45 years.

Hence life cycle cost (NPV) calculations support the decision making process and option selection.

#### 7.15.5. Efficiency

##### The scope of works

The scope of work for the project is outlined below:

- Procure and commission a consultant to undertake detailed design of the works.
- Prepare tender documents for the proposed work
- Procure and commission a suitable contractor to undertake the works as specified, including:
  - Decommission Tallebudgera Pump Station T6
  - Pressure reducing and flow control valves on the existing 600 mm diameter main
  - Pressure reducing valve on the 225 mm diameter main on Larch Street
  - Altitude control valve for the Tallebudgera Reservoir
  - Telemetry for valve control
- Commission the new system, including 4-week field logging of flows and pressures to ensure adequate settings for all pressure reduction valves and flow control valves.



Considering the alternative options examined, including the do nothing approach, Options 1, 2 and 3, and the unsuitability of non-infrastructure alternatives, we conclude the scope presented by Allconnex is the best means of achieving the desired outcomes.

### Standards of service

The project is to be completed to Allconnex Water’s Standards & Specifications as outlined in the Land Development Guidelines. The Land Development Guidelines are the Gold Coast Planning Scheme 2003 Policy 11 – Land Development Guidelines, which provide council’s minimum standards for developments encompassing traditional potable water reticulation including any works required to join with existing and adjoining traditional potable water reticulation systems.

The project is adjacent to and utilises existing infrastructure, and includes telemetry systems. From our review of the above we consider the standards of service to be appropriate and we note that the project contract is to be awarded by open tender as indicated in the Project Initiation Form.

### Project cost

The cost breakdown as provided in the Project Initiation Form is included in **Table 94**.

#### ■ Table 94 Currumbin Waters Water Supply District - cost estimate

Phase	Internal Labour	Consultancy Labour	Contractor Labour	Materials	Total
Project Management	\$53,000.00				
Design		\$72,100.00			
Tender process	\$11,000.00				
Contract costs			included	\$515,000.00	\$515,000.00
Contract administration	\$11,000.00				
Services (e.g. O&M)	\$7,900.00				
<b>Total</b>	<b>\$82,900.00</b>	<b>\$72,100.00</b>		<b>\$515,000.00</b>	<b>\$670,000.00</b>

We understand that the project has not been tendered as yet, therefore a detailed cost estimate for the construction component of the project are not available. However Allconnex Water’s estimates for construction and material costs are provided in **Table 95**. No breakdown of the internal labour costs has been provided. Allconnex Water’s cost estimate for materials is within  $\pm 30\%$  of a bottom up estimate of project costs completed as part of this review.

#### ■ Table 95 Comparison of project costs

Material	Cost listed in Project Plan	SKM sourced project cost	Difference (%)
Decommission Tallebudgera Pump	\$100,000	Not enough information to make a reasonable	Not enough information to make a reasonable



Material	Cost listed in Project Plan	SKM sourced project cost	Difference (%)
Station		assessment	assessment
600 mm pressure reduction valve and 600 mm flow control valve	\$250,000	Dorot 300 Series pressure reduction valve \$120,000; Dorot 300 Series flow control valve \$120,000	+4%
225 mm pressure reduction valve	\$25,000	Dorot 300 Series (200 mm) \$13,230	+47%
Altitude valve to Tallebudgera Reservoir	\$100,000	Dorot 300 Series \$131,000	-31%
Telemetry for valve control	\$40,000	Not enough information to make a reasonable assessment	Not enough information to make a reasonable assessment

The Allconnex Water project costs for pressure reduction valves, flow control valve and altitude control valve are appropriate. The project costs have therefore been assessed as efficient.

#### 7.15.6. Timing and Deliverability

The project duration is estimated to be 12 months, being wholly within the 2011/2012 financial year, as indicated in the Project Plan project schedule. Risks to the schedule will be managed in accordance with Allconnex Water's risk management process by the project manager. Project management and delivery strategies will comply with Allconnex Water's ISO14001 risk management principles and guidelines.

As this is a small project we believe it is likely to be delivered in the 2011/2012 financial year as outlined in the project schedule in the Project Plan

#### 7.15.7. Efficiency Gains

Efficiency gains will be realised through the elimination of operating and maintenance costs associated with Tallebudgera Pump Station T6, and supplying the Currumbin Waters Water Supply District as part of a gravity system.

Over the 45 year planning horizon to 2056, Allconnex Water expects a net present value cost saving of approximately \$1,811,595 compared to the do nothing approach. We believe that this efficiency gain is likely to be achieved.

#### 7.15.8. Allocation of overhead costs

Allconnex Water has applied program management, tender process, contract administration and services cost estimates to this project. These costs total to \$89,200 and are approximately 14% of the total project costs. Assessment of a selection of tenders received for the Gold Coast Water Pumps Program found these costs to be 9.3%, 7.2% and 9.9% of the total project value.



We assess the allocation of overhead costs to be reasonable for the size of the project.

### 7.15.9. Policies and procedures

■ **Table 96 Currumbin Waters Water Supply District - compliance with the Authority's initiatives**

Initiative	Achievement Yes/No/Partial	Comment
Consideration of prudence and efficiency of capital expenditure from a regional (whole of entity) perspective	Yes	The changes to the Currumbin Waters Water Supply District have been proposed in response to changes in the water supply network.
A standardised approach to cost estimating, including a standardised approach to estimates for items such as contingency, preliminary and general items, design fees and contractor margins, so that there is uniformity of cost estimating across all proposed major projects	Partial	<ul style="list-style-type: none"> <li>■ Cost estimates are provided, based on estimates made by the Allconnex Water water engineer.</li> <li>■ The Project Initiation Form states that the cost estimate was based on the unit cost rate report.</li> </ul>
A summary document to be prepared for identified major projects so as to facilitate standardised reporting	Yes	QP2241 – Prudence and Efficiency Test QP2201 – Project Initiation Form QP2207 – Project Plan
An implementation strategy to be developed for each major project that includes recommendation on delivery methodology, program and a risk review process	Yes	QP2201 – Project Initiation Form QP2207 – Project Plan These provide the methodology, project program, risk assessment and management.
A 'toll gate' or 'gateway' review process to be implemented so that appropriate reviews are undertaken at milestone stages for selected projects	No	No information is provided on any toll gate or gateway reviews.

### 7.15.10. Summary

The Currumbin Waters Water Supply District upgrade project has been assessed as prudent. The primary driver of improvement has been demonstrated.

The project will provide improvement to the Currumbin Waters Water Supply District and returns a net present value benefit to Allconnex Water, through the substitution of operational expense by capital expense.



The Currumbin Waters Water Supply District upgrade project has been assessed as efficient. An appropriate scope of works, acceptable standards of service, reasonable project costs and achievable delivery have been demonstrated.

Value of expenditure assessed as not prudent or efficient – NIL.

### 7.16. Summary of capital expenditure assessment

A sample of ten projects were identified and assessed as a representative sample of the capital expenditure program Allconnex Water. The ten projects comprise 22% of the proposed 2011/12 expenditure, 12% of the 2012/13 expenditure and 13% of the 2013/14 expenditure. We have assessed these projects against the Authority’s definitions of prudence in particular the relevant driver and the decision making process and efficiency, including the standards of service, scope of work, timeliness of delivery and the costs.

The capital expenditure of all ten projects were assessed as prudent.

The capital expenditure of nine of the ten projects was assessed as efficient. The exceptions are the Operational Management Program as insufficient cost and scope information was provided to assess the project. Additionally, the project has been put on hold indefinitely following participating Councils’ decision to disestablish Allconnex Water

**Table 97** provides an overview of the final assessment made for each project of the project sample chosen for assessment of prudence and efficiency

■ **Table 97 Sample project summary - revised capital expenditure profile (\$000s)**

Project	Cost 2011/12 to 2013/14	Prudent	Efficient	Revised Cost 2011/12 to 2013/14
Alfred Street to Loganholme WPCCC Rising Main Augmentation	70,407	Prudent	Efficient	70,407
ERP Base Infrastructure Program	9,123	Prudent	Efficient	0
Billing System (tactical)	8,267	Prudent	Efficient	8,267
Burleigh WWPS B47 RM & GM upgrade	7,600	Prudent	Efficient	7,600
Meter Renewals program	15,347	Prudent	Efficient	15,347
Operational Management Program	10,236	Prudent	NA as not proceeding	0
Alliance Program Management	3,933	Prudent	Efficient	3,933
Round Mountain Reservoir	2,750	Prudent	Efficient	2,750



Project	Cost 2011/12 to 2013/14	Prudent	Efficient	Revised Cost 2011/12 to 2013/14
and Link Mains				
Logan Village Treatment and Effluent Reuse Upgrade	2,728	Prudent	Efficient	576
Currumbin Waters - Water Supply District Upgrade	670	Prudent	Efficient	670

<sup>†</sup> The project has been placed indefinitely on hold therefore the cost has been revised regardless of the efficiency and prudence assessment

A summary of our assessment of the drivers identified for the capital projects reviewed is provided in **Table 98**.

■ **Table 98 Assessment of capital project cost drivers**

Project	Drivers identified by Allconnex Water	Drivers recommended by SKM
Alfred Street to Loganholme WPCP Rising Main Augmentation	Growth Improvements	Growth
ERP Base Infrastructure Program	New (not growth)	Growth Renewal Compliance
Billing System	Growth	Compliance (regulatory)
Burleigh WWPS B47 RM & GM upgrade	Growth	Growth
Meter Renewals program	Legal obligation Renewal	Legal obligation Renewal
Operational Management Program	New (not growth)	Compliance Renewal Growth
Alliance Program Management		Growth (primary) Renewal (secondary) Growth (secondary)
Round Mountain Reservoir and Link Mains	Growth (primary) Legal obligation (secondary) Contractual obligation (secondary)	Growth (primary) Growth (primary) Regulatory compliance (secondary) Contractual compliance (secondary)
Logan Village Treatment and Effluent Reuse Upgrade	Growth Compliance (legal obligation)	Growth (primary) Regulatory compliance (secondary)



Project	Drivers identified by Allconnex Water	Drivers recommended by SKM
Currumbin Waters - Water Supply District Upgrade	Improvement	Improvement



## 8. Interactions between capital expenditure, operating expenditure and demand forecasting

### 8.1. Short term forecast

#### 8.1.1. Residential consumption

SKM's demand projection draft report finds that Allconnex Water has underestimated the likely demand from its residential sector by up to 6% in 2014. The difference in forecast is largely due to the assumption held by Allconnex that average demand will not rebound further from its 2012 level, and consumption growth in 2013 and 2014 is due to population growth. SKM believes that this is too conservative and that rebound from restriction affect consumption levels will continue and thus expects average consumption to increase resulting in higher total residential consumption by 2014.

##### ■ Table 99 Residential Consumption Projections

Residential Water Demand (ML)	2012		2013		2014	
	Allconnex Proposed	SKM Rec'mended	Allconnex Proposed	SKM Rec'mended	Allconnex Proposed	SKM Rec'mended
Gold Coast	38,294	37,681	39,169	40,141	40,148	42,771
Logan	15,294	14,741	15,579	15,736	15,906	16,799
Redland	9,595	9,212	9,741	9,749	9,913	10,322
<b>Allconnex Water</b>	<b>63,183</b>	<b>61,634</b>	<b>64,489</b>	<b>65,627</b>	<b>65,967</b>	<b>69,892</b>

#### 8.1.2. Non-residential consumption

SKM's demand projection draft report finds that Allconnex Water's forecast of the likely demand from its non-residential sector is reasonable. While there is little difference in the forecast this difference is due to slightly different connection expectations. Difference in water volume forecasts amount to only about 1% pa over the forecast period.

##### ■ Table 100 Non-residential Consumption Projections

Non-Residential Water Demand (ML)	2012		2013		2014	
	Allconnex Proposed	SKM Rec'mended	Allconnex Proposed	SKM Rec'mended	Allconnex Proposed	SKM Rec'mended
Gold Coast	12,030	12,044	12,320	12,267	12,644	12,554
Logan	3,642	3,504	3,732	3,556	3,831	3,628





	2012		2013		2014	
<b>Non-Residential Water Demand (ML)</b>	<b>Allconnex Proposed</b>	<b>SKM Rec'mended</b>	<b>Allconnex Proposed</b>	<b>SKM Rec'mended</b>	<b>Allconnex Proposed</b>	<b>SKM Rec'mended</b>
Redland	1,652	1,689	1,688	1,711	1,727	1,743
<b>Allconnex Water</b>	<b>17,324</b>	<b>17,396</b>	<b>17,740</b>	<b>17,695</b>	<b>18,202</b>	<b>18,089</b>

### 8.1.3. Wastewater connections

SKM applied the historical ratio between water connection and wastewater connection to obtain the wastewater connection forecast. This contrasts with Allconnex Water's forecast which assumed in the case of the Gold Coast a significant reduction in this ratio relative to recent history.

#### ■ Table 101 Residential Wastewater Connection Projections

	2012		2013		2014	
<b>Residential Wastewater connections</b>	<b>Allconnex Proposed</b>	<b>SKM Rec'mended</b>	<b>Allconnex Proposed</b>	<b>SKM Rec'mended</b>	<b>Allconnex Proposed</b>	<b>SKM Rec'mended</b>
Gold Coast	204,836	209,647	210,354	214,685	215,873	219,723
Logan	86,353	83,015	88,717	84,717	91,082	86,418
Redland	47,559	48,865	48,707	49,785	49,854	50,705
<b>Allconnex Water</b>	<b>338,748</b>	<b>341,527</b>	<b>347,778</b>	<b>349,186</b>	<b>356,809</b>	<b>356,846</b>

### 8.1.4. Long term projections

Generally, we believe that the approach taken by Allconnex to estimate capacity required in the long term is too generous. The peaking factors used for all three LGA are conservative and does not take into consideration the likely change in water consumption behaviour. This builds upon the fairly conservative estimate of an average demand of 230 LPD or more in the case of the Gold Coast rather than the currently expected peak of around the 200 LPD level in SEQ although this peak may be higher in individual LGAs like the Gold Coast. Nevertheless even in areas like the Gold Coast, the long term average consumption is still less than the criteria used for long term planning. However, any decision to lower the planning criteria needs to be taken carefully as it has significant long term financial implications and should probably only be taken after obtaining sufficient consumption data to indicate that consumption behaviour has indeed permanently shifted lower.



Based on the Queensland Department of Environment and Resource Management guidelines<sup>7</sup> the peak and flow rates applied by Allconnex in the design of its wastewater system are reasonable. The guidelines state that that “(g)enerally ADWF will range between 150-275 L/EP/d. This flow should be consistent with internal household water use.” It also states that peak wet weather flow of 5 times ADWF is appropriate for a conventional gravity system. The Allconnex supplied document from the Logan Water Alliance also provided evidence of peak wet weather flows exceeding 5 times ADWF do occasionally occur resulting in overflow of the sewerage system.

## 8.2. Relationship with capital expenditure

As discussed previously the current water consumption rate is below both the required 230 L/person/day and the aspired 200 L/person/day as contained within the SEQ Water Strategy. Trunk water infrastructure design criteria is based on the average day demand and factors of it, such as mean day maximum month (MDMM) and mean day (MD). These factors are greater than one and generally less than two. Consequently a change in the average day consumption rate can result in an amplified change to the design criteria. Notwithstanding this, caution should be used as, in the actual world, a reduction in average day consumption does not necessarily mean that the peak consumption rate reduces. Peak consumption is a function of human behavioural responses to extreme weather. Consequently the average day to maximum day (AD:MD) factor may increase if the average day rate decreases, unless the customer behaviour is changed to reduce the use of water on extreme weather days.

Consequently the current impact of maintaining the current design criteria, whilst currently operation at lowered consumption rates, is that there is some reserve capacity with the distribution system. Coarse analysis suggests that this may be in the order of 20 percent. Without data from a longer period it would not be prudent to attempt to utilise this spare capacity as a long term solution, as the consumption habits of a population can change faster than the ability to implement trunk infrastructure.

With respect to water reticulation infrastructure, the critical design criterion is usually fire fighting flows. Consequently the reduction in unit consumption rates is unlikely to have a significant impact on the size of smaller diameter infrastructure.

Overall Allconnex Water’s water system infrastructure sizes are unlikely to be highly sensitive to recorded variances in the unit consumption rate and reducing the rates is premature considering the limited amount of information available.

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<sup>7</sup> Department Of Environment and Resource Management, *Planning Guidelines for Water Supply and Sewerage*, Chapter 5 Demand/Flow and Projections



The augmentation of water distribution trunk infrastructure generally results in a step change in capacity and consequently the variance in near term demand forecast usually changes the anticipated date of the next augmentation only slightly. These are usually accommodated in timing reviews of these works, which are a mandatory action for strategic planning projects and their associated business cases.

With regard to wastewater, an increase in the consumption of reticulated drinking water does not lead directly to an increase in wastewater generation, as not all reticulated water is released to the sewers. In particular during water restrictions irrigation, which is not directly entrained into sewers, is dramatically reduced. Consequently when restrictions are lifted, water consumption can increase without a commensurate increase in wastewater generation.

The wastewater flows are likely to be more sensitive to inflow and infiltration, whereby storm water enters sewers directly or groundwater enters sewers through infrastructure defects, respectively.

It is usually co-incidental that the increase in wastewater generation from increased inflow and infiltration occurs in the same timeframe as increased reticulated water consumption as rainfall replenishes both surface water storages (ie dams) and groundwater tables.

The implementation of reduced infiltration gravity sewers (RIGS, Smartsewers, nuSewers) aims to reduce this inflow and the system is generally designed for the consequent reduction in the peaking factor.

Both water conservation measures and infrastructure improvements have significantly reduced design criteria such as average dry weather flows. These are generally already allowed for in the generation rate and peaking factors currently used.

With regard to wastewater treatment, the design criteria of various elements of a plant are either based on organic load or hydraulic load. A reduction in the amount of water transporting the organic load does not change the load, just the concentration. Consequently the size of these elements such as a reactor tank (anoxic and aerobic compartments) is not varied. For the elements where hydraulic load is the design criteria, these are usually specifically design based on gathered data and potential savings are only a small reduction in vessel height or pump capacity.

Consequently the cost of a treatment facility is generally not sensitive to changes in hydraulic load. Conversely they can be sensitive to apparently small changes in environmental licence concentrations, as these can require additional process elements.

As the required wastewater infrastructure is not highly sensitive to changes in generation rates, the demand aspect of connections is the significant factor. Wastewater system augmentations usually



result in a step change in capacity and consequently the variances in near term demand forecasts usually change the anticipated timing only slightly.

### 8.3. Relationship with operational expenditure

The short term demands have been used to estimate budgets for several variable rate operating costs centres including:

- Bulk water costs
- Electricity
- Sludge handling
- Chemical costs

The assumption that above operating costs are relating to water consumption apply to both the Water Service and the Wastewater Service, where a return factor (ratio between drinking water use and what is return to the wastewater system) is generally applied. Hence, the growth index that has been used to estimate the required quantities should be revised, as per **Table 102** below.

#### ■ Table 102 Revised growth indices for variable operating costs

Total water demand	2011/12		2012/13		2013/14	
	Allconnex proposed	SKM Revised	Allconnex proposed	SKM Revised	Allconnex proposed	SKM Revised
Gold Coast	10.59%	9.28%	2.31%	5.40%	2.53%	5.57%
Logan	12.11%	8.02%	1.98%	5.74%	2.21%	5.88%
Redland	6.15%	2.89%	1.62%	5.13%	1.85%	5.28%
<b>Total</b>	<b>10.30%</b>	<b>8.27%</b>	<b>2.14%</b>	<b>5.43%</b>	<b>2.36%</b>	<b>5.59%</b>

### 8.4. Relationship between capital expenditure and operational expenditure

There are often direct tradeoffs between capital expenditure and on-going operation and maintenance expenditure. For example, energy efficient motors can be installed having higher capital costs than standard motors but with lower operating costs due to reduced energy consumption, similarly, improved sludge dewatering plant will reduce sludge disposal costs as both volume and weight is reduced. Further, timing of capital plant replacement can impact on operation and maintenance costs as plant that is close to being time expired tends to be more expensive to maintain. In order to evaluate the cost/benefit of capital spend to reduce operating expenditure, lifecycle cost analysis techniques must be applied on a case by case basis.



## 9. Proposed revised templates

We have amended the 2011/12 Information Template for capital and operating expenditure in accordance with our evaluation of the operating and capital expenditure items reviewed on an exception basis.

A summary of changes for operating and capital expenditure items is provided below.

### 9.1. Operating expenditure

All of the sample operating expenditure categories evaluated were found to be both efficient and prudent and hence we have made changes to the 2011/12 Information Template only to reflect changes in operating budgets of volume related costs to take account our recommended growth projections in water and wastewater volumes. These changes are shown in **Table 103**.

#### ■ Table 103 Recommended amendments to operating cost budgets

Category	Service	Revisions	2011/12	2012/13	2013/14
Bulk water demand		Allconnex assumed (ML)	88,870.3	90,754.5	92,879.9
		SKM revised (ML)	87,234.0	91,686.4	96,527.5
Electricity	Water	Allconnex proposed (\$'000)	3,972.2	4,385.3	4,696.2
		SKM revised (\$'000)	3,929.3	4,454.7	4,897.2
	Wastewater via sewer	Allconnex proposed (\$'000)	9,597.3	10,595.5	11,346.5
		SKM revised (\$'000)	9,420.1	10,703.4	11,791.0
	Trade waste	Allconnex proposed (\$'000)	860.3	949.8	1,017.1
		SKM revised (\$'000)	844.0	959.1	1,056.6
Chemical	Water	Allconnex proposed (\$'000)	1,202.8	1,232.9	1,189.0
		SKM revised (\$'000)	1,193.6	1,256.0	1,243.4
	Wastewater via sewer	Allconnex proposed (\$'000)	3,069.7	3,146.4	3,034.5
		SKM revised (\$'000)	3,011.3	3,177.2	3,152.5
	Trade waste	Allconnex proposed (\$'000)	276.6	283.5	273.4
		SKM revised (\$'000)	271.2	286.2	284.0
Sludge handling	Wastewater via sewer	Allconnex proposed (\$'000)	5,366.5	5,500.6	5,469.0
		SKM revised (\$'000)	5,489.6	5,460.6	5,271.8
	Trade waste	Allconnex proposed (\$'000)	486.9	499.0	496.2
		SKM revised (\$'000)	475.8	502.6	514.6



## 9.2. Capital expenditure

The following table summarises our recommended alternate budget costs for capital expenditure items reviewed that we consider were either not prudent and or not efficient and or are no longer proceeding.

- **Table 104 Recommended amendments to capital cost budgets**

Project	Costs (\$000s)			
	2011-12	2012-13	2013-14	Total
Enterprise Resource Planning (ERP) Base Infrastructure Program <sup>1</sup>	0	0	0	0
Operational Management Program Project <sup>1</sup>	0	0	0	0
Logan Village Wastewater Treatment Plant Effluent Upgrade	576	-	-	576

1. Not proceeding.



## 10. Conclusion

We have reviewed the prudence and efficiency of a sample of Allconnex Water's operating and capital expenditure forecast costs for 2011/12 to 2013/14 based on the information provided by Allconnex Water. In addition we have reviewed the policies and procedures adopted by Allconnex Water for operating and capital expenditure budget planning. We have also reviewed the progress made by Allconnex Water in implementing the initiatives identified by the Authority from their 2010/11 interim price monitoring report. The following section presents our conclusions from this review.

### 10.1. Information adequacy

Allconnex Water has supplied comprehensive supporting information to enable us to complete an assessment of the prudence and efficiency for a sample of operating costs and capital expenditure of selected projects for all but one capital projects, which is not proceeding.

It is recommended that further information is provided to identify the process by which projects are selected and prioritised and to identify how the quantum of work was identified and costs developed.

### 10.2. Process and procedure

#### 10.2.1. Issues identified in the Authority's 2010/11 report

Allconnex Water has made progress in addressing the issues identified in the Authority's final report on South East Queensland Price Monitoring for 2010/11. Allconnex Water has demonstrated to us that it is adopting a region wide (whole of entity) perspective to capital expenditure where appropriate. The policy for applying capital expenditure to the RAB is consistent with that of the Authority and consistent across all the entities.

A standard summary documented that has a defined structure is prepared for major projects and will both assist with prudent decision making and regulatory reporting. All but two of the major projects reviewed had such a document. Documented strategies for major project implementation are being established by Allconnex Water incorporating risk reviews and risk mitigation measures. Allconnex Water has developed a document gateway review process for major projects, however it has not been implemented due to uncertainty in the future of Allconnex Water. However, from the capital projects reviewed we are not able to conclude that Allconnex Water has established processes to ensure a consistent approach to cost estimating for capital projects.

Finally, the indexation factor applied by Allconnex Water is consistent with that applied by the Authority for other recent investigations and that used by Queensland Urban Utilities.



### **10.2.2. Budget formation**

We have examined the procedures and processes used by Allconnex Water to formulate the operating budget for 2011/12. In our assessment these are generally representative of good industry practice.

Our review of budget practices has not extended to a thorough review of asset management procedures.

We note however that a base year that is known to be representative of efficient operating expenditure has not been established. This may in part, be due to the maturity of the business and that integration of the business is still occurring. We understand that a number of the programs and strategies necessary to collate sufficient information required to establish and assess an efficient base year for the business are set out in Allconnex Water's Five Year forward Plan and as part of the company wide ERP project. However, many of these initiatives have now been cancelled or put on hold indefinitely following the decision of the participating councils to disestablish Allconnex Water.

### **10.2.3. Standards of service review**

Allconnex Water has developed a single consolidated set of customer service standards applicable to all customers within the service area. We believe that they are progressing well in the development of their NetServ Plan which will be completed within the proposed timeframe.

A high-level comparison of the customer standards currently used by each of the entities indicates that the service standards used by Allconnex Water are comparable to those used by the other entities, with the exceptions of non-urgent response times.

### **10.2.4. Asset management and condition assessment**

The risk based approach utilising criticality (ie consequence of failure) and asset condition proposed by Allconnex Water in its Asset Management Strategy document is in keeping with good industry practice. The proposed integration of the ERP system with a GIS will assist with the implementing of this strategy and with improving asset management records.

### **10.2.5. Procurement**

Allconnex Water did not provided their Procurement Procedures and Guideline document to review, only their Procurement Policy document. As such it has been difficult for us to form a definitive view as to the robustness of Allconnex Water's procurement procedures.

We consider the Procurement Policy in itself to be comprehensive and to accord with good industry practice. We also consider the process for initial capital project screening to be appropriate, in





particular the procedure for grouping smaller projects into project programs, thereby lifting the procurement threshold and hence scrutiny on smaller projects.

We believe that the Procurement Policy document should also include reference to the need for a review process for significant procurement activities to ensure that any issues arising from a procurement process or from a particular supplier are recorded and lessons learnt documented for future procurement activities of that type or with that supplier.

#### **10.2.6. Cost allocation**

Our review of the information provided, in particular the sample selection, indicates that there are occasional varied and inaccurate determination of the drivers for capital project expenditure and consequently the cost allocation.

Projects responding to instances of sewage overflow appear to be assigned the compliance driver, without considering the cause as opposed to the effect. Many overflow incidents are caused by the connection of too many households to a sewerage system with a current fixed capacity. This is due to inappropriate delay in augmentation responding to growth. This inappropriate action of not providing adequate capacity should not result in the continuation of inappropriate actions by nominating compliance as the driver, when timely action would have determined growth as the appropriate driver.

The current wastewater/trade waste allocation method adopted by Allconnex Water is based on relative volume levels. Allocation of costs between wastewater and trade waste is complicated by the inconsistency of trade waste information which is collected and made available from the three districts that make up Allconnex Water. Allconnex Water recognises that volume is not the only driver and had planned to implement a cost allocation method that takes account of additional drivers such as biological oxygen demand. Such a method would represent best industry practice. However, these plans have not been put on hold indefinitely following the decision of the participating councils to disestablish Allconnex Water.

#### **10.2.7. Asset Lives**

Whilst the assumed asset lives for passive assets such as reservoirs and pipelines are relatively consistent between all entities, there are a number of significant differences between the asset lives for the active assets (e.g. pump stations and treatment plants). This is because these assets comprise of a range of civil, mechanical and electrical assets, all with significantly different asset lives. For example, within the life of a wastewater pump station, the civil assets (building, pump well) are likely to remain relatively unchanged, whilst the pumps and control systems are likely to be replaced several times. The calculation of a combined asset life depends on the relative weighting of the civil, mechanical and electrical assets.



### 10.3. Operating expenditure

**Table 105** presents an overview of the prudence and efficiency reviews of Allconnex Water’s operating expenditure together with revised operating costs for 2011/12 which take into account changes arising from both our assessment of prudence and efficiency and from our recommended changes in water and wastewater volume growth projections.

■ **Table 105 Summary of prudence and efficiency of operating costs (\$000s)**

Category	Cost 2011/12	Prudent	Efficient	Revised cost 2011/12
Corporate costs	30,376.2	Prudent	Efficient <sup>1</sup>	30,376.2
Employee expenses	79,655.0	Prudent	Efficient <sup>1</sup>	79,655.0
Electricity costs	14,429.8	Prudent	Efficient	14,193.1
Chemical costs	4,549.1	Prudent	Efficient	4,476.1
Sludge handling	5,853.4	Prudent	Efficient	5,965.4

1. Our assessment of efficiency takes into account the maturity of the business and legislative constraints that are imposed on the business (eg Workforce Framework Agreement).

We have assessed all expenditure within our sample to be both prudent and efficient.

### 10.4. Capital expenditure

A representative sample of 10 projects have been identified and assessed. We have assessed these projects against the Authority’s definitions of prudence and efficiency, including the standards of work, scope of work and the costs.

All the projects reviewed were assessed as being both prudent and efficient with the exception of the Operational Management Project, for which we had insufficient cost information to determine that the project is efficient, however Allconnex Water has advised that this project, as well as the Enterprise Resource Planning Base Infrastructure Program, is not proceeding..

**Table 106** presents an overview of prudence and efficiency reviews of Allconnex Water’s capital expenditure.



■ **Table 106 Summary of prudence and efficiency of capital expenditure projects (\$000s)**

<b>Project</b>	<b>Cost 2011/12 to 2013/14</b>	<b>Prudent</b>	<b>Efficient</b>	<b>Revised Cost 2011/12 to 2013/14</b>
Alfred Street to Loganholme WPCC Rising Main Augmentation	70,407	Prudent	Efficient	70,407
ERP Base Infrastructure Program <sup>1</sup>	9,123	Prudent	Efficient	0
Billing System (tactical)	8,267	Prudent	Efficient	8,267
Burleigh WWPS B47 RM & GM upgrade	7,600	Prudent	Efficient	7,600
Meter Renewals program	15,347	Prudent	Efficient	15,347
Operational Management Program <sup>1</sup>	10,236	Prudent	Insufficient Information to assess efficiency	0
Alliance Program Management	3,933	Prudent	Efficient	3,933
Round Mountain Reservoir and Link Mains	2,750	Prudent	Efficient	2,750
Logan Village Treatment and Effluent Reuse Upgrade	2,728	Prudent	Efficient	576
Currumbin Waters - Water Supply District Upgrade	670	Prudent	Efficient	670

1. Not proceeding.



## Appendix A Terms of Reference

### Assessment of Operating Expenditure

#### Component 1 - Sample Selection

The consultant must propose a sample of operating expenditure for each entity, for approval by the Authority prior to detailed review.

The sample should include the top 10% of operation costs by value in each activity and geographic area, over the forecast period and for 2011/12. The sample should also include at least 50% of the total retail/distribution operating expenditure over the forecast period and for 2011/12. The sample should include a selection of unit or base rates and cost indexes.

#### Component 2 – Reasonableness of Operating Costs from 1 July 2011

The consultant must assess whether each of the entities' operating costs from 1 July 2010 are reasonable. In doing so, the consultant must:

- d) assess whether the entities' policies and procedures for operational expenditure represent good industry practice;
- e) assess the scale and cause of variances between forecasts provided in the entity's 2010/11 and 2011/12 returns;
- f) assess the operating costs in aggregate, and for the sample of major operating expenditures that comprise a significant portion of retail and distribution operating costs identified in component 1 above. In doing so the consultant must have regard to:
  - i. the drivers of operating expenditure including whether the expenditure is driven by legal obligations, new growth (see (e) below), operations and maintenance of existing infrastructure, or it achieves an increase in the standard of service that is explicitly endorsed by customers, external agencies or participating councils;
  - ii. the conditions prevailing in relevant markets, historical trends in operating expenditure, the potential for efficiency gains or economics of scale, and relevant interstate and international benchmarks. For example, the source of unit rates and indexes must be given and the consultant must identify the reason for any costs higher than normal commercial levels;
- g) accept the operational constraints imposed by the SEQ Urban Water Arrangements Reform Workforce Framework 2010, and identify the related costs in doing so compared to more competitive arrangements;
- h) liaise with the Authority's consultants appointed for the review of demand and capital expenditure to ensure that consistent advice is provided to the Authority. In particular, the consultant must:



- iii. assess the effect of any revised demand forecasts, and assess the expenditure projections for consistency with these demand forecasts;
- iv. assess the effect of any revised capital expenditure forecasts arising from the Authority's review of capital expenditure;
- i) identify the value of an expenditure considered not to be reasonable;
- j) provide a revised set of information templates to the Authority that contain only reasonable operating costs with all adjustments to the entities' submissions clearly indicated (focussing on Schedule 5.11.1 (operating costs)).

### **Component 3 – Cost Allocation**

The consultant will also:

- k) assess the methods adopted by the entities to allocate operating costs between services, against relevant benchmarks. This will involve an assessment of cost drivers, the approaches adopted by each entity, and approaches approved by economic regulators in other jurisdictions; and
- l) report on the entities' progress in achieving the systems and information needed for informed pricing and reporting; and whether the information systems being put in place by the entities allow for a highly disaggregated and appropriately allocated system of cost recording.

## **Assessment of Capital Expenditure**

### **Component 1 - Sample Selection**

The consultant must propose a sample of capital expenditure for each entity, for approval by the Authority prior to detailed review.

The sample should include the top 10% of capital expenditure by value in each activity and geographic area, over the forecast period and for 2011/12. The sample should also include at least 50% of the total capital expenditure over the forecast period and for 2011/12 – if not, an additional random sample of assets comprising 30% (by number) of remaining assets is required. The sample should include a selection of unit or base rates and cost indexes.

For the purposes of quotation the consultant should assume a sample of 10 projects per entity (30 in total). The actual sample may differ, depending on each entity's submission (see worksheet 5.6.2). To this end, the consultant is required to provide an indicative unit rate per additional project.

### **Component 2 – Prudence and Efficiency of Capital Expenditure for 1 July 2011**

The consultant must assess whether each of the entities' capital expenditure from 1 July 2010 is prudent (there is a demonstrated need for the expenditure) and efficient (it is cost-effective in its scope and standard, using market benchmarks).



In doing so, the consultant must follow the process and criteria set out in section 4.7 of the Final Report on SEQ Interim Price Monitoring Framework, and:

- a) assess whether the entities' policies and procedures for capital expenditure represent good industry practice. In particular, the policies and procedures must reflect strategic development plans, integrate risk and asset management planning, corporate directives, be consistent with external drivers, and incorporate robust procurement practices;
- b) assess entities' progress in addressing the issues identified in the Authority's 2010/11 report for future reviews (as set out in para 2 in Background above);
- c) assess whether the representative sample of capital expenditure projects (identified in component 1 above) is prudent and efficient.

Expenditure is:

- v. prudent if it is required as a result of a legal obligation, new growth (see (e) below), renewal of existing infrastructure, or it achieves an increase in the reliability or the quality of supply that is explicitly endorsed or desired by customers, external agencies or participating councils;
- vi. efficient (cost-effective), if:
  - the scope of the works (which reflects the general characteristics of the capital item) is the best means of achieving the desired outcomes after having regard to the options available, including more cost-effective regional solutions having regards to a regional (whole of entity) perspective, the substitution possibilities between capital and operation expenditure and non-network alternative such as demand management;
  - the standards of works conforms with technical, design and construction requirement in legislation, industry and other standards, codes and manuals. Compatibility with existing and adjacent infrastructure is relevant as is Compliance with Strategic Asset Management Plans and Total Management Plans are likely to be highly relevant; and
  - the cost of the defined scope and standards or works is consistent with conditions prevailing in the markets for engineering, equipment supply and construction. The consultant must substantiate its view with reference to relevant interstate and international benchmarks and information sources. For example, the source of comparable unit costs and indexes must be given and the efficiency of costs justified. The consultant should identify the reasons for any costs higher than normal commercial levels;
- d) assess the deliverability and timing of capital expenditure program, and chart the capex historically delivered by participating councils from 1 July 2008 to 30 June 2010; the entities'



forecasts made in 2010/11 of the period 1 July 2010 to 30 June 2013; and entities' current forecasts to 30 June 2014. Assess the scale and cause of variances between forecasts provided in the entities' 2010/11 and 2011/12 returns;

- e) liaise with the Authority's consultants appointed for the review of demand and operating expenditure to ensure that consistent advice is provided to the Authority. In particular, the consultant must:
  - i. assess the effect of any revised demand forecasts, and assess the expenditure projections and cost drivers for consistency with these demand forecasts;
  - ii. assess the effect of any revised operating expenditure forecasts arising from the Authority's operational expenditure consultant;
- f) take into account any previous reviews of relevant assets provided by the entities, such as Priority Infrastructure Plans;
- g) identify whether the capital expenditure forecasts encompass any efficiency gains or economies of scale, and identify a prudent and efficient level of these gains with reference to appropriate benchmarks;
- h) identify the value of any expenditure considered not to be prudent or efficient;
- i) assess the regulatory asset lives for capital expenditure in 5.8.1.1, and the tax asset lives for capital expenditure in 5.8.1.2, against relevant benchmarks;
- j) provide a revised set of information templates to the Authority that contain only the prudent and efficient capital expenditure and useful asset lives, with all adjustments to the entities' submission clearly indicated in the relevant worksheets and also separately logged (focusing on Schedules 5.6.1 & 5.6.2 (Capital Expenditure) and 5.8.1.1 (Asset Lives (RAB))).

### **Component 3 – Cost Allocation**

The consultant will also:

- a) assess the methods adopted by the entities to allocate existing and future capital costs between services, against relevant benchmarks. This will involve an assessment of cost drivers, the approaches adopted by each entity, and approaches approved by economic regulators in other jurisdictions; and
- b) report on the entities' progress in achieving the systems and information needed for informed pricing and reporting; and whether the information systems being put in place by the entities allow for a highly disaggregated system of cost recording.