STRATEGIC BUSINESS PLAN

FOR WATER SUPPLY & WASTEWATER SERVICES

Adopted by Council
8 March 2016

Executive Summary

Overview

Lismore City Council (LCC) is responsible for the delivery of water supply and wastewater services within the Lismore Local Government Area.

This strategic business plan is a long-term blueprint for the planning, development and operation of the water supply and wastewater services. The plan is the water supply and wastewater component of the Resourcing Strategy of the Integrated Planning and Reporting (IPR) framework.

The capital works program and financial plan need to be updated annually, with the strategic business plan updated every four years.

Operating Environment Review

LCC supplies water under the provision of several acts including, but not limited to, the *Local Government Act 1993*, *Protection of the Environment Operations Act 1997* and *Public Health Act 2010.*

LCC is also committed to agreements and memorandum of understanding on water supply and wastewater services in conjunction with neighboring councils and alliance groups.

Mission Statement

The implications of Lismore City Council's Mission Statement for Water Supply and Wastewater Services are:

To meet community expectations for sustainable water resource management by:

- ❑ Integrating the management of water and wastewater services
- ❑ Promoting efficient use of water
- ❑ Balancing financial, environmental and social issues
- ❑ Cooperating with Rous Water and neighbouring councils
- ❑ Responding to the needs of development

Service Delivery

LCC is responsible for the management of six water supply systems. Rous Water supplies bulk treated water to reservoirs of all systems except Nimbin water supply system.

LCC is responsible for the operations, maintenance and development of four wastewater schemes. Wastewater from the North Woodburn Scheme is treated by Richmond Valley Council.

Customer Service Plan

The Customer Service Plan forms Council's strategy for the water supply and wastewater businesses in the near future. It covers Council's objectives, performance targets, strategies and action plan to achieve a sustainable and efficient business delivering the levels of service required.

The key areas covered are areas serviced, demand management, drought management, infiltration management, pricing, customers satisfaction, community consultation, asset management, workforce plan and environmental protection.

Levels of Service

The levels of service (LOS) define the targets that LCC plans to provide to its customers. Achieving the LOS targets is Council's primary objective. Some of the LOS targets are summarised below.

Water Supply LOS Targets	Wastewater LOS Targets
Service 100% of customers within the urban area	Service 100% of customers within the urban area where necessary & viable
Residential Peak Day Demand: 2500 L/tenement/day Residential Annual Demand: 180 kL/tenement/year	No failures in delivering the services due to system failure
20 metres head minimum pressure	Four hours to respond to sewer chokes
Six hours maximum duration of planned supply interruptions	One working days to respond to customer oral complaints
12 hours maximum duration of unplanned supply interruptions	No more than two odour complaints per year per 1000 properties
100%water supply quality compliance with ADWG	100% effluent discharge compliance with licence requirements

Total Asset Management Plan

LCC has recently developed an Asset Management Strategy and Asset Management Plans for water supply and wastewater services. Council has committed significant budgets for asset renewals. This is likely to improve the performance of the system and reduce break down maintenance.

Workforce Plan

LCC has developed a Workforce Planning Framework which is incorporated into LCC's Imagine Lismore – 10 Year Plan 2013-23. It has identified areas that need to be monitored and managed included ageing workforce, skill shortages, retaining skilled personnel, and improvement in productivities.

Financial Plan

The financial modelling indicates that Council will need to increase the water supply and wastewater typical residential bills (TRBs) over the medium term. Figure 1 and Figure 2 provide a summary of the estimated medium term water supply and wastewater TRBs.

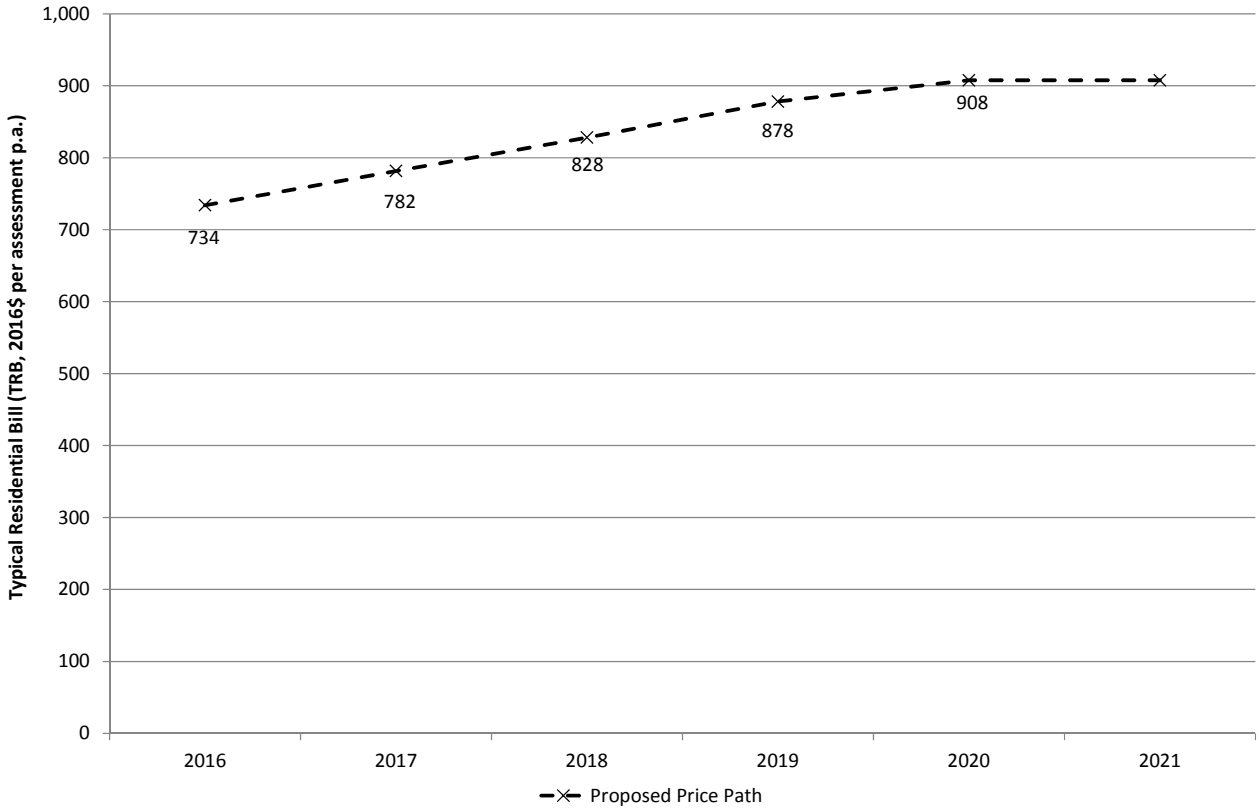


Figure 1: Lismore Water Supply TRB Forecast

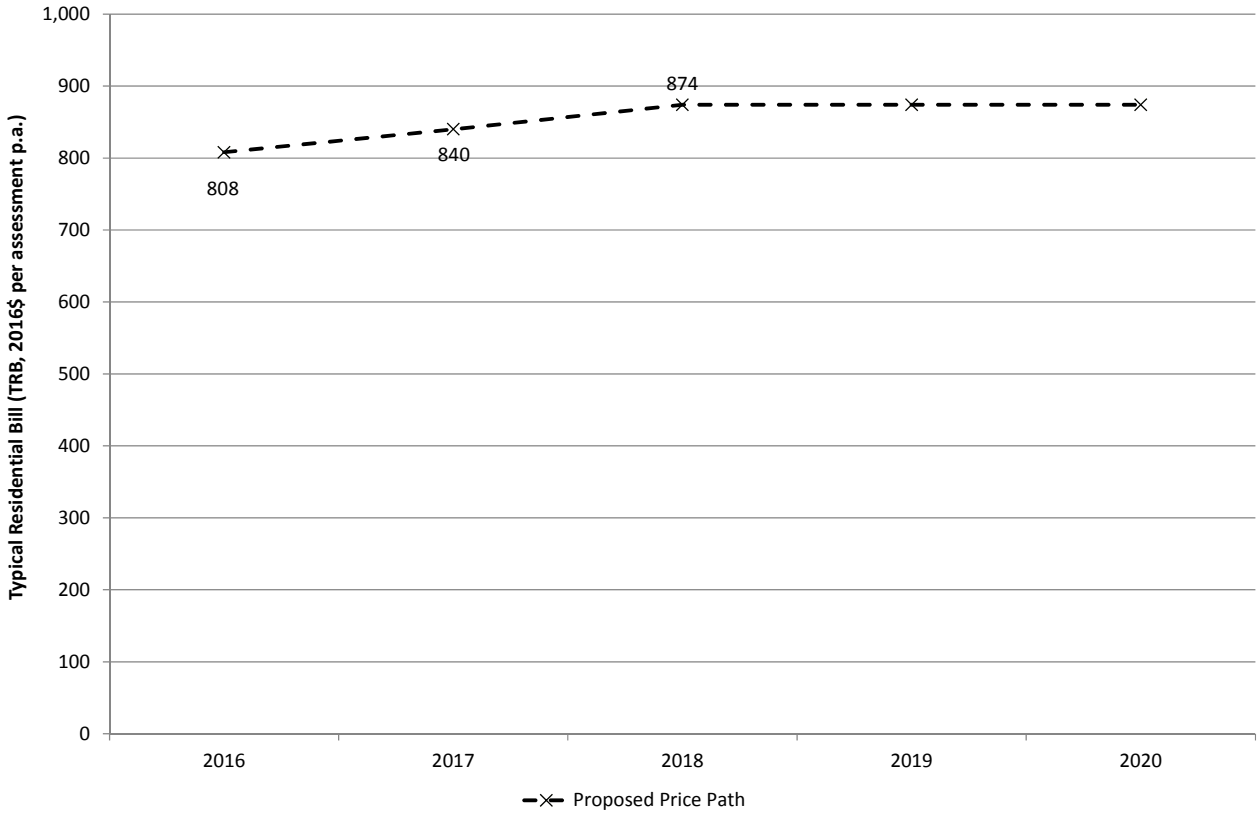


Figure 2: Lismore Wastewater Service TRB Forecast

Action Plan Summary

The services provided by LCC are generally satisfactory. There are however, some issues, which need to be addressed in order to provide the water supply and wastewater services according to Council's levels of service. A summary of the major issues and actions recommended are listed in the following table.

Major Issues	Actions	Section Where this is Addressed
Nimbin Water Supply needs to consistently meet water quality criteria	Finalise and implement Drinking Water Management Plan	Section 6.1& Section 8
▪ Provision of infrastructure to service growth especially for North Lismore Plateau ▪ No town water supply to residential rural areas except where there is existing systems	Identify growth areas and develop plans for servicing them	Section 6.2
Rous Water Future Water Strategy: ▪ The implementation of strategy will require extra charges to LCC ▪ Use of groundwater and/or recycled water may affect LCC ▪ Agreement under review	Co-operate with Rous Water on the implementation of the regional demand management strategy	Section 6.3 & Section 6.4
Significant infiltration issue in wastewater systems	▪ Monitor and report on system performance against targets ▪ Identify and implement system improvements	Section 6.6
Wastewater pricing is not compliant to Best-Practice Guidelines	Review tariff annually as part of updating the management plan	Section 6.8
▪ Balancing costs between developers and other customers ▪ Changes to environmental assessment process may reflect on development changes	Finalise Development Servicing Plans	Section 6.8 & Section 7

A summary of how these are being addressed is included from Section 6 onward.

In addition, reviewing the performance of LCC water supply and wastewater services as reported in the NSW Office of Water triple bottom line (TBL) performance reports, a number of additional issues were raised. These are discussed in Section 12.

Contents

Abbreviations

Abbreviations	Definitions
BOOT	build-own-operate-transfer
BPM	Best-Practice Management
CBD	Central Business District
CPI	Consumer Price Index
CRC	Current replacement cost. The cost to replace existing assets with new assets that will provide the same service function
CWP	Capital Works Program
DCP	Development Control Plan
DSP	Developing Servicing Plan
EMP	Environmental Management Plan
EP	Equivalent Person
EPA	Environment Protection Authority
EPL	Environment Protection Licence
ET	Equivalent Tenements
EDIS	Executive Director Infrastructure
GM	General Manager
HR	Human Resources
IEWW	Investigation Engineer (Water and Wastewater)
IWCM	Integrated Water Cycle Management
LCC	Lismore City Council
LEP	Local Environment Plan
LOS	Levels of Service
LWU	Local Water Utility
MA	Manager Assets
MDC	Manager Development & Compliance
MF	Manager Finance
MW	Manager Works
NAC	No Additional Cost
O&M	Operations and Maintenance
OEWW	Operations Engineer (Water and Wastewater)
POEO	Protection of the Environment Operations

Abbreviations	Definitions
SEWW	Strategic Engineer (Water and Wastewater)
TBL	Triple Bottom Line
TRB	Typical Residential Bill
TWO	Trade Waste Officer
WIE	Water Infrastructure Engineer
WTP	Water Treatment Plant
WWTP	Wastewater Treatment Plant

1 Introduction

1.1 This Strategic Business Plan

The strategic business plan sets out Lismore City Council's (LCC's) long term plans for the operation, management, maintenance and development of the water supply and wastewater schemes.

This plan covers both the water supply and the wastewater systems, reflecting the way these businesses are managed by LCC. The plan has been kept brief in order to make it relevant and easy to read, understand and update.

This Strategic Business Plan satisfies the requirements set out in the best-practice management guidelines (2007) and strategic business plan guidelines (July 2011) published by the NSW Office of Water.

This plan includes background information, strategic plan and actions. LCC is responsible for the implementation of the plan.

1.2 Context

Having an up to date strategic business plan is one of the seven best-practice criteria, as defined in best-practice Management of Water Supply and Sewerage Guidelines, August 2007. The list of best-practice criteria is shown in the box on the right.

Best-Practice Criteria:

1. Strategic Business Planning
2. Pricing
3. Water Conservation
4. Drought Management
5. Performance Reporting
6. Integrated Water Cycle Management
7. Drinking Water Management System

1.3 Benefits of Strategic Business Plans

The benefits to Lismore City Council are:

At Council level:

- ❑ Improve management performance
- ❑ Improve financial performance
- ❑ Avoid or minimise increases to typical residential bills
- ❑ Increase accountability to customers
- ❑ Set direction and targets

At State level:

- ❑ Provide an overview of the business to the State Government
- ❑ Assist in directing policy and programs for financial and technical assistance.

1.4 The Strategic Business Planning Process

The strategic business planning process is described by the following flow chart and narrative below.

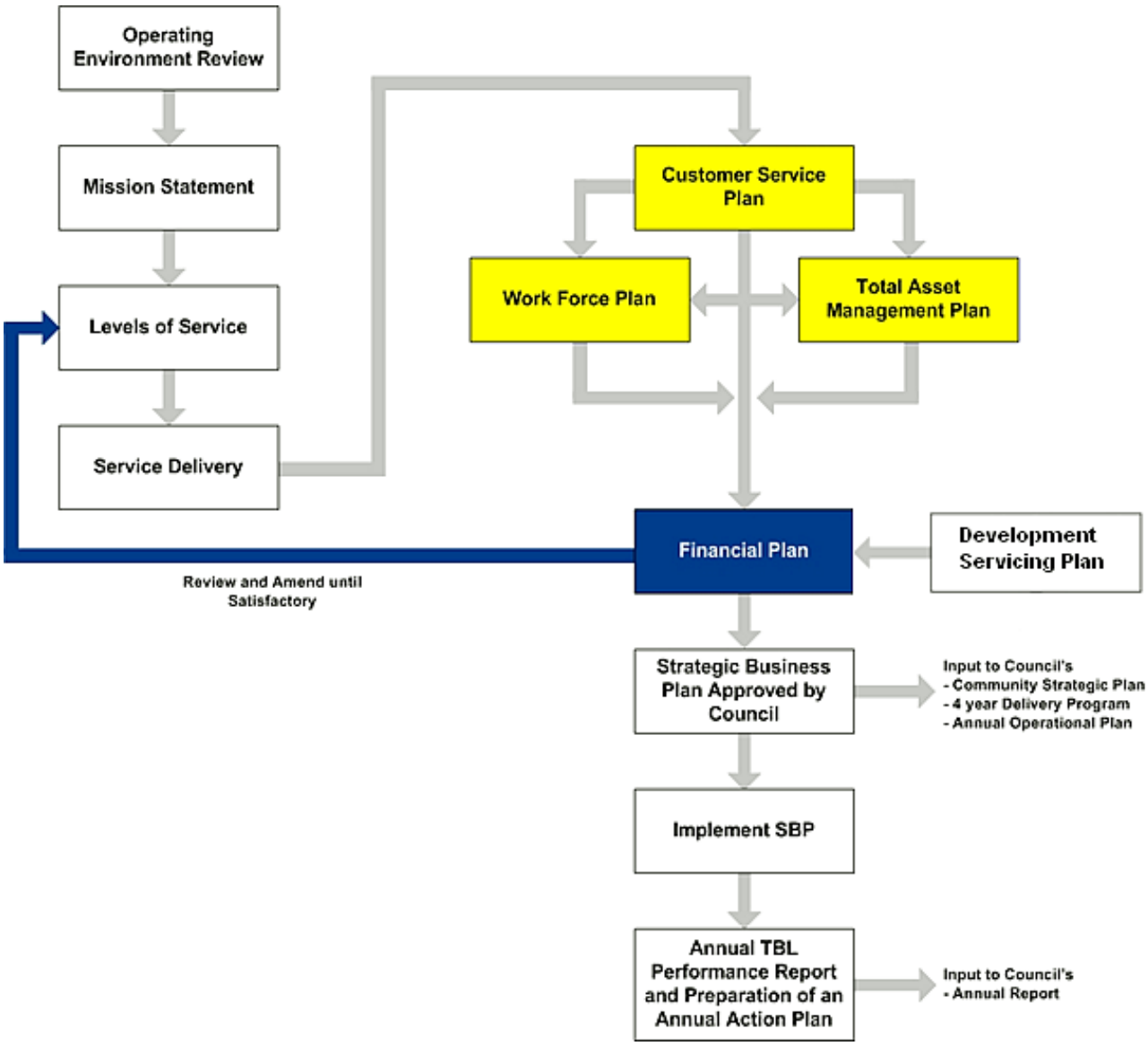


Figure 3: Strategic Business Planning Process

The water supply and wastewater businesses aim to deliver agreed levels of service using assets and staff. The cost of delivering the services is a combination of capital investment and recurrent expenditures.

The financial plan converts funding requirements into annual charges to be levied on customers, making allowance for other sources of funds, in particular developer charges.

If the annual charges are considered unaffordable, the levels of service need to be modified, and the process repeated until the charges are acceptable.

The strategic business plan needs to be updated every four years, with annual updates of the capital works program and the financial plan.

2 Existing Systems Overview

This section summarises the present internal and external environments which affect Lismore City Council water supply and wastewater services.

2.1 Localities and Population

Lismore is located on the NSW far north coast. Lismore is a regional service centre with a university, major hospital, an airport and retail business facilities.

The Lismore Local Government Area (LGA) is surrounded by Ballina, Byron, Tweed, Kyogle and Richmond Valley LGAs as shown in Figure 4. It covers an area of 1,287 km^2 which includes almost the entire catchment of Wilsons River, a tributary of the Richmond River. Rocky Creek Dam, operated by Rous Water, is located in the headwaters of the Wilsons River.

Figure 4: Lismore Local Government Area Map

2.2 Water Supply and Wastewater Services

Lismore's water supply and wastewater schemes have a long history and the infrastructure and many assets are over 40 years old. Lismore City Council's water supply and wastewater services areas are summaries in Table 1.

Table 1: Existing Systems and Service Areas

Water Supply Scheme	Water Supply Service Area
Lismore City Council purchases bulk water from Rous Water	
Lismore City (including Canaiba)	▪ Lismore
Tullera	▪ Tullera ▪ North Lismore Plateau
Dunoon/ Modanville / The Channon / Dunoon Road	▪ Dunoon
Clunes	▪ Clunes
North Woodburn	▪ North Woodburn
Water Treatment Scheme (supply from local water source)	
Nimbin (source from Mulgum Creek Weir)	▪ Nimbin
Wastewater Treatment Scheme	**Wastewater Service Area**
South Lismore	▪ South Lismore ▪ North Lismore Plateau
East Lismore	▪ East Lismore
Nimbin	▪ Nimbin
Evans Head Sewage Treatment Plant (Richmond Valley Council owned)	▪ North Woodburn

2.2.1 Water Supply Schemes

The purpose of Lismore's water supply system is to provide an adequate and safe supply of water to meet community needs. System expansion is undertaken to service Council's planned development strategies.

Lismore City Council is responsible for the management of six water supply systems including the reticulation of water from reservoirs to customers. Rous Water supplies bulk treated water to reservoirs of all systems except Nimbin water supply system.

Rous Water also supplies water directly to rural customers along its trunk mains to the villages in Lismore LGA including Bexhill, Richmond Hill, Gundurimba, Wryalla and Tucki Tucki.

Nimbin has its own supply from Mulgum Creek Weir. LCC owns and operates the Nimbin water supply system which includes the associated 25 ML off stream storage at Nimbin and the distribution system.

LCC is planning to construct a new water supply system to service planned development on the North Lismore Plateau (NLP). This new water supply system is to be integrated with the existing Tullera zone.

2.2.2 Wastewater Schemes

The purpose of Lismore's wastewater system is to collect, transport, and treat wastewater, meeting environmental licences and providing a clean and healthy environment that meets community expectations. The system accepts domestic waste as well as commercial and industrial trade waste pre-treated to domestic strength. System expansion is undertaken to service Council's planned development strategies.

LCC is responsible for the operation, maintenance and development of four existing wastewater systems. Three schemes are connected to LCC's treatment plants, South Lismore, East Lismore and Nimbin. The North Woodburn Schemes is connected to Woodburn in Richmond Valley Council (RVC) and the wastewater is treated in RVC's treatment plant in Evans Head.

Lismore City Council is planning to undertake a major renewal/replacement of the South Lismore Sewage Treatment Plant. A significant expansion of the South Lismore wastewater system is also planned to service planned development on the North Lismore Plateau.

All other properties in the Lismore local government area utilise on-site wastewater treatment and disposal management systems.

3 Operating Environment Review

Before establishing a long term strategic plan it is essential to understand the present environment within which LCC water supply and wastewater services operate.

This section provides an overall assessment of LCC's existing situation and of the services provided.

3.1 Institutional Arrangement

3.1.1 Water Supply Agreements

Rous Water supplies drinking water to Richmond Valley Council, Lismore City Council, Byron Shire Council and Ballina Shire Council. These local councils are responsible for reticulating the water to customers and for the management of wastewater within their respective LGAs.

A water supply agreement has been developed between Rous Water and its constituent councils. The agreement is currently under review (July 2013). This agreement has no fixed term and will continue until terminated.

The purpose of the agreement is to define roles and responsibilities for the management of water supply within the area of operations of the five Councils. It is also intended to serve as a co-operative agreement to formalise the levels of service and the working relationships between the Councils.

3.1.2 Wastewater Scheme Agreements

An agreement exists between Richmond Valley Council (RVC) relating to operations of the North Woodburn wastewater scheme. The scheme connects with the Woodburn-Evans Head Wastewater Scheme which is owned and operated by RVC.

3.1.3 Memorandum of Understanding

The Northern Rivers Directors' Group involves the General Managers, Directors and Water Mangers of seven Local Water Utilities including Councils of Ballina Shire, Byron Shire, Kyogle, Lismore City, Richmond Valley, Tweed Shire and Rous Water. These Councils are all members of the Northern Rivers Regional Organisation of Councils (NOROC).

A Memorandum of Understanding (MoU) developed by the Northern Rivers Directors' Group has the following aims:

- To provide a foundation for the development of co-operative partnership/s between the parties to deliver best practice water supply and wastewater services to the Northern Rivers region of New South Wales; and
- To optimise the sharing of resources (staff, equipment, materials, specialist knowledge and capabilities) and in the delivery of services.

The MoU has specific short term objectives to develop projects including.

- A regional drinking water management system incorporating an implementation strategy
- A regional approach to water supply demand management
- Agreed protocols and processes in effective sharing of resources
- A regional best-practice pricing strategy
- Operational objectives and methodologies for benchmarking across the region and across regional water utilities in New South Wales and across Australia

The term of this MoU has been set up for two years and thereafter renew from year to year. Each of the member councils is responsible for its own costs associated with participation, support and delivery of objectives. Each party will contribute an equal share to the costs associated with the management of the resource sharing process.

3.2 Statutory Requirement

3.2.1 Liquid Trade Waste Policy

According to the Best-Practice Management of Water Supply and Sewerage Guidelines (2007), LWUs must adopt a Liquid Trade Waste Policy in accordance with the Liquid Trade Waste Management Guidelines (2005). This enables LWUs to properly manage dischargers of liquid trade waste to the wastewater system and to protect wastewater system assets and the environment.

LCC manages liquid trade wastes in accordance with Council's Trade Waste Policy for the discharge of non-residential liquid waste to sewer adopted in December 1999 in conjunction with the Wastewater Charging Policy developed in November 2010.

LCC's trade waste policy outlines criteria for approval to dispose of trade waste into Council's wastewater system and matters relating to trade waste approvals while the Wastewater Charging Policy details the methodology for determining usage charges.

However Council has advised that their existing trade waste policy and trade waste pricing requirements do not meet the NSW Best Practice Management of Water Supply and Sewerage Guidelines (2007) and Water Supply, Sewerage and Trade Waste Pricing Guidelines (2002).

3.3 Legislative Framework

3.3.1 Acts and Regulations

The following section lists the key acts that affect the management of the water supply and wastewater schemes and their main implications. This is not an exhaustive list, and is aimed at providing general background only.

LCC delivers water supply and wastewater services as a local water utility (LWU) under the provisions of acts including:

- Local Government Act 1993
- Environmental Planning and Assessment Act 1979
- Protection of the Environment Operations Act 1997
- Work Health and Safety Act 2011
- Public Health Act 2010
- Independent Pricing and Regulatory Tribunal Act 1992

Several other acts also affect Council's water supply and wastewater services. Council generally complies with the requirements of all the acts which affect its operation.

3.4 Best-Practice Management Compliance

The purpose of Best-Practice Management (BPM) is:

- To encourage the effective and efficient delivery of water supply and wastewater services

- ❑ To promote sustainable water conservation practices and water demand management throughout NSW

Demonstrating BPM is a pre-requisite for payment of a dividend from the surplus of Council's water supply and wastewater businesses and for financial assistance under the Country Towns Water Supply and Sewerage (CTWS&S) Program. Table 2 summarises LCC's compliance in NSW Office of Water best-practice management requirements.

Table 2: Compliance with Best-Practice Requirements

Best-Practice Requirement	Status	Compliance
1 Strategic Business Planning	This document	Yes
2 Pricing	▪ Development servicing plan for water and wastewater – is developed concurrently with SBP	Yes
	Compliance with Pricing guidelines - Wastewater ▪ residential ▪ non-residential	Yes No
	Compliance with Pricing guidelines - Water	Yes
3 Trade waste policy and approval for all dischargers	Existing trade waste policy is not compliant with Best Practice Management Guidelines	No
4 Water Conservation	Rous Regional Water Management Strategy (Nov 2009) and Rous Water Demand Management Plan (Jun 2012)	Yes
5 Drought Management	▪ LCC has a Nimbin Drought Strategy adopted in March 2003. ▪ LCC also relies on Rous Regional Water Management Strategy (adopted in Nov 2009) which includes an Emergency Drought Management Plan that meets the requirements of BPM Checklist requirements. (Note: The Rous water restrictions definitions are applicable to LCC water supplied area excluding Nimbin)	Yes
6 Performance Reporting	Comply annually	Yes
7 Integrated Water Cycle Management (IWCM)	A Draft Integrated Water Cycle Management (IWCM) Strategy was prepared in early 2010 but was not reported to Council. This Strategy is now out of date and inconsistent with this new Strategic Business Plan (2014). Consequently, no further work will be undertaken to adopt this Draft IWCM Strategy. Further work to develop a new IWCM Strategy is not scheduled to commence until 2016/17.	No
8 Drinking Water Management System	A Drinking Water Management System is completed (Dec 2012). An implementation plan (Sep 2013) is also in place	Yes

4 Mission Statement

The implications of Lismore City Council's Mission Statement for Water Supply and Wastewater Services are:

To meet community expectations for sustainable water resource management by:

- Integrating the management of water and wastewater services
- Promoting efficient use of water
- Balancing financial, environmental and social issues
- Cooperating with Rous Water and Neighbouring councils
- Responding to the needs of development

This statement, together with the levels of service is the high level requirements for the service delivery.

5 Service Delivery

This section examines Council's current service delivery methods and how Council plans to deliver these services in the future.

5.1 Private Sector Resources

Other than the unique situation with bulk water supplies from Rous Water, Lismore City Council is facing similar issues to that of other local water utilities in the State.

Lismore City Council is continuously reviewing options for involvement of private sector and co-operation with other local water utilities in order to improve the delivery of service and the efficiency of the operations.

The private sector is involved mainly in planning, design and construction of new works. Lismore City Council is not considering that contract operation, build-own-operate-transfer (BOOT) or privatization as viable options for the water and wastewater system.

5.2 Resource Sharing

Lismore City Council regularly co-operates with other local water utilities. Council envisages that resource sharing, in particular with Rous Water, will increase in the next few years.

5.3 Impact on Planning

Council has corporate policies and objectives that may impact on the delivery of water supply and wastewater services.

In the Delivery Plan, Council reaffirmed its commitments to basic services. In addition to the substantial financial commitment to roads, Council is working to ensuring that the water supply is secured for the future and that wastewater collection and disposal have minimum impact on our precious environment.

In the Community Strategic Plan, Council has a set of strategies which includes the following water supply and wastewater services related strategic priorities and expected outcomes:

Integrated Water Cycle Management

- Lismore is to maintain long-term water security for its growing population through efficient use of this precious resource

Catchment Management

- Improvements in water quality and ecosystem health in the 16 urban tributaries in Lismore
- Monitoring, education and regulation to ensure optimal treatment of onsite sewerage
- Only tertiary treated wastewater entering the Wilsons River
-

LCC has established objectives for water cycle management as stated within Council's 10 Year and 4 Year Operational Plans. These objectives include:

- To maintain and operate water supply and wastewater infrastructure assets in accordance with government legislation and industry standards
- To ensure that water and wastewater assets are upgraded to cater for future growth and development

- To manage Council's water supply and wastewater disposal functions in a sustainable manner
- To undertake major capital works projects in accordance with the adopted Strategic Business Plan for Water Supply and Wastewater
- To manage Council's stormwater drainage network in a sustainable manner

In the Lismore 10 Year Plan (2013-23), Council indicated that it needs to redirect funding into renewing and maintaining assets into the future. This includes improving wastewater infrastructure to cope with a growing population and as a legacy of underfunding wastewater infrastructure. The overall objective of the water cycle management service is to achieve asset condition sustainability whilst providing strong water and wastewater services to the existing users and making sure that the infrastructure is available for the planned growth.

All of the above mentioned strategies appear to align with Council's objectives in providing water supply and wastewater services.

The Plan

This plan summarises Lismore City Council water supply and wastewater services current and future position, issues and objectives. Major issues are shown in bold letters.

6 Customer Service Plan

6.1 Levels of Service

Levels of service (LOS) are an expansion of the Mission Statement. The LOS defines the standard that LCC aims to provide to its water supply and wastewater service customers.

6.1.1 Current Position

Council's water supply and wastewater services generally comply with the LOS targets, with some exceptions. Table 3 and **Error! Reference source not found.** are the LOS targets for the provision of water supply and wastewater services in the next 4 years. The tables also summarises Council's current performance.

The following performance indicators received low raking in the 2011/12 TBL Reports:

Water supply

- 190 incidents of breaks per 100 km of water mains

Wastewater service

- 101 breaks and chokes per 100 km of main

Council will need to review the water supply and wastewater services performance and address these issues as appropriate.

Table 3: Levels of Service for Water Supply

DESCRIPTION	UNIT	LEVEL OF SERVICE	
		Current Performance	Four Year Target
SERVICE PROVIDED			
Extent of area serviced	% of urban area	100	100
AVAILABILITY OF SUPPLY			
Normal Quantity Available			
Residential peak day demand	L/tenement/day	2500	2500
Residential annual demand	kL/tenement/year	143*	180
Fire Fighting:			
Compliance with The Water Supply Investigation Manual* (AS 2419.1 classifications 2,3,5 & 9 with floor area less than 1000 m2)	% area served	100	100
Pressure:			
Min. pressure	Metres head	20	20
Max. static pressure	Metres head	80	80

DESCRIPTION	UNIT	LEVEL OF SERVICE	
		Current Performance	Four Year Target
Consumption Restrictions in Droughts: Level of restriction applied through a repeat of the worst drought on record			
Average duration of restrictions	Months/10 year period	Rous Water's water restriction definitions.	6
Average frequency of restrictions	No./10 year period		1
Average supply during drought	% of unrestricted supply		90
Supply Interruptions to Consumers			
Planned:			
Notice given to domestic customers	Hours	24	24
Maximum duration	Hours	6	6
Unplanned: **95%ile**			
Maximum duration	Hours	12	12
Maximum frequency per years	Times/customer/year	2	2
REPONSE TIMES Note: Times apply for 95% of occasions			
Supply failure	Hours	4	4
Minor Problems & General Inquiries:			
Oral inquiry	Working day	1	1
Written inquiry	Working days	10	10
Customer Complaints:			
Customer complaints	No. of complaints/1000 customers/year	3*	2
WATER QUALITY			
Compliance with 2011 ADWG	% compliance	100 (except Nimbin)	100

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

* Source: NSW Office of Water TBL Water Supply Performance Report 2011/12

Table 4: Levels of Service for Wastewater

DESCRIPTION	UNIT	LEVEL OF SERVICE	
		Current Performance	Four Year Target
AVAILABILITY OF SERVICE			
Extent of area serviced	% of urban areas	100 where necessary & viable	100 where necessary & viable
Average System Failures			
Number of system failures	Dry weather overflows/year	Nil	Nil
Response Times to Customer Complaints			
Oral complaints	Working day	1	1
Written complaints	Working days	10	10
Response to sewer chokes	Hours	4	4
Odour Complaints			
Number of incidents that resulting complaints	No. of incidents/year		2
Odour complaints	No. of complaints /1000 customers/year	0*	2
Effluent			
Sewage treatment compliance with EP licence	% compliance	100	100
Trade waste customers have an approval and inspected annually	% trade waste customer/year	100*	100

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

* Source: NSW Office of Water TBL Sewerage Performance Report 2011/12

6.1.2 Future Position

The LOS will mainly shape the objectives and requirements for operations, maintenance and provision of capital works within LCC's water supply and wastewater schemes. Achievement of target levels of service is the primary objective of the water supply and wastewater businesses.

6.1.3 Levels of Service Issues

Water Supply:

- LOS is required to be reviewed and updated
- Nimbin Water Supply needs to consistently meet water quality criteria

Wastewater Service:

- LOS is required to be reviewed and updated

6.1.4 Objective 1 – Levels of Service

OBJECTIVE 1 – LEVELS OF SERVICE			
Water supply and wastewater services meet or exceed Levels of Service			
PERFORMANCE TARGET			
Full compliance with Levels of Service			
STRATEGIES			
▪ Council to adopt Levels of Service as part of the Strategic Business Plan ▪ Monitor and report on compliance with the LOS			
ACTIONS	**Responsible***	**Target date**	**Cost**
1 Adopt LOS by Council	EDIS	Dec 13	NAC
2 Monitor compliance	OEWW	Ongoing	NAC
3 Report to Council and GM	EDIS	Annually	NAC

Note: * The acronyms are listed in the Abbreviation section of this plan

6.2 Areas Serviced

6.2.1 Current Position

LCC provides water supply and wastewater services to the majority of the urban areas. The areas serviced by LCC are summarised in Table 1. The current services are considered adequate.

The projected growth in the service areas will create a demand for water and wastewater services. The water supply and wastewater systems will need to be augmented and extended to service the new development. The equivalent tenement served and the growth projections in these areas are listed in Table 5.

Table 5: Current and Forecast Population Served

Service Areas (Equivalent Tenements - ET)	Existing (2013/14)	Future (2042/43)	Increase	Annual Increase(ET/year)
South Lismore (excluding North Lismore Plateau)				
Water - Residential	3370	3670	300	10
Water - Non-Residential	2570	2720	150	5
Wastewater – Residential	3310	3610	300	10
Wastewater - Non-Residential	2360	2420	60	5
East Lismore				
Water – Residential	8540	9740	1200	40
Water - Non-Residential	480	540	60	2
Wastewater - Residential	8385	9585	1200	40

Service Areas (Equivalent Tenements - ET)	Existing (2013/14)	Future (2042/43)	Increase	Annual Increase(ET/year)
Wastewater - Non-Residential	440	500	60	2
Tullera / North Lismore Plateau				
Water - Residential	90	1590	1500	50
Water - Non-Residential	0	4	4	1 every 8 years
Wastewater - Residential	0	1500	1500	50
Wastewater - Non-Residential	0	4	4	1 every 8 years
Nimbin (including rural customers)				
Water - Residential	258	288	30	1
Water - Non-Residential	126	136	10	1 every 3 years
Wastewater - Residential	178	208	30	1
Wastewater - Non-Residential	99	109	10	1 every 3 years
North Woodburn				
Water - Residential	54	61	7	1 every 4 years
Water - Non-Residential	1	1	0	0
Wastewater - Residential	53	60	7	1 every 4 years
Wastewater - Non-Residential	0	0	0	0
Clunes				
Water - Residential	231	241	10	1 every 3 years
Water - Non-Residential	8	8	0	0
Wastewater – Residential & Non-Residential	Not serviced			
Dunoon / The Channon / Modanville				
Water - Residential	570	600	30	1
Water - Non-Residential	76	76	0	0
Wastewater – Residential & Non-Residential	Not serviced			
Combined Figures				
Water - Residential	13113	16190	3077	103
Water - Non-Residential	3261	3485	224	7
Wastewater - Residential	11926	14963	3037	101
Wastewater - Non-Residential	2899	3033	134	7

Source: Council staff, emailed Oct 2013.

6.2.2 Future Position

Lismore's population is expected to continue to grow as a as a result of Lismore being the regional economic centre of the Northern Rivers region which offers employment and business opportunities. Water supply and wastewater service demand will increase. Future development will have water supply and wastewater services provided by Council. Most of the infrastructure servicing new development will be financed by the developer through developer charges.

6.2.3 Areas Serviced Issues

- ❑ No town water supply to residential rural areas except where there is existing systems
- ❑ Provision of infrastructure to service growth especially for North Lismore Plateau

6.2.4 Objective 2 - Areas Serviced

OBJECTIVE 2 – Areas Serviced			
Provide services to new development			
PERFORMANCE TARGET			
▪ No environmental or public health impact caused by lack of water and wastewater services ▪ No delay to planned development due to lack of water supply or wastewater services.			
STRATEGIES			
▪ Extend services to new development in accordance with LEP ▪ No significant health and environmental impacts in unserviced areas			
ACTIONS	**Responsible**	**Target date**	**Cost**
1 Identify growth areas and develop plans for servicing them	SEWW	Ongoing	NAC
2 Construct facilities in time to service development	MA/MW	Ongoing	In CWP
3 Monitor performance of septic tanks, and review the health and environmental impact	MDC	Annually	NAC

6.3 Water Supply - Demand Management

6.3.1 Current Position

Demand management is aimed at reducing the water consumption through elimination of wastage and improved efficiency.

Based on the Water Supply Agreement between Rous Water, Richmond Valley, Lismore City, Byron Shire and Ballina Shire Councils, Rous is responsible for the preparing and implementing of the Regional Water Management Strategy while other councils manage water demand in accordance with local demand management plans.

LCC has implemented a number of initiatives to reduce demand including:

- ❑ User Pays pricing structure
- ❑ Communication and education with the community

The 2011/12 TBL Water Supply Performance Report indicated that the average residential water supplied is 143 kL/property/year.

6.3.2 Future Position

LCC will continue to cooperate with Rous water with respect to the preparation and implementation of water conservation plan. Rous Water has prepared a Water Future Strategy that identifies groundwater and recycled water as future sources of water for the region.

6.3.3 Demand Management Issues

- Rous Water Future Water Strategy:
  - The implementation of strategy will require extra charges to LCC
  - Use of groundwater and/or recycled water may affect LCC
  - Agreement under review
- Local Government Review may change local water utilities status and/or boundaries

6.3.4 Objective 3 – Water Supply - Demand Management

OBJECTIVE 3 – DEMAND MANAGEMENT			
Promote water conservation through demand management			
PERFORMANCE TARGET			
Achieve the water demand targets			
STRATEGIES			
Participate in demand management initiatives with Rous Water and other Councils Promote water conservation through demand management			
ACTIONS	**Responsible**	**Target date**	**Cost**
1 Co-operate with Rous Water on the implementation of the regional demand management strategy	OEWW / MW	Ongoing	NAC
2 Determine leakage	OEWW	Dec 14	Within budget
3 Reduce leakage	OEWW	Ongoing	In CWP
4 Collect and report to Rous on consumption data	OEWW	Ongoing	NAC

6.4 Water Supply - Drought Management

6.4.1 Current Position

LCC adopted a Nimbin Drought Strategy in March 2003. It includes drought restrictions to ensure that the supply in times of drought.

The Nimbin water supply system is small and is very sensitive to changes in weather patterns. Based on limited reaction times to these changes, the Nimbin Drought Strategy identified that Level 1 and 3 restrictions of the Rous strategy are not applicable to Nimbin. However, Level 4 water restrictions for Nimbin will be

identical to Level 4 water restrictions of Rous with the additional requirement to restrict water cartage for essential purposes and no water carting for road works.

Other than Nimbin, LCC is supplied by Rous Water. The Rous Regional Water Management Strategy incorporates an Emergency Drought Management Plan that meets the requirements of BPM checklist requirements. LCC manages droughts in accordance with this plan.

6.4.2 Future Position

LCC will continue to cooperate with Rous Water with respect to the implementation of Regional Drought Management Strategies.

6.4.3 Drought Management Issues

No issue has been identified.

6.5 Objective 4 - Water Supply - Drought Management

OBJECTIVE 4 – DROUGHT MANAGEMENT			
Secure water supply			
PERFORMANCE TARGET			
Water Supply is secure during droughts			
STRATEGIES			
Impose actions as recommended in the drought management plans: ▪ Regional Water Management Plan (Rous) ▪ Nimbin Drought Management Strategy			
ACTIONS	**Responsible**	**Target date**	**Cost**
1 Review and update Nimbin drought management plan according to the BPM guidelines including Secure Yield assessment	OEWW/ SEWW	Sep 14	NAC
2 Continue liaison with Rous through the Rous Water Supply Agreement Liaison Committee, and propose a regional approach to enforcement	OEWW	Ongoing	NAC

6.6 Wastewater - Load Management

Wastewater systems are affected by the inflow and infiltration of rainwater into the wastewater collection system. The inflow and infiltration can overload the system and cause overflow of untreated wastewater. Infiltration management can potentially:

- ❑ Defer new works
- ❑ Make treatment processes more effective
- ❑ Effectively prolong the life of the existing assets

6.6.1 Current Position

Groundwater and stormwater infiltration are addressed on an ongoing basis. Groundwater infiltration into the reticulation system is high, with wet weather storm flows reaching up to six times the average dry weather inflows. Stormwater infiltration is due to surface runoff entering the wastewater system directly or indirectly particularly in wet weather.

Infiltration and inflow are the results of an ageing and/or damaged system. Stormwater and groundwater may enter the system through cracked or broken pipes, dislocated pipe joints (often due to tree roots), broken manholes and illegal connections. The majority of reticulation system is generally in fair to good condition, but is prone to a high number of sewer chokes. Major sewer rehabilitation programs have been provided for including relining and are ongoing from year to year.

The excess sewage loading from infiltration may lead to significant sewer overflows. Infiltration management is therefore important to minimise the pollution by developing an infiltration investigation program, identifying the nature of the problem and applying cost effective solutions or corrective actions.

The function of reticulation and treatment system can also be jeopardised by high biological shocks or toxic chemical loading discharged by commercial and industrial customers. Council has a long standing trade waste policy.

6.6.2 Future Position

Council aims to minimise the infiltration issue by developing investigations to determine the issues with Dawson St Pumping station, continuing the sewer relining program, develop a regime to monitor system performance and implement appropriate improvements.

6.6.3 Load Management Issues

- ❑ Significant infiltration issue in wastewater systems

6.6.4 Objective 5 - Wastewater – Load Management

OBJECTIVE 5 – Wastewater – Load Management			
Effectively manage stormwater inflow and infiltration into the wastewater system			
PERFORMANCE TARGET			
Reduce infiltration and inflows to economic levels			
STRATEGIES			
Monitor performance and reduce infiltration / inflow to optimal level			
ACTIONS	**Responsible**	**Target date**	**Cost**
1 Define dry and wet weather performance targets	SEWW/ IEWW	Continuously catchment by catchment	In budget
2 Determine the extent of the problem in Dawson St Pumping station by flow gauging	IEWW	Aug 15	In budget
3 Continue sewer relining program	IEWW	Ongoing	In CWP and in budget

OBJECTIVE 5 – Wastewater – Load Management			
Effectively manage stormwater inflow and infiltration into the wastewater system			
PERFORMANCE TARGET			
Reduce infiltration and inflows to economic levels			
STRATEGIES			
Monitor performance and reduce infiltration / inflow to optimal level			
ACTIONS	**Responsible**	**Target date**	**Cost**
4 Monitor and report on system performance against targets	IEWW	Ongoing	NAC
5 Identify and implement system improvements	IEWW	Ongoing	In CWP (renewals)

6.7 Wastewater - Trade Waste Management

Trade wastes are the wastewater generated by commercial and industrial properties. Where a property generates high levels of pollutants, it is required to pre-treat the waste to a domestic 'strength'. Charges are levied on trade waste discharges through Council's trade waste policy. However Council's existing trade waste policy does not comply with NSW Office of Water Best Practice Guidelines (BPM) requirements.

6.7.1 Current Position

LCC manages liquid trade waste in accordance with Council's Trade Waste Policy for the discharge of non-residential liquid waste to sewer adopted in December 1999 in conjunction with the Wastewater Charging Policy developed in November 2010.

6.7.2 Future Position

Council indicated that staff will carry out trade waste inspections and reporting and trade waste pricing policy will also be updated.

6.7.3 Trade Waste Management Issues

- ❑ Council's existing trade waste policy does not comply with BPM requirements

6.7.4 Objective 6 - Wastewater - Trade Waste Management

OBJECTIVE 6 – Wastewater - Trade Waste Management			
Maintain trade waste system			
PERFORMANCE TARGET			
Agreements in place for all trade waste discharges			
STRATEGIES			
Maintain and implement a NSW Office of Water compliant trade waste policy			
ACTIONS	**Responsible**	**Target date**	**Cost**
1 Continue inspection and reporting TW	TWO	Ongoing	NAC
2 Update pricing policy for trade waste	SEWW	June 2014	NAC
3 Develop a trade waste policy to comply with BPM	SEWW	June 2016	NAC

6.8 Pricing

The primary purpose of water supply and wastewater pricing is to determine fair pricing of services which achieve full cost recovery and provide strong pricing signals to enable each customer to balance the benefits and costs of using the utility's services.

6.8.1 Current Position

The water supply and wastewater businesses have two sustainable income sources: annual customer charges and developer charges levied on new development. The charges need to comply with best-practice management guidelines.

The annual charges for 2013/14 are:

- Water supply:
  - residential property: access charge $185.36 (20 mm connection); usage charge $2.72/kL
- Wastewater:
  - residential property: $738.00 for single dwelling and $516.60 for flats
  - non- residential property: $738.00 per ET

LCC has developed DSPs for water supply and wastewater which are being used to levy developer charges.

LCC complies with most of the eleven requirements of NSW Office of Water best-practice management guidelines for pricing and regulation of water supply, wastewater and trade waste as shown in Table 6.

Table 6: Best Practice Pricing Compliances

Water Supply	Status	Wastewater and Trade Waste	Status
Full cost recovery without significant cross subsidies	✓ Compliant	Full cost recovery without significant cross subsidies	✓ Compliant
Complying residential charges with pay-for-use water pricing, independent of land value	✓ Compliant	Complying residential charges, independent of land value	✓ Compliant
Complying non-residential charges	✓ Compliant	Complying non-residential charges	Non-compliant
Development Servicing Plan with commercial developer charges	✓ Compliant	Development Servicing Plan with commercial developer charges	✓ Compliant
At least 75% of residential revenue is from water usage charges	✓ Compliant	Complying trade waste fees and charges	Non- Compliant
		Appropriate trade waste regulation policy and approvals	Non- Compliant

Assessment of Water Supply Charges

The LCC 2011/12 TBL Water Supply Performance Report shows that the water usage charge or 2011/12 and 2012/13 were in line with the statewide medians.

Assessment of Wastewater Charges

The LCC 2011/12 TBL Sewerage Performance Report indicated that the access charges for 2011/12 and 2012/13 were higher than the statewide medians.

6.8.2 Future Position

As listed in the table above Council's existing trade waste policy and trade waste pricing requirements do not meet the NSW Best Practice Management of Water Supply and Sewerage Guidelines (2007) and Water Supply, Sewerage and Trade Waste Pricing Guidelines (2002). Council intends to amend these policies to comply with the regulatory requirements in future (2016). This issue has been further discussed in section 6.7.

Based on recommendations in the NSW Office of Water 2011/12 TBL sewerage service performance action plan, LCC will address BPM requirement for complying sewerage non-residential charges.

Council has prepared Development Servicing Plans in order to levy contributions from new development and/or re-development that recovers the cost of providing infrastructure for those areas.

6.8.3 Pricing Issues

- ❑ Sewerage pricing is not compliant to Best-Practice Guidelines
- ❑ Balancing costs between developers and other customers
- ❑ Increased cost and customers' ability to pay

6.8.4 Objective 7- Pricing

OBJECTIVE 7 – Pricing			
Fund the service in accordance with the LOS and appropriate asset renewal in sustainable way			
PERFORMANCE TARGET			
Access charge and usage charge that balance demand management, effective financial management and affordability			
STRATEGIES			
Review tariff structure annually			
ACTIONS	**Responsible**	**Target date**	**Cost**
1 Review tariff annually as part of updating the management plan	MA/MF	March every year	NAC
2 Finalise Development Servicing Plans	SEWW	Dec 13	Included

6.9 Customer Relations and Satisfaction

To ensure that the customers are satisfied with LCC water supply and wastewater services, it is important to maintain good communication with customers. Council will establish an effective process to manage the interaction with customers and ensure the levels of service targets are met. In general, customer satisfaction can be maintained by providing a quality service, keeping customers informed of the Council's intentions and responding to customers and community needs.

LCC is committed to achieving high level of customer satisfaction through:

- ❑ Consistently delivering the levels of service
- ❑ Continuous communication, informing the customers on issues that affect the service and the price
- ❑ Monitoring and resolving complaints

6.9.1 Current Position

The LCC 2011/12 TBL Water Supply and Sewerage Performance reports state that Council received 3.5 water service complaints and 21 sewerage service complaints per 1000 properties. Statewide median results were 4 water service complaints and 11 sewerage service complaints per 1000 properties.

6.9.2 Future Position

Council envisages reducing wastewater customer service complaints and improving customer satisfaction by providing the services according to the adopted levels of service and statutory and legislative requirements.

6.9.3 Customer Related Issues

No issue has been identified.

6.9.4 Objective 8 - Customer Relation and Satisfaction

OBJECTIVE 8 – Customer Relation and Satisfaction			
Achieve high level of customer satisfaction			
PERFORMANCE TARGET			
Complaints below State median			
STRATEGIES			
▪ Good response to complaints ▪ Effective communication with customers			
ACTIONS	**Responsible**	**Target date**	**Cost**
1 Meet the levels of service, and inform customers	MA/MW	Ongoing	NAC
2 Conduct a survey to monitor level of satisfaction (combined with satisfaction survey on other Council activities)	MA	When survey is done	NAC
3 Analyse results of survey and identify actions to improve levels of satisfaction, if appropriate.	MA	Within 2 months of survey	NAC

6.10 Community Consultation

Community consultation is a formalised process by which all members of the community can contribute to decisions which affect them.

6.10.1 Current Position

LCC has adopted a Practical Guide to Community Engagement in May 2010. It includes a community engagement policy which is aimed to create and foster a culture of partnership with the community through

- ❑ Democratic Practice
- ❑ Accountability
- ❑ Innovation
- ❑ Accessibility
- ❑ Equity
- ❑ Sustainability

Details of the community engagement planning process are incorporated in the practical guide to set out planning phases. In order to assess the community engagement planning process, checklists have been developed to evaluate the project impacts, the community expectations, the legislative requirements and Council's ability to engage etc.

6.10.2 Future Position

LCC's Communications Strategy (2012-13) identified that the improvement in functionality and appeal of Council's website is of high priority. This will optimise the process to improve communications with the community, to keep customers informed and to respond to customer and community needs.

6.10.3 Community Consultation Issues

No issue has been identified.

6.10.4 Objective 9 - Community Consultation

OBJECTIVE 9 – COMMUNITY CONSULTATION			
To have appropriate level of community involvement in decision making process			
PERFORMANCE TARGET			
Decisions accepted by community			
STRATEGIES			
Undertake the consultation process as part of implementing major decisions and significant projects			
ACTIONS	**Responsible**	**Target date**	**Cost**
1 Include community consultation as part of the planning process on major projects	EDIS	Before major decisions are made	Part of project costs included in CWP

7 Environment Protection and Sustainable Development

Lismore City Council is committed to manage, develop, protect, restore, enhance and conserve the environment of the Council local government area.

The water supply and wastewater schemes provide service to customers, while protecting the environment.

7.1.1 Current Position

All new works undergo an environmental assessment process in accordance with legislative requirements and to ensure that development is sustainable.

In addition, LCC has developed an environmental policy and environmental management plan (EMP). The EMP covers the operation of the water supply and wastewater facilities as well as the training of staff to ensure that they comply with their environmental responsibilities.

7.1.2 Future Position

LCC recognises the importance of environmental protection and is committed to managing the water and wastewater systems in order to prevent adverse environmental impacts, to fully comply with licences and to make optimal use of resources.

7.1.3 Environment Protection Issues

- ❑ Changes to environmental assessment process may reflect on development changes

7.2 Objective 10 - Environment Protection and Sustainable Development

OBJECTIVE 10 – Environment Protection and Sustainable Development			
Manage the business in environmentally responsible manner			
PERFORMANCE TARGET			
Meet community expectations and legislative requirements			
STRATEGIES			
▪ Identify community expectation ▪ Manage environmental impact of LCC water supply and wastewater			
ACTIONS	**Responsible**	**Target date**	**Cost**
1 Review and update EMP, including review of legislative requirements, risk assessment and due diligence plan	OEWW	Jun 15	$40,000
2 Continue training staff in environmental management	OEWW	ongoing	NAC
3 Environmental assessment for new assets	SEWW	As required	In CWP

8 Total Asset Management Plan

The aim of total asset management is to provide procedures to operate and maintain physical assets over their whole life cycle to achieve the required levels of service at the least cost, while still satisfying statutory and regulatory requirements.

The asset management plan includes three components:

- Operations
- Maintenance
- Capital Works

The three components are inter-related and should be looked at in an integrated manner. For example, replacing deteriorated assets is likely to reduce the operations and maintenance requirements for these assets.

8.1 Operation Plan

The purpose of the Operation Plan is to ensure that the water supply and wastewater services objectives are achieved at the least cost and that the impact of breakdowns or outages is minimised.

The operation planning process begins with an operation analysis, which determines whether the existing system is capable of economically meeting its Levels of Service. Where the existing system is inadequate or where assets are found to be approaching its maximum capacity or the end of their economic life, the operation plan outputs should include a schedule of maintenance plan and capital works plan.

8.2 Maintenance Plan

The purpose of the Maintenance Plan is to support the Operation Plan by ensuring that the actual outputs, reliability and availability of the individual sub-systems, facilities and components are achieved in the most cost effective manner.

Maintenance is generally planned in two ways:

- Preventive maintenance
  - Fixed-time maintenance – undertake pre-determined periods
  - Condition-based maintenance – undertake based on the requirements. This will help to avoid unexpected failures
- Breakdown maintenance

8.2.1 Current Position

LCC has developed an Asset Management Strategy and Asset Management Plans for water supply and wastewater services. The purpose of the Asset Management Strategy is to provide direction to developing the ongoing processes for managing infrastructure assets for the next 10 year horizon.

The Asset Management Strategy and the individual asset management plans provide Council with detailed comprehensive information and knowledge to assist it with its short and long term planning and achieve its vision for Lismore City Council.

LCC adopted the Asset Management Plans for water supply and for wastewaters systems in mid-2013. The documents detailed the infrastructure asset values, the forecast of existing asset renewal requirements and

the associated risks in general deterioration of network, potential blockage surcharge and system inadequacy.

These Asset Management Plans have a principle aim to ensure the delivery of levels of service meeting water supply and wastewater services in a financially sustainable manner. Operations and Maintenance Strategies have also been developed to achieve this aim.

LCC has asset registers for both water supply and wastewater infrastructure which are based on the AM Module within Authority, produced by Civica. The asset registers provided an extensive summary of asset details, values, age, service areas and basic condition assessment.

Council advised there is an existing set of operating and maintenance procedures for water supply and wastewater services. However, these procedures are not well developed and will require updating. These operating and maintenance procedures will also need to be regularly reviewed and updated to ensure that they are current, accessible and meaningful.

8.2.2 Future Position

Council advised that some of the water supply systems operating and maintenance procedures will be updated as part of the DWMS implementation plan.

Lismore City Council has committed significant budgets for asset renewals. This is likely to improve the performance of the system and reduce break down maintenance.

8.2.3 Operations & Maintenance Issues

- Operating and maintenance procedures require updating
- Review operating and maintenance procedures to improve efficiency

8.2.4 Objective 11- Operations & Maintenance

OBJECTIVE 11 – Operations & Maintenance			
Operate and maintain the system to deliver the LOS cost effectively			
PERFORMANCE TARGET			
No operations or maintenance related problem causes a failure to deliver the LOS			
STRATEGIES			
Operate and maintain the system in accordance with an effective operations procedures and maintenance procedures			
ACTIONS	**Responsible**	**Target date**	**Cost**
1 Review and update operations and maintenance procedures	OEWW	Sep 14	NAC
2 Train relevant staff, and ensure that the operations & maintenance procedures are implemented	OEWW	Ongoing	NAC
3 Incorporate O&M procedures of new assets into the procedures	OEWW	Ongoing	In CWP
4 Implement steps in DWMS	OEWW	Sep 14	NAC
5 Improve operations and maintenance efficiency	OEWW	Ongoing	NAC

8.3 Capital Works Plan

The purpose of the capital works plan is to document anticipated future capital works requirements and expenditures to meet levels of service and to provide a basis for financial planning and capital budgeting.

8.3.1 Current Position

Council has recently updated the water supply and wastewater 30 years capital works programs. The capital works programs consider the future growth expected within the shire, the replacement of assets considered in poor or critical condition and the provision of works to improve the levels of service currently provided to ensure the delivery of the levels of services targets adopted by Council.

Detailed capital works programs are provided in the financial plans attached in Appendix B and a summary of the capital work program is given in the table below.

Table 7: Summary of 30 years Capital Works Program (2014/15 $'000)

Capital Works Program	Water Supply	Wastewater Service
Improved Standards	$7,918	$7,482
Growth	$17,344	$18,123
Renewals	$86,399	$135,431
Total	$111,661	$161,037

Both water supply and sewerage 2011/12 TBL Performance Reports state that capital expenditure per property for water received a relatively low rating. For wastewater, the capital expenditure per property rank above average. These indicate that Council has been replacing and providing new assets for wastewater service appropriately while water assets may need additional capital inputs.

LCC has a contingency plan to monitor revenue decline from reduced water sales. The situation is monitored each year with adjustments made to capital works program (usually involving reduction in renewals program) if required.

8.3.2 Future Position

Council will review its capital works programs annually to ensure the provision of future assets are adequate to provide the services and is financially sustainable.

8.3.3 Capital Works Issues

No issue has been identified.

8.3.4 Objective 12 - Capital Works

OBJECTIVE 12 – Capital Works			
Capital works programs provide facilities to deliver quality, capacity and reliability requirements at the minimum life cycle cost			
PERFORMANCE TARGET			
No failure to deliver the LOS due to lack or conditions of assets			
STRATEGIES			
Implement an effective capital works program			
ACTIONS	**Responsible**	**Target date**	**Cost**
1 Update the capital works program	SEWW	Annually in March	NAC
2 Provide sufficient budgets to implement the capital works program	MA/MF	Ditto	NAC
3 Deliver capital works in cost effective manner	MA/MW	Annually in March	NAC

9 Workforce Plan

LCC has developed a Workforce Planning Framework which is incorporated into LCC's Imagine Lismore – 10 Year Plan 2013-23. A copy of LCC's water supply and wastewater services organisation structure is included in Appendix A.

9.1.1 Current Position

Lismore City Council provides a broad range of services. To ensure Lismore City Council delivers the best outcomes for the community, LCC is committed to regularly monitor the workforce profile.

9.1.2 Future Position

The Workforce Management Plan identifies challenges that the workforce may present Council with over the coming years. The areas that need to be monitored and managed include:

- Ageing workforce –with the number of retirements in the coming years, this may lead to a potential loss of corporate knowledge
- Skills shortages in the jobs market
- Ensuring we are able to attract and retain the right people with the required skills, experience and organisational fit
- Productivity improvements

The Workforce Management Plan details key strategies to mitigate the potential risks in the workforce profile, and enable successful delivery of the Imagine Lismore 10 Year Plan.

Strategies to overcome these challenges include:

- Developing and implementing actions arising from the HR Review
- Building on the development of staff via enhanced management skills, business acumen, leadership, cultural change and continuous improvement
- Training all employees in the skills and knowledge associated with goal setting, effective communication, change readiness, emotional intelligence, continuous improvement and decision making
- Utilising eLearning strategies
- Developing a strategic approach to industrial relations
- Reviewing retention systems and programs including rising Stars, remuneration and recognition systems, and flexibility in the workplace
- Undertaking skills mapping and gap analysis of staff to assist with succession planning
- Reviewing and implementing the Regional Workforce Development Plan
- Conducting an organisation-wide re-education program highlighting changes in Work Health Safety legislation, including contractor management and volunteers
- Implementing the Reconciliation Action Plan
- Continuing support of equal employment opportunities and equity within Council
- Undertaking performance measurement and management via Australian Business Excellence Framework

9.1.3 Workforce Issues

- ❑ Ageing workforce
- ❑ Skills shortage
- ❑ High contractor expense
- ❑ LCC currently has licencing issue with technician employed within the organisation. The trade qualified plumbers are found to be not licenced, as a result this issue leads to some restrictions in performing work duties. It is recommended to develop future position of telemetry technician(s). This role is currently being provided by contractor at considerable expense

9.1.4 Objective 13 - Workforce Planning

OBJECTIVE 13 - Workforce Planning			
Have appropriate number of skilled staff to deliver Level of Services			
PERFORMANCE TARGET			
Sufficient skilled staff to deliver the levels of service and the business plan			
STRATEGIES			
▪ Attract, train, retain and plan succession of staff			
ACTIONS	**Responsible**	**Target date**	**Cost**
1 Review organisation chart, and numbers and skills required	EDIS	Annually	NAC
2 Continue skills assessment	All managers / supervisors	Annually	NAC
3 Continue implement professional development of staff	EDIS	ongoing	NAC

10 Financial Plan

As part of the strategic business plan, long term financial plans have been prepared for the water supply and wastewater businesses. The financial plans are included in Appendix B.

The purpose of the financial plans is to enable Council to determine the revenues needed to meet the Levels of Service over long term, adopt funding strategies and effectively manage the cash flow.

Legislation requires separate accounting for water supply and wastewater services and elimination of cross subsidy with other of Council's activities. A dividend may be paid from the water supply and wastewater funds to the general funds, subject to compliance with best-practice management requirements.

Recurrent operating costs should be covered by the annual water supply and wastewater charges. Capital funds are drawn from the following four sources:

- Developer charges
- Annual charges
- Government grants
- Borrowing

The income and expenditure of the water supply and the wastewater business have been projected for 30 years. A financial model using FINMOD was prepared to develop a funding strategy and to forecast the charges that Lismore Water will need to levy on its customers to fund the delivery of the levels of service.

10.1.1 Current Position

LCC will adopt 2016/17 water supply and wastewater Typical Residential Bills (TRBs) according to the financial plan projections.

10.1.2 Future Position

The financial modelling indicates that Council will need to increase the water supply and wastewater typical residential bills (TRBs) over the medium term. Figure 5 and Figure 6 provide a summary of the estimated medium term water supply and wastewater TRBs.

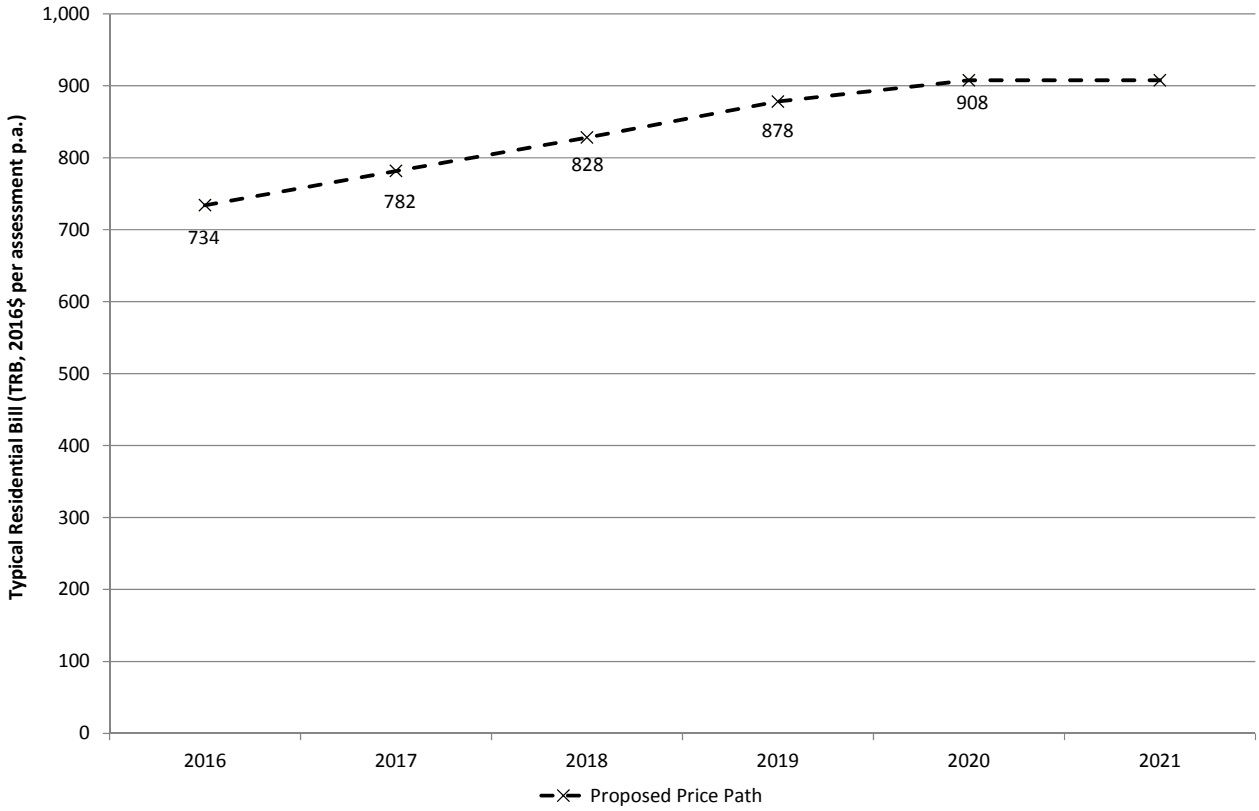


Figure 5: Lismore Water Supply TRB Forecast

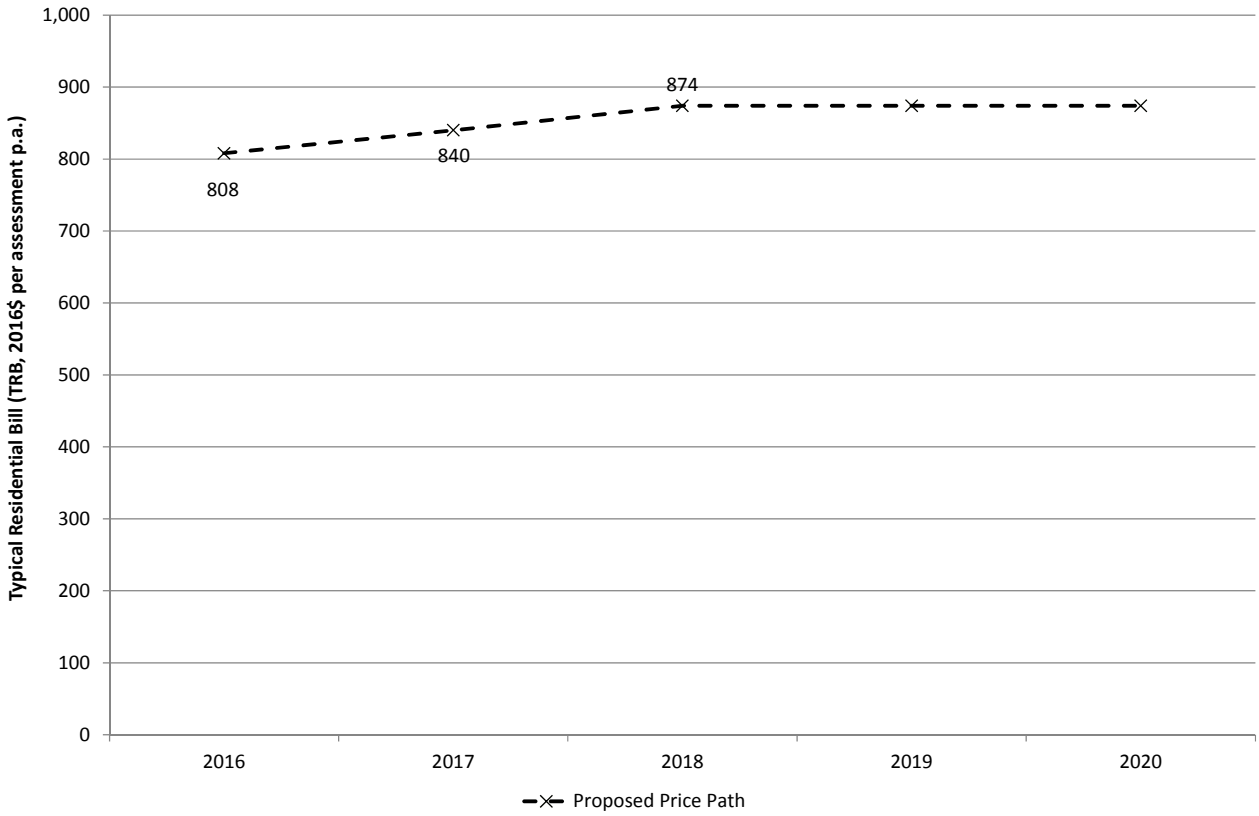


Figure 6: Lismore Wastewater Service TRB Forecast

The action plans from this strategic plan will require extra future expenses. These additional costs have been included in the financial plans models for water supply and wastewater. A summary of these additional costs are listed in Table 8. Council is not planning to pay dividends from the water supply and wastewater businesses to the general fund.

Table 8: Summary of Total Extra Costs of SBP Actions

Extra Costs of SBP Actions	2015/16
Water Supply	$20,000
Wastewater	$20,000

Note: The financial years not showing in the table above had no extra expenses required.

10.1.3 Financial Plan Issues

- ❑ Set balance between the required level of annual charges and the balance developer charges implemented

10.1.4 Objective 14 – Finance

OBJECTIVE 14 – Finance			
Prepare and implement a long term financial plan to provide required services			
PERFORMANCE TARGET			
Full cost recovery			
STRATEGIES			
Update the 30 year financial plan			
ACTIONS	**Responsible**	**Target date**	**Cost**
1 Review and update recurrent cost, capital works and determine required level of charges	SEWW/MW	Mar every year	NAC
2 Review & Update financial plan annually	MF	Mar every year	In budget

11 Summary of Other Key Activities

The strategic business plan is the LWU peak planning document, a summary of LCC other key activities and plans are provided below.

11.1 Integrated Water Cycle Management

A draft Integrated Water Cycle Management (IWCM) Strategy was prepared in early 2010 but was never reported to Council. This Strategy is now out of date and inconsistent with this new Strategic Business Plan (2014). Consequently, no further work will be undertaken to adopt the Draft IWCM Strategy. Further work to develop a new IWCM Strategy is not scheduled to commence until 2016/17.

11.2 Drinking Water Quality Management

Lismore City Council has a Drinking Water Management Plan developed in Dec 2012. Together with the Implementation Plan adopted in Sep 2013, these plans form a Drinking Water Management System to manage potable supply in Lismore. A summary of the Plan is included in Appendix C.

11.3 Work Health and Safety

Council has a Work Health and Safety Policy in place. It shows that LCC is committed to the provision of a safe and healthy work environment for all workers including employees, contractors, volunteers, visitors and person s that may be affected by works undertaken by Council through the elimination or minimisation of risks.” The policy is provided in Appendix D.

12 Reporting and Monitoring

LCC water supply and wastewater businesses performances are monitored and annually reported to NSW Office of Water. The latest TBL Performance Reports issued by the Office of Water are for the 2011/12 financial year. These reports include action plans listing the actions that councils should undertake to improve their performance. LCC reports are provided in Appendix E.

Some of the indicators that received low ranking have already been mentioned along this report. Table 9 lists some further TBL performance indicators that may need to be addressed (i.e. rating four and five) by LCC in order to improve their services and performance. Comments and actions are provided in the action plans in Appendix E. It is noted that LCC achieved a rating of 1 (top 20%) on many indicators.

Table 9: Water Supply & Wastewater Service Performance Indicators

Indicator	LCC Result	Ranking *		Statewide Median	Comments
		LWUs with >10,000 ET	All LWUs		
Water Supply Performance Indicators					
Employees per 1000 properties	1.8	5	3	1.5	
Typical developer charge for 2012-13	2,020	5	4	5,200	Rous Water charge is additional $8645 per ET
Urban Population without reticulated water supply (%)	2.3	5	3	0.8	Some villages are supplied water by Rous Water
Average duration of interruption (min)	190	4	5	168	
Number of water main breaks per 100 km of water main	10	4	3	9	
Economic real rate of return – Water (%)	-2.6	5	5	0.5	
Return on assets – Water (%)	-2.6	5	5	0.0	
Interest cover – WS & Sge (%)	0	5	5	1	
Net profit after tax – WS & Sge ($'000)	-2,890	4	5	73	
Operating cost (OMA) per 100 km of main ($'000)	1,720	4	5	1,280	
Operating cost (OMA) per property ($)	416	4	2	380	

Indicator	LCC Result	Ranking *		Statewide Median	Comments
		LWUs with >10,000 ET	All LWUs		
Operating cost (OMA) per kilolitre (cents)	185	4	4	131	
Capital Expenditure per property ($)	112	4	4	189	
Sewerage Performance Indicators					
Employees per 1000 properties	2.0	4	4	1.6	
Residential access charge for 2011 - 12	667	4	5	570	
Residential access charge for 2012 - 13	701	4	5	598	
Typical developer charge for 2011-12	667	4	5	574	
Typical developer charge for 2012-13	701	4	5	600	
Urban Population without reticulated sewerage service (%)	6.7	4	3	3.8	
Service complaints – sewerage per 1000 properties	21	4	4	11	
Volume of sewage collected per property (kL)	388	5	5	250	
Sewer main breaks an chokes (per 100 km of main)	101	5	5	33	
Economic real rate of return – Water (%)	-0.8	5	5	1.0	
Return on assets – Water (%)	-0.5	5	5	0.5	
Loan payment per property – Sge (%)	63	4	2	87	
Net profit after tax – WS & Sge ($'000)	-2,892	4	5	73	
Operating cost (OMA) per property ($)	452	4	4	410	
Treatment cost per property ($)	174	5	4	137	
Sewer main cost per property ($)	105	5	5	45	

*Ranking is from 1 to 5. Ranking of 1 indicates performance in the top 20% of LWUs, down to ranking of 5 where the performance is in the lowest 20%.

13 Integrated Planning and Reporting

13.1 General

The Integrated Planning and Reporting (IPR) framework has been introduced by the NSW Government in October 2009 to improve all NSW councils' long-term community, financial and asset planning. The framework requires the development and implementation of the following components:

- Community Strategic Plan – developed and maintained with the assistance of a community engagement strategy and covering a timeframe of at least 10 years
- Resourcing Strategy (long-term Financial Plan, Asset Management Strategy and Workforce Management Strategy)
- Delivery Program
- Operational Plan
- Annual Report

13.2 Community Strategic Plan

The Community Strategic Plan 2008 – 2018 has been incorporated into LCC's Delivery Plan 2010 – 14. It has 22 strategic priorities which have been grouped under guiding principles, community strategic priorities and corporate foundations. The document is available from the LCC's website.

13.3 Resourcing Strategy

The Resourcing Strategy is required to determine appropriate and realistic resources for achieving the objectives of the Community Strategic Plans through long term financial plan, work force planning strategy and asset management planning strategy.

This water supply and wastewater strategic business plans have been prepared to satisfy LCC's resourcing strategy requirement for the water supply and wastewater service, as explained in the NSW Office of Water SBP Guidelines.

13.4 Delivery Program and Operational Plan

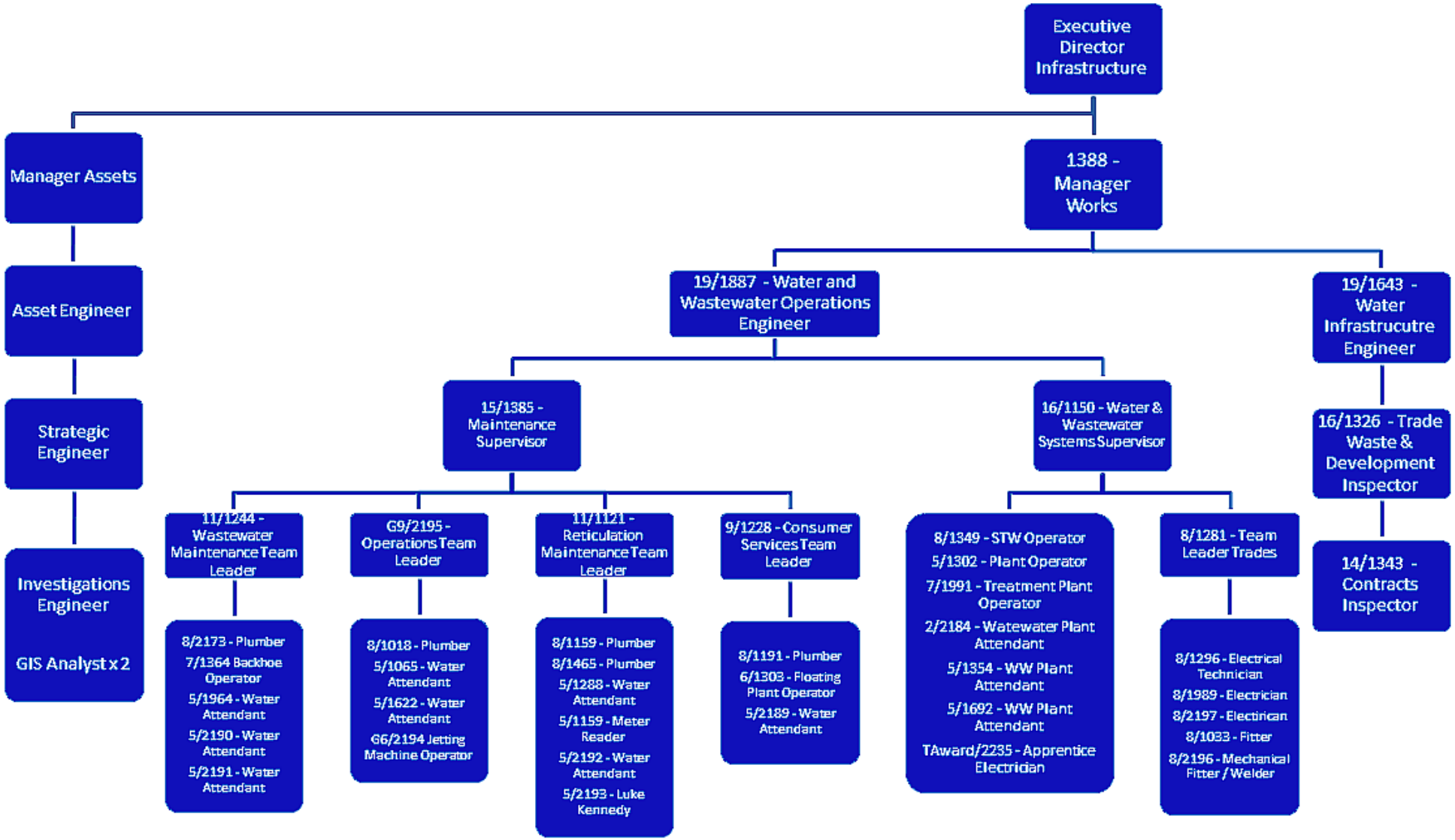
LCC had amended the Delivery Plan 2010 – 14 in 2011. This plan included a policy which provide guidance to Council and demonstrate to the community when on Council's assessment on the significance of proposals and/or decisions.

13.5 Annual Report

LCC prepares annual reports according to the requirements of the IPR framework. LCC 2012/13 annual report is available from the LCC's website.

Appendix A

Organisational Structure Chart



Source:LCC staff emailed Oct 2013

Appendix B

Financial Plans for Water Supply & Wastewater Services

Introduction

Lismore City Council (LCC) has prepared revised Development Servicing Plans for Water Supply and Wastewater services. As a result, the long-term financial plans have also been updated.

This report documents the outcomes of the financial analysis of the LCC Water Supply and Wastewater Funds. The aim of this report is to provide information to LCC on the required revenue to be recovered through residential bills. The financial analysis results will also be used to develop a medium term price path for LCC customers in terms of the typical residential bill (TRB) for water supply and wastewater.

Overview of Financial Planning

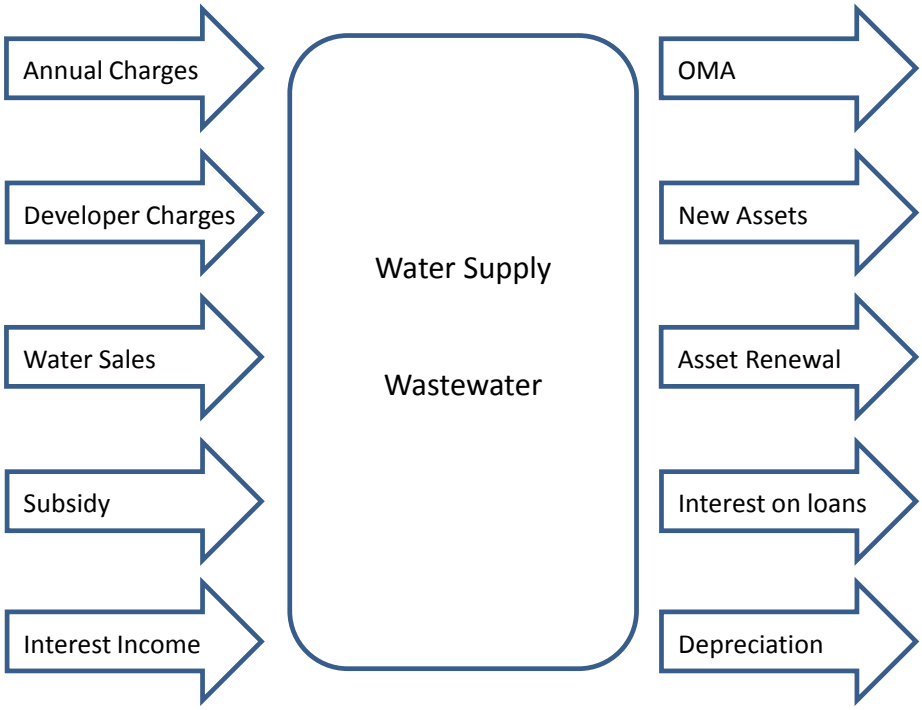
The objectives of financial planning are to recognise the full life cycle costs of service provision and determine appropriate funding strategies to ensure that services remain affordable in the long term. A 30 year planning horizon has been adopted for the modelling of LCC water supply and wastewater businesses. Taking a long-term view highlights the current impact of future actions, and allows financial peaks and troughs to be smoothed out to give a consistent pricing policy.

The aim of financial modelling is to:

- Meet the funding requirements of the capital works program and other life-cycle costs associated with each system's assets;
- Ensure an appropriate level of cash and liquidity; and
- Provide forecasts of sustainable annual residential bills over the long term.

Methodology

A financial model was developed for the LCC water supply and wastewater funds using FINMOD, the financial planning software developed by DEUS (now NSW Office of Water) for use by non-metropolitan water utilities. The model is used to forecast income streams and projected expenditure.



Elements of Financial Modelling

Capital works programs provide a guide for estimating long term capital costs. It is accepted that the level of confidence in capital works projections decreases with time from the present. However it is important to identify future commitments as accurately as possible.

Data and Assumptions

Base data utilised in the financial models are summarised in the following table.

Input Data

Item	Data Used	
Historical data	Historical financial statements for 2013/14 and 2014/15	
Financial data (30 years)	Inflation 2.5%, Borrowing interest rate 6.5%, Investment interest rate 5.5%	
Term of new loans	20 years	
Assessments/Bills	**Water Supply**	**Wastewater**
Residential assessments (2014/15)	11,958	11,067
Non-residential assessments (2014/15)	1,681	1,118
Growth rate – Residential assessments	0.78 % p.a. (30 year average)	0.85 % p.a. (30 year average)
Growth rate – Non-residential assessments	0.23 % p.a. (30 year average)	0.15 % p.a. (30 year average)
2015/16 TRB per assessment	$734 (based on average residential demand of 155 kL/a)	$808
2015/16 typical residential developer charge	$2,957 per assessment, estimated from actual developer charges and proportion of growth in each DSP area.	$10,496 per assessment, estimated from actual developer charges and proportion of growth in each DSP area.
Future developer charges	$4,124 per ET (weighted average) (yet to be adopted by Council)	$10,448 per ET (weighted average) (yet to be adopted by Council)
Revenue split – total residential revenue	74.2%	79.4%
Revenue split – total non-residential revenue	25.8%	20.6%
30 year capital works program	$111.6 m (Refer Appendix 1)	$161.0 m (Refer Appendix 1)
Capital works grants	None expected	
30 year operation, maintenance and administration (OMA) costs	$302m. 30 year average $10.1m p.a.	$219m. 30 year average $7.3m p.a. This allows for increased costs to operate and maintain new infrastructure servicing growth as well as STP upgrades.
Balance Sheet (2014/15)	**Water Supply**	**Wastewater**
Cash	$4.57 m	$16.75 m
Debt	$6.87 m	$8.41 m
Replacement cost of system assets	$127.8 m	$319.0 m

Model Outputs

The financial modelling provides an indication of the relative cost to LCC and its customers of the water supply and wastewater services. The main output of the financial plan is the typical residential bill (TRB). The TRB is defined as the annual bill paid by a customer who is not a pensioner and not a vacant lot and uses the average water demand.

The purpose of the modelling is to identify the lowest TRB that will enable Council to fund the operation, maintenance and administration expenses and the capital investment of the schemes. The TRB is used as a measure of affordability and sets the price path Council needs to set in order to meet the levels of service. Council will develop a tariff structure that will provide this income.

FINMOD provides detailed financial statements for each scheme. The financial statements for the Base Cases are included in the appendices to this document. Sensitivity analysis cases have been developed to identify the impact of different variables on the TRB (refer below).

The financial outcomes (e.g. TRB, borrowings and cash and investment) are shown in 2015/16 dollars. The figures shown in this plan need to be adjusted annually for inflation.

Base Cases

Base cases were developed for the water supply and wastewater financial models. The base case was developed by finding the combination of funding from internal and external sources (i.e. loans) that gives a stable TRB.

Where possible, the capital works programs and recurrent expenditure are funded through existing cash levels which are determined by the amount of income generated from bills. Where planned expenditure exceeds the available cash levels, loans are required. The level of borrowing can be adjusted with resulting changes in the TRB to suit LCC's requirements. For example, additional borrowing in the short to medium term can reduce the required TRB in later years.

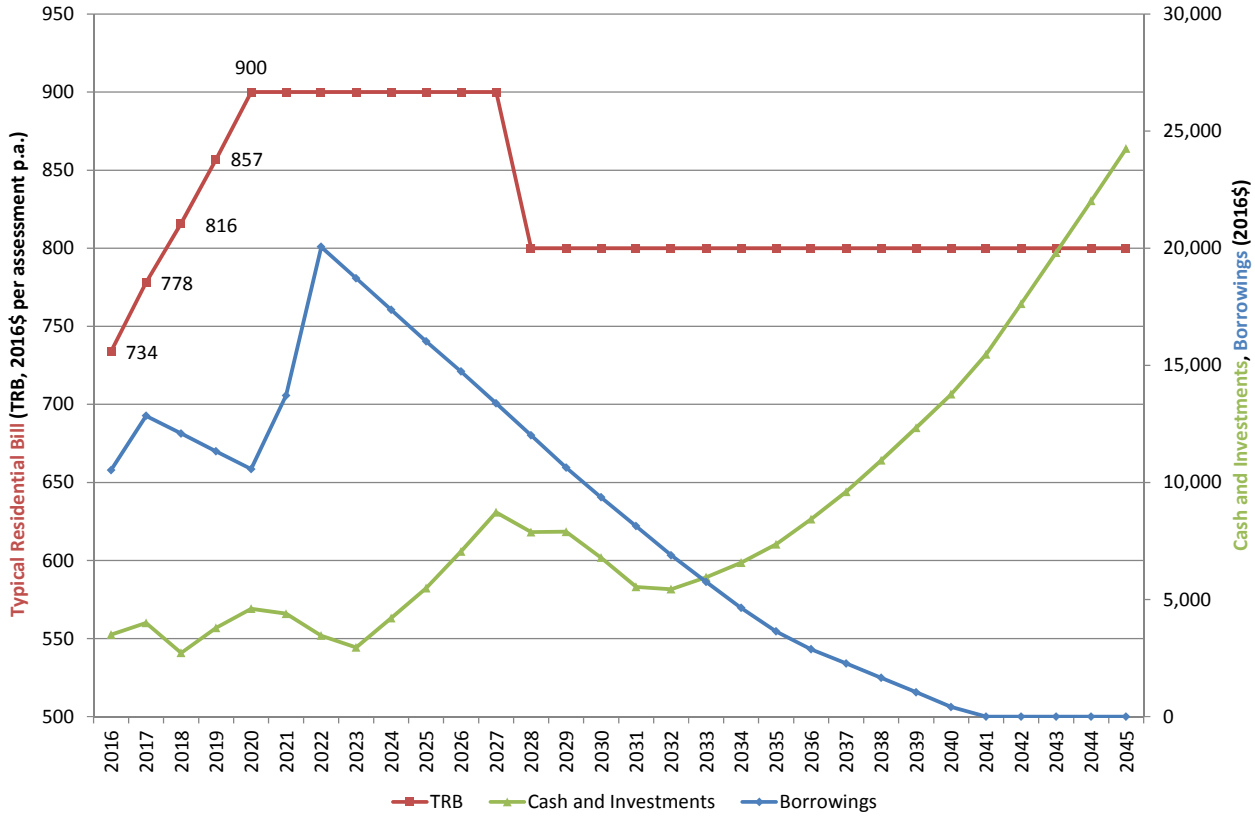
A minimum cash level of $2.5m for wastewater and $2.3m for water has been maintained for the funds (approximately 20% of annual turnover).

It has been assumed that any significant increase in TRB required to fund the works will be phased-in over the next 3-4 years to limit the impact of cost increases.

Water Supply

The modelling indicates that Council needs to increase the water supply TRB from $734 to $900 per assessment over the next four years. This does not take account of the results of the sensitivity analysis. New loans will also be required.

The projected TRB, level of borrowing and cash and investments associated with the base case financial projection for water supply are shown in the following figure.



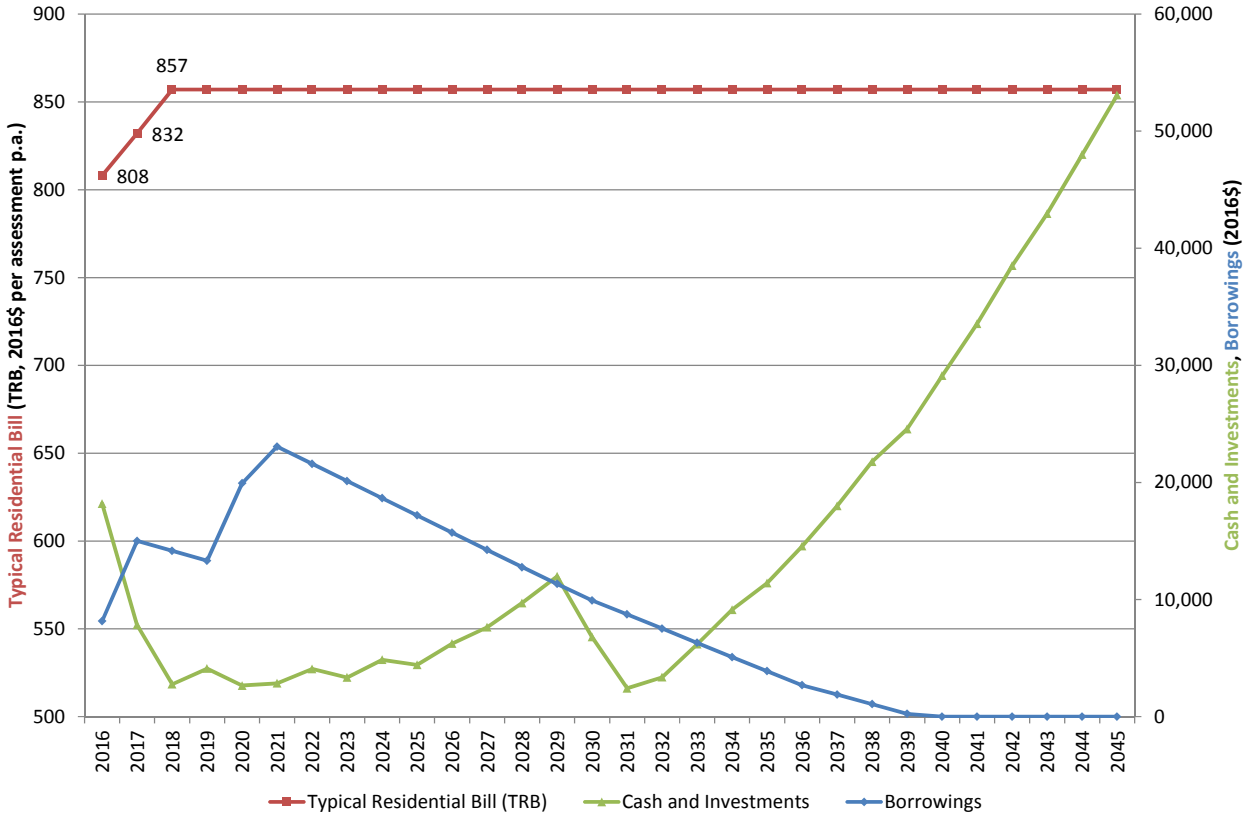
Water Supply TRB, Cash and Investments and Borrowing – Base Case

Note: The long-term cash levels and TRB required are dependent on future unidentified expenses and therefore there is limited confidence in results beyond ten years.

Wastewater

The modelling indicates that Council should increase the wastewater TRB from $808 to approximately $857 per annum over the next two years. This does not take account of the results of the sensitivity analysis as outlined below.

The projected TRB, levels of borrowing and cash and investments associated with the base case financial projection for wastewater are shown in the following figure.



Wastewater TRB, Cash and Investments and Borrowing – Base Case

Note: The long-term cash levels and TRB required are dependent on future unidentified expenses and therefore there is limited confidence in results beyond ten years.

Sensitivity Analysis

LCC will adopt a medium term price path to provide certainty to its customers. Prior to selection of the TRB to be adopted, it is necessary to undertake a sensitivity analysis to determine the impact of various parameters on the TRB. Relevant parameters include:

- Higher interest rates;
- Lower interest rates;
- Increase in capital costs; and
- Lower rate of population growth.

Each of the cases can be described as a variation of the base case. One parameter is varied between the preferred case and the sensitivity cases. The difference between cash and investments and borrowing outstanding (net cash and investments) at the final year of the model is similar for all cases.

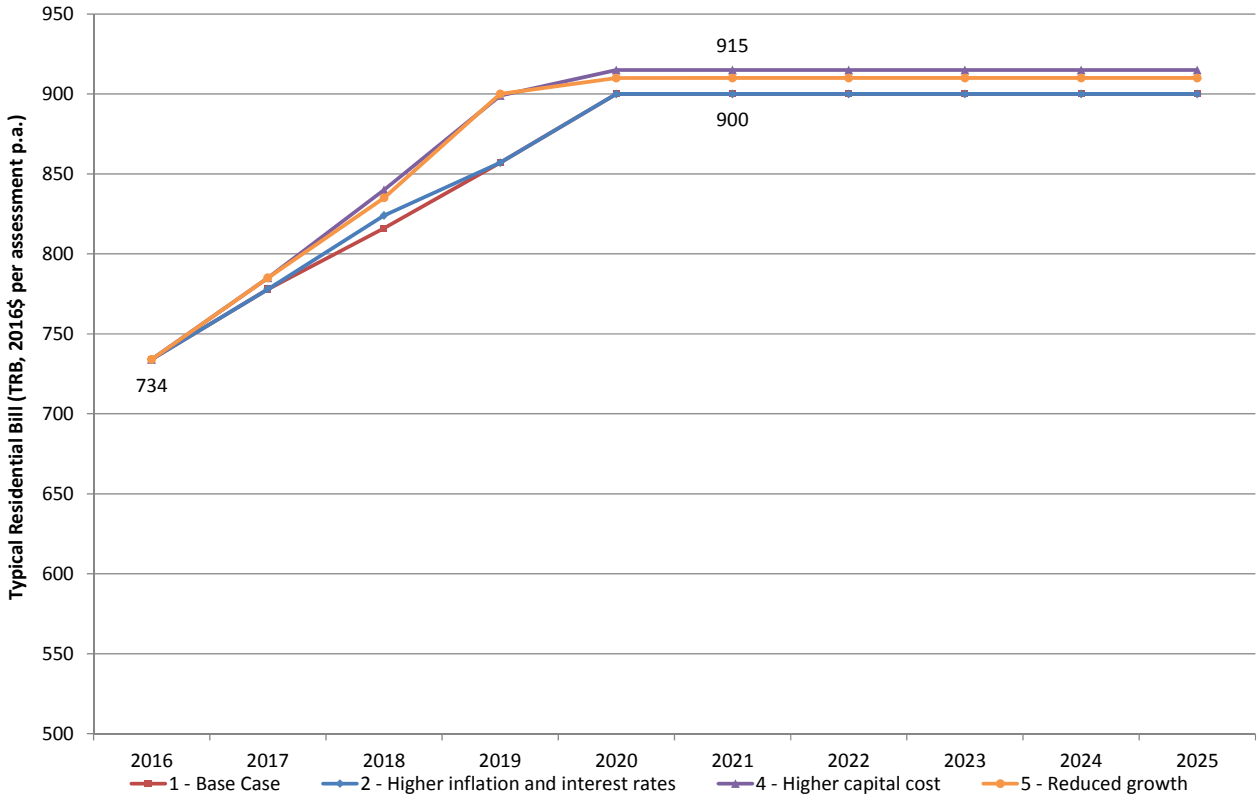
Depending on the results of the sensitivity analysis, the required TRB is selected from the most likely set of financial conditions. Whilst the preferred scenarios are defined as the most likely, there is still a significant level of uncertainty as to the future conditions that will affect the financial status of the water supply businesses and the subsequent bills. Council should set price paths higher than the base case in order to allow for some of this uncertainty, and reduce the need to increase the price path in the following year.

The sensitivity analysis is summarised in the following table.

Sensitivity Analyses

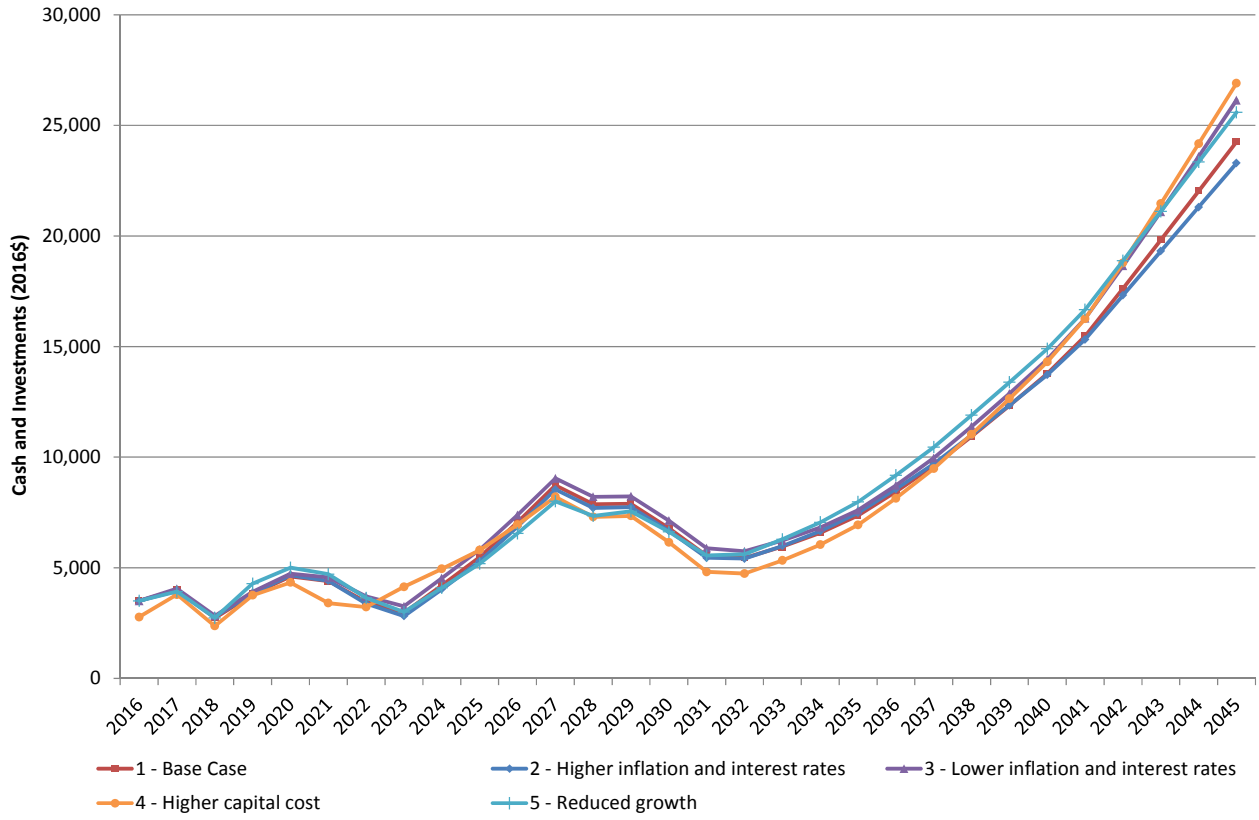
Case	Description	TRB for next 5 years (2016 $ per assessment)	
		Water Supply	**Wastewater**
1. Base Case	Input data as above.	2016/17: $778 2017/18: $816 2018/19: $857 2019/20 onwards: $900	2016/17: $832 2017/18 onwards: $857
2. Higher Inflation and Interest	Inflation = 3.5% p.a., Borrowing = 7.5% p.a., Investment = 6.5% p.a.	2016/17: $778 2017/18: $824 2018/19: $857 2019/20 onwards: $900	2016/17: $832 2017/18: $857 2018/19 onwards: $866
3. Lower Inflation and Interest	Inflation = 1.5% p.a., Borrowing = 5.5% p.a., Investment = 4.5% p.a.	2016/17: $778 2017/18: $816 2018/19: $857 2019/20 onwards: $900	2016/17: $832 2017/18 onwards: $857
4. Higher capital costs	Capital costs are increased by 10% over 30 years	2016/17: $785 2017/18: $840 2018/19: $899 2019/20 onwards: $915	2016/17: $832 2017/18 onwards: $891
5. Lower Growth	Growth is 0.4% p.a.	2016/17: $785 2017/18: $835 2018/19: $900 2019/20 onwards: $910	2016/17: $832 2017/18: $891 2018/19 onwards: $918

The following figures show the resulting TRB, cash and investments and borrowing required for each of the sensitivity cases.



Water Supply TRB - Sensitivity Analysis

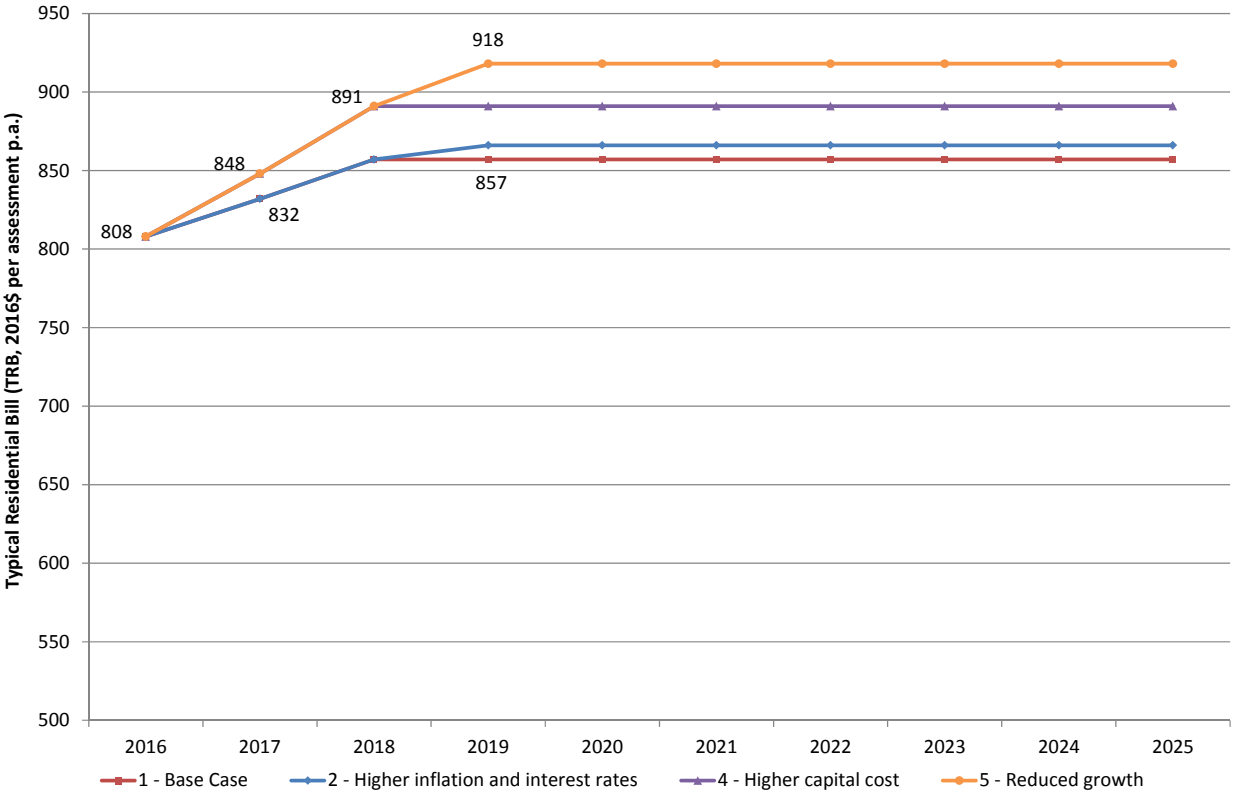
Note: Case 3 TRB is the same as the base case



Water Supply Cash and Investments - Sensitivity Analysis

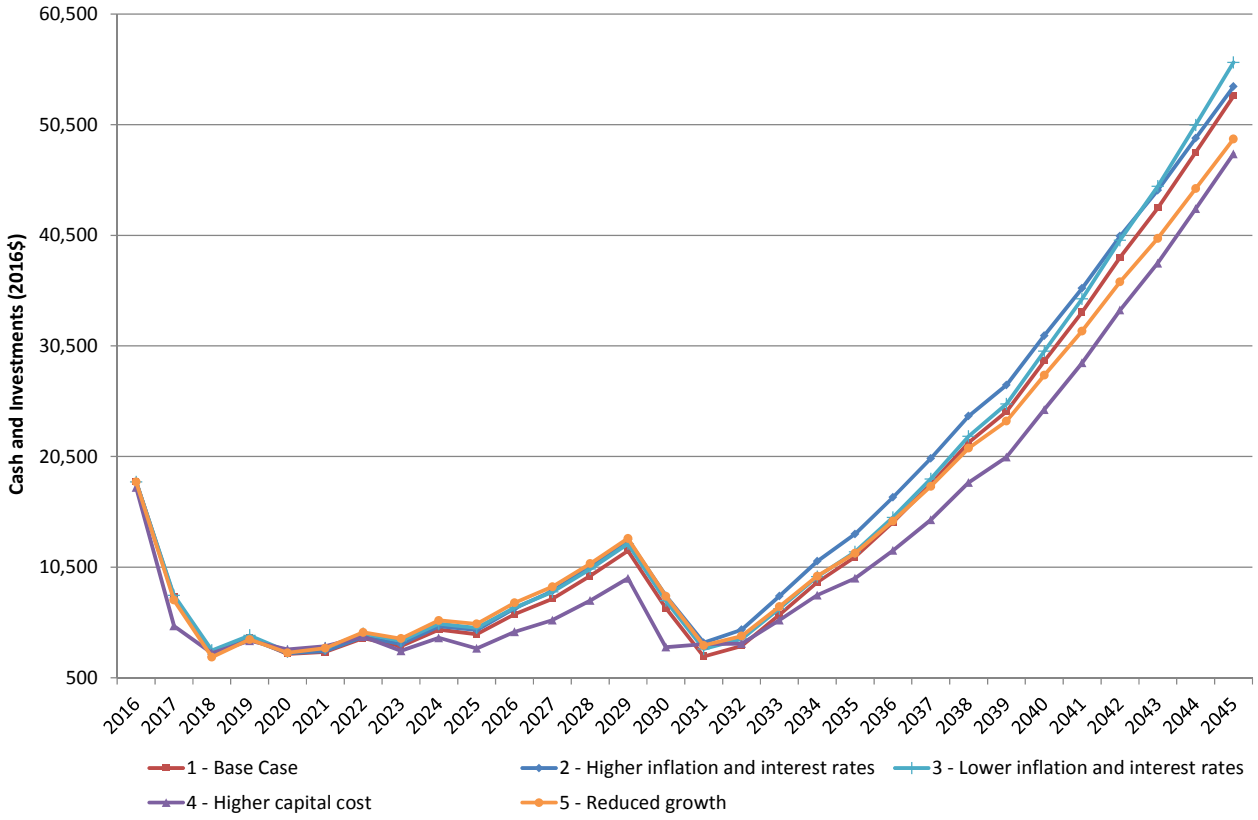
Water Supply Borrowings - Sensitivity Analysis

Note: Case 5 Borrowings is the same as the base case

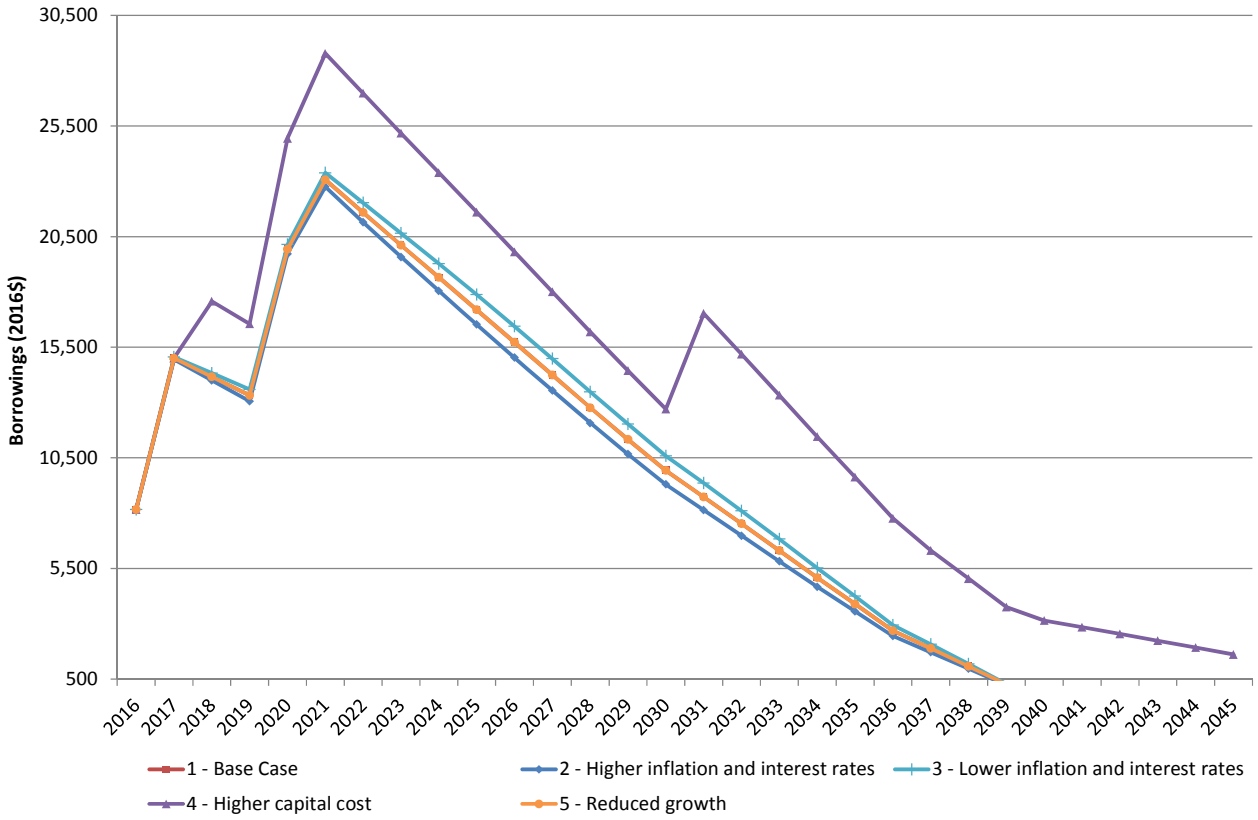


Wastewater TRB - Sensitivity Analysis

Note: Case 3 TRB is the same as the base case



Wastewater Cash and Investments - Sensitivity Analysis



Wastewater Borrowings - Sensitivity Analysis

Proposed Price Paths

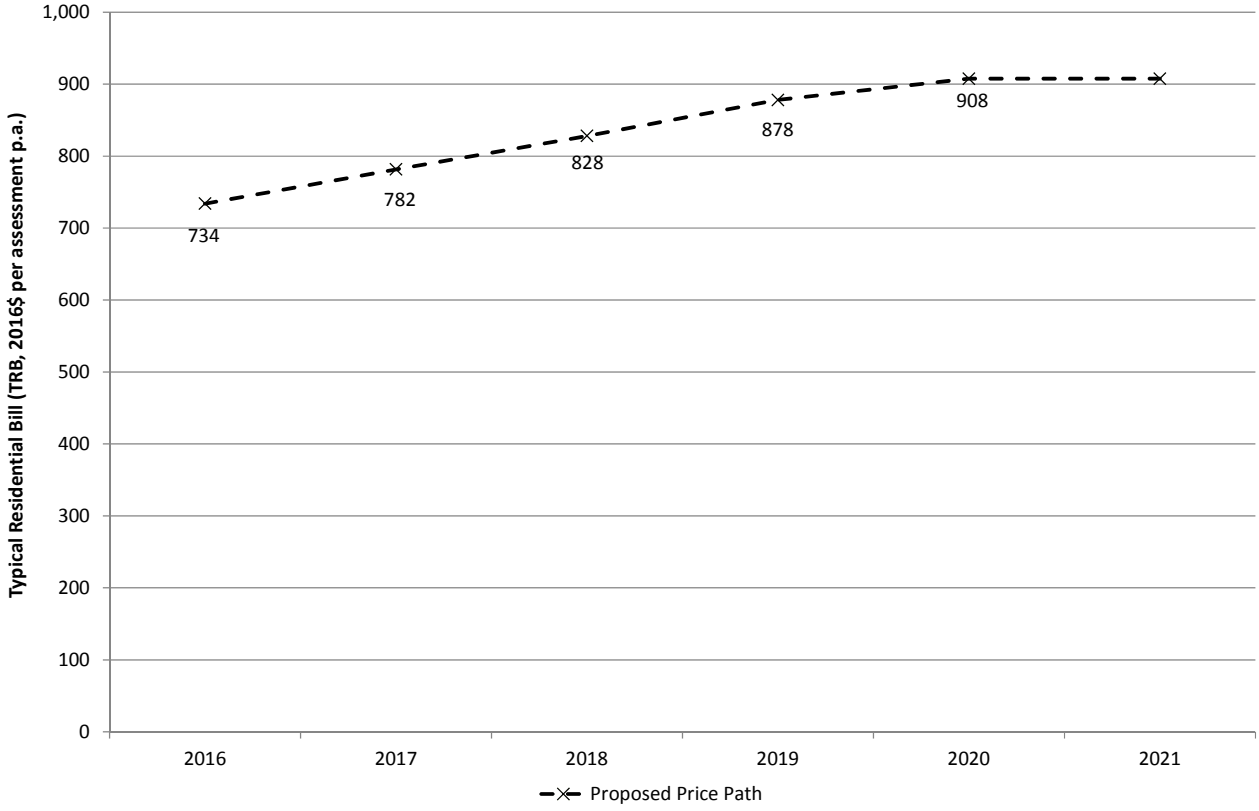
There is a significant level of uncertainty as to the future conditions that will affect the financial status of the water and wastewater businesses and the subsequent bills. Council should set price paths which allow for some of this uncertainty and reduce the need to change the price path every year.

Council may elect to pay dividends from the water supply and/or wastewater businesses to the General Fund. Should LCC wish to make such payments, the price path will need to be increased to create a surplus that will enable dividend payment.

The TRBs should be checked and adjusted annually in accordance with changes to the CPI.

Water Supply

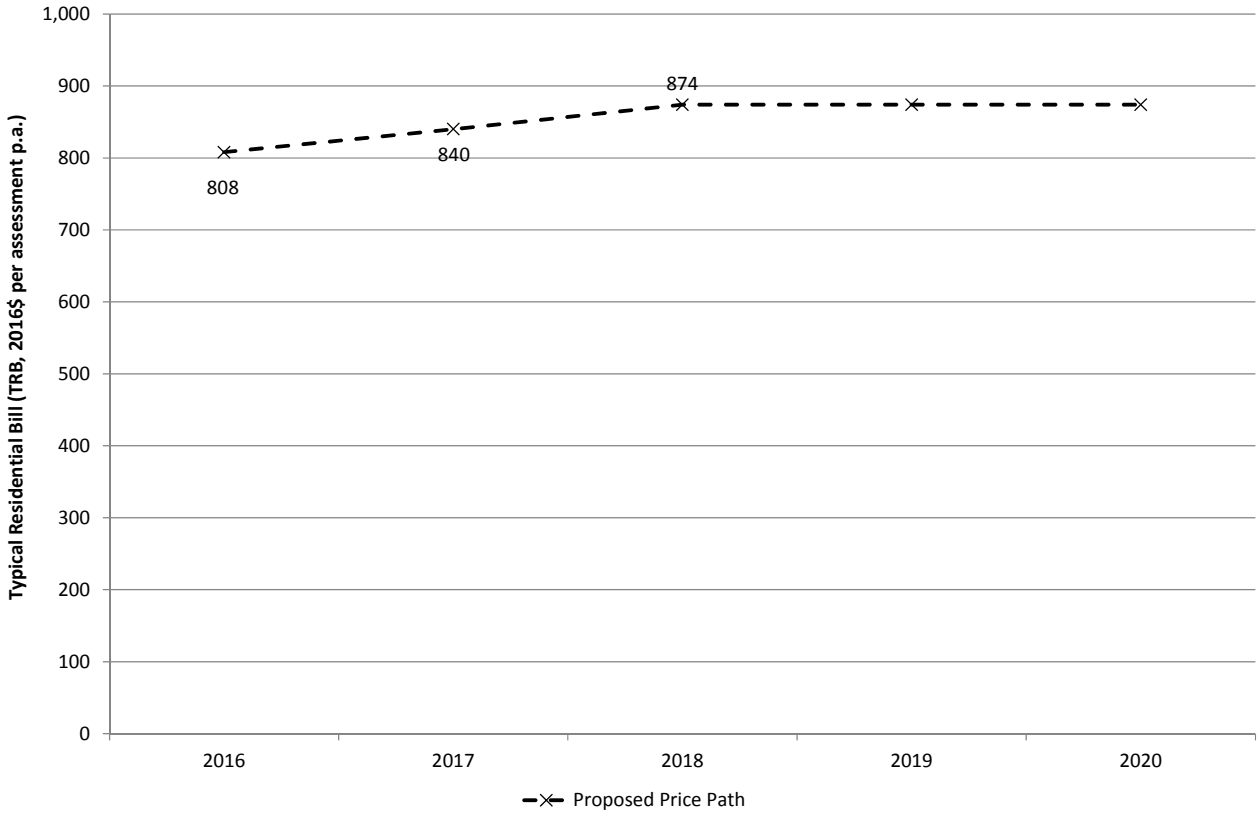
It is recommended that Council increases the water supply TRB to $908 per assessment over the next four years (an increase of 24% over four years or 6% p.a.). The sensitivity analysis was most affected by the higher capital cost (case 4) and reduced growth (case 5) and this price path will allow for some of this risk.



Proposed Water Supply Price Path

Wastewater

The higher costs (case 4) and reduced growth rate (case 5) also had a significant impact on the required wastewater TRB. It is recommended that Council increases the wastewater TRB to $874 per assessment over the next two years (an increase of 8% over two years or 4% p.a.).



Wastewater Proposed Price Path

Future changes due to uncontrollable variables such as interest rates, growth rates, energy costs etc. may be significant. Thus, the financial models must be revisited regularly and the data updated to avoid a potential shortfall.

Appendix 1 – Capital Works Programs

Water Supply Capital Works Program

Renewals	LOS	Growth	Service Area	Project	30 year Total	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42	2042/43	2043/44	2044/45
100%			All	Mains Renewals	75,000	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500
	83%	17%	All	Strategic Planning	853	121	56	131	81	76	56	98	81	101	56																			
100%			All	Reservoir Renewals	5,348			1,445			963		1,646								1,294														
	100%		All	Safety Upgrades	40	20	20																												
100%			All	Water Pump Station Renewals	1,351						819				123							409														
100%			All	Water Capital Works - Meters	4,500	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150
100%			All	Telemetry Renewals	200																					20	20	20	20	20	20	20	20	20	20
		100%	Lismore	Pineapple Road rezoning - mains upgrade	530		530																												
		100%	Lismore	Crawford rezoning - mains upgrade	145					145																									
		100%	Lismore	Trinity Drive rezoning - mains upgrade	795					795																									
		100%	Lismore	Invercauld Road rezoning - mains upgrade	795													795																	
		100%	Lismore	Chilcotts Grass rezoning - mains upgrade	130																						130								
	100%		Lismore	Esmonde Street valve pit and inlet upgrade	150			150																											
		100%	Lismore	New reservoir - extension Holland St zone	1,504																1,504														
	100%		Lismore	Install VSDs at Ross St WPS	100	100																													
	100%		Lismore	Water Capital Works - Zone Metering and Pressure Reduction	300	100	100	100																											
	85%	15%	Nimbin	Nimbin Water upgrade - Stage 1 (Construction of PS, rising main & reservoir)	2,605	2,345	260																												
	85%	15%	Nimbin	Nimbin Water upgrade - Stage 2 (Construction of WTP at DE Williams Dam)	4,315				155	260	3,900																								
	6%	94%	North Lismore Plateau	North Lismore Plateau rezoning -Stage 1. Trunk main upgrade.	2,900	1,450	1,450																												
	6%	94%	North Lismore Plateau	North Lismore Plateau rezoning -Stage 2. Trunk main and new reservoir	10,000	250					250	9,500																							
	6%	94%	North Lismore Plateau	North Lismore Plateau rezoning - Property Acquisitions	100	100																													
					111,661	7,136	5,066	4,476	2,886	3,926	8,638	12,248	4,377	2,751	2,829	2,650	2,650	3,445	2,650	3,944	4,154	3,059	2,650	2,650	2,650	2,670	2,800	2,670	2,670	2,670	2,670	2,670	2,670	2,670	2,670	2,670
				LOS	7,918	2,415	469	359	199	284	3,375	619	67	84	46																				
				Growth	17,344	2,070	1,947	22	37	992	830	8,979	13	17	9			795			1,504						130								
				Renewals	86,399	2,650	2,650	4,095	2,650	2,650	4,432	2,650	4,296	2,650	2,773	2,650	2,650	2,650	2,650	3,944	2,650	3,059	2,650	2,650	2,650	2,670	2,670	2,670	2,670	2,670	2,670	2,670	2,670	2,670	2,670	2,670
				Total	111,661	7,136	5,066	4,476	2,886	3,926	8,638	12,248	4,377	2,751	2,829	2,650	2,650	3,445	2,650	3,944	4,154	3,059	2,650	2,650	2,650	2,670	2,800	2,670	2,670	2,670	2,670	2,670	2,670	2,670	2,670	2,670

Wastewater Capital Works Program

Renewals	LOS	Growth	Service Area	Project	30 year Total	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42	2042/43	2043/44	2044/45
100%			All	Mains & manhole renewals	49,200	1,640	1,640	1,640	1,640	1,640	1,640	1,640	1,640	1,640	1,640	1,640	1,640	1,640	1,640	1,640	1,640	1,640	1,640	1,640	1,640	1,640	1,640	1,640	1,640	1,640	1,640	1,640	1,640	1,640	1,640	1,640
100%			All	Rising main renewals	3,710				530				530					530				530				530				530			530		
100%			All	Pump station renewals - unallocated	31,840			530	530	1,140	1,140	1,140	1,140	1,140	1,140	1,140	1,140	1,140	1,140	1,140	1,140	1,140	1,140	1,140	1,140	1,140	1,140	1,140	1,140	1,140	1,140	1,140	1,140	1,140	1,140	1,140
100%			All	Telemetry Renewals	1,010																					50	50	50	560	50	50	50	50	50	50
	100%		All	SPS upgrades	2,250	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75
	100%		All	Treatment Plant upgrades	4,350		150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150
	82%	18%	All	Strategic Planning	1,033	176	131	111	111	81	81	103	81	81	81																				
		100%	East Lismore	Crawford rezoning rising main	350					350																									
100%			East Lismore	East STP Electrical Renewal	4,814					1,060	1,120				332						1,060	1,240				2										
100%			East Lismore	East STP Mechanical Renewal	13,381					3,924	4,240				1,543						2,120	1,328				226										
100%			East Lismore	East STP Civil/Structural Renewal	8,132						32				65						4,240	3,760				35										
		100%	East Lismore	East STP - Duplication of GDD	360	180																					180								
		100%	East Lismore	East STP - step screen	140	70																					70								
	10%	90%	East Lismore	Southern Trunk Main - Post Construction Compensatory koala tree plantings	300	150	30	30	30	30	30																								
	10%	90%	East Lismore	Southern Trunk Main - Post Construction Regeneration Tucki Tucki Creek	5	5																													
	10%	90%	East Lismore	Southern Trunk Main - Post Construction Easement Acquisitions	50	50																													
		100%	East Lismore	Northern Front sewerage strategy - Stage 1 (serving Trinity, Pineapple and Lagoons Grass)	6,600	100	1,000	250	250	5,000																									
		100%	East Lismore	Northern Front sewerage strategy - Stage 2 (serving Trinity, Pineapple and Lagoons Grass)	420																										420				
100%			Nimbin	Nimbin STP Mechanical Renewal	715								700		15																				
100%			Nimbin	Nimbin STP Electrical Renewal	892								830		62																				
100%			Nimbin	Nimbin STP Civil/Structural Renewal	1,735	20																1,715													
		100%	North Lismore Plateau	South Lismore STP - Upgrade (growth component serving NLP)	5,612	65	3,870	1,677																											
		100%	North Lismore Plateau	North Lismore Plateau rezoning - Sewerage upgrade (growth component serving NLP)	2,434	1,217	1,217																												
100%			South Lismore/NLP	South Lismore STP - Upgrade (renewal component serving NLP)	18,923	218	13,050	5,655																											
80%		20%	South Lismore	Renewal / replacement of SPS 10	530	530																													
100%			South Lismore	North Lismore Plateau rezoning - Sewerage upgrade (renewal component serving SL)	655	328	328																												
		100%	South Lismore	South Lismore STP - Upgrade (growth component serving SL)	1,566	18	1,080	468																											
		100%	South Lismore	North Lismore Plateau rezoning - Sewerage upgrade (growth component)	31	16	16																												
					161,037	4,856	23,116	10,586	3,926	13,450	8,508	3,108	5,146	3,086	5,103	3,005	3,535	3,005	3,005	10,425	9,863	4,720	3,005	3,005	3,798	3,055	3,305	3,055	4,095	3,055	3,475	3,055	3,585	3,055	3,055
				ILOS	7,482	239	335	319	319	294	294	309	291	291	291	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225
				New System Assets	18,123	1,987	7,233	2,442	297	5,391	41	19	14	14	14						1,504						250				420				
				Renewals	135,431	2,629	15,548	7,825	3,310	7,764	8,172	2,780	4,840	2,780	4,797	2,780	3,310	2,780	2,780	10,200	9,638	4,495	2,780	2,780	3,573	2,830	2,830	2,830	3,870	2,830	2,830	2,830	3,360	2,830	2,830
				Totals	161,037	4,856	23,116	10,586	3,926	13,450	8,508	3,108	5,146	3,086	5,103	3,005	3,535	3,005	3,005	10,425	9,863	4,720	3,005	3,005	3,798	3,055	3,305	3,055	4,095	3,055	3,475	3,055	3,585	3,055	3,055

Appendix 2 – FINMOD Outputs (Water Supply Base Case with Developer Charge = $4,124 per ET (option 3))

Lismore_Water_Supply_Financial_Plan 2015 : DSP cross-subsidy option 3

FINMOD

Summary Report of Assumptions and Results

	2015/16	2019/20	2024/25	2029/30	2034/35	2039/40	2044/45
Inflation Rates - General (%)	2.50	2.50	2.50	2.50	2.50	2.50	2.50
Inflation Rates - Capital Works (%)	2.50	2.50	2.50	2.50	2.50	2.50	2.50
Borrowing Interest Rate (%)	6.50	6.50	6.50	6.50	6.50	6.50	6.50
Term of New Loans (years)	20	20	20	20	20	20	20
Investment Interest Rate (%)	5.50	5.50	5.50	5.50	5.50	5.50	5.50
Growth Rate - Residential (%)	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Developer Charges per Assessment - Residential (2015/16 $)	2957	4124	4124	4124	4124	4124	4124
Subsidised Scheme Capital Works ($m)	2.42	0.28	0.05	0.00	0.00	0.00	0.00
Grants on Acquisition of Assets ($m)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Renewals ($m)	2.65	2.65	2.77	3.94	2.65	2.67	2.67
Renewals (%)	1.96	1.90	1.80	2.55	1.70	1.71	1.71
Borrowing Outstanding ($m)	10.53	10.57	16.03	9.36	3.64	0.41	0.00
Mgmnt Cost / Assessment	120	120	120	120	120	119	120
Debt Equity Ratio	0.13	0.11	0.12	0.06	0.02	0.00	0.00
OMA Cost Per Assessment	290	291	291	291	291	291	291
Economic Real Rate of Return (%)	1.33	4.33	3.60	2.09	2.10	2.16	2.23
Return on Capital (%)	1.46	4.16	3.50	2.12	2.10	2.17	2.23
Net Debt ($m)	7.02	5.96	10.53	2.50	0.00	0.00	0.00
Debt Service Ratio	0.08	0.08	0.13	0.11	0.08	0.04	0.00
Average Residential Bills	713	879	881	783	784	786	787
Typical Residential Bills (2015/16$)	734	900	900	800	800	800	800

Lismore_Water_Supply_Financial_Plan 2015 : DSP cross-subsidy option 3

FINMOD

STANDARD LOAN PAYMENT SCHEDULE

Drawdown			2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40
2015/16	Principal	4000	102	108	116	124	132	140	150	159	170	181	193	206	219	234	250	266	283	302	322	343	0	0	0	0	0
	Interest		258	252	244	236	228	220	211	201	191	179	167	155	141	126	110	94	77	58	38	17	0	0	0	0	0
2016/17	Principal	3076		79	83	89	95	101	108	115	122	130	140	148	158	169	180	191	205	218	232	248	264	0	0	0	0
	Interest			199	193	188	182	176	169	162	154	146	138	128	119	108	97	85	73	59	44	30	13	0	0	0	0
2020/21	Principal	4526						116	122	131	140	149	159	169	181	193	205	218	233	248	264	282	301	321	342	364	388
	Interest							292	284	276	268	259	249	239	227	215	203	189	174	160	143	125	107	87	66	43	19
2021/22	Principal	8698							222	236	252	268	286	305	325	347	370	394	420	447	477	508	542	578	616	657	701
	Interest								562	547	532	515	497	479	459	437	414	390	363	335	306	274	241	205	167	126	83
Total Principal		20300	102	187	199	213	227	357	602	641	684	728	778	828	883	943	1005	1069	1141	1215	1295	1381	1107	899	958	1021	1089
Total Interest			258	451	437	424	410	688	1226	1186	1145	1099	1051	1001	946	886	824	758	687	612	531	446	361	292	233	169	102

Lismore_Water_Supply_Financial_Plan 2015 : DSP cross-subsidy option 3

FINMOD

Historical Operating Statement

	2013/14*	2014/15*
EXPENSES		
Management Expenses	*1814*	*1593*
Administration	1451	1101
Engineering and Supervision	363	492
Operation and Maintenance Expenses	*6995*	*7172*
Operation Expenses	1762	1378
Maintenance Expenses	266	806
Energy Costs	100	86
Chemical Costs	0	0
Purchase of Water	4867	4902
Depreciation	*1850*	*1835*
System Assets	1736	1700
Plant & Equipment	114	135
Interest Expenses	449	469
Other Expenses		
TOTAL EXPENSES	**11108**	**11069**
REVENUES		
Rates & Service Availability Charges	*3055*	*3373*
Residential	2383	2551
Non-Residential	672	822
User Charges	*7498*	*8122*
Sales of Water : Residential	5474	5929
Sales of Water : Non-Residential	2024	2193
Extra Charges	0	0
Interest Income	238	217
Other Revenues	96	89
Grants	*493*	*88*
Grants for Acquisition of Assets	357	0
Pensioner Rebate Subsidy	132	86
Other Grants	4	2
Contributions	*29*	*129*
Developer Charges	29	76
Developer Provided Assets	0	53
Other Contributions	0	0
TOTAL REVENUES	**11409**	**12018**
OPERATING RESULT	**301**	**949**
OPERATING RESULT (less Grants for Acq of Assets)	**-56**	**949**

Lismore_Water_Supply_Financial_Plan 2015 : DSP cross-subsidy option 3

FINMOD

Historical Statement of Financial Position

	2013/14*	2014/15*
Cash and Investments	3356	4571
Receivables	3227	3449
Inventories	299	278
Property, Plant & Equipment	*75945*	*75900*
System Assets (1)	75388	75248
Plant & Equipment	557	652
Other Assets		
TOTAL ASSETS	**82827**	**84198**
LIABILITIES		
Bank Overdraft	0	0
Creditors	119	134
Borrowings	7078	6863
Provisions	332	308
TOTAL LIABILITIES	**7529**	**7305**
NET ASSETS COMMITTED	**75298**	**76893**
EQUITY		
Accumulated Operating Result	21654	22194
Asset Revaluation Reserve	53644	54699
TOTAL EQUITY	**75298**	**76893**
(1) Notes to System Assets		
Current Replacement Cost	125909	127764
Less: Accumulated Depreciation	50521	52516
Written Down Current Cost	75388	75248

Lismore_Water_Supply_Financial_Plan 2015 : DSP cross-subsidy option 3

FINMOD

Base Forecast Data

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40
Financial Data																									
Inflation Rate - General (%)	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
Inflation Rate - Capital Works (%)	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
Borrowing Interest Rate for New Loans (%)	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50
Investment Interest Rate (%)	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
Number of Assessments																									
Growth Rate (%)																									
Residential Assessments	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Non-Residential Assessments	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23
Total Assessments	0.71	0.71	0.72	0.71	0.71	0.71	0.72	0.71	0.71	0.72	0.72	0.72	0.71	0.72	0.72	0.72	0.72	0.71	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Number of New Assessments																									
Residential	93	94	95	95	96	97	98	98	99	100	101	102	102	103	104	105	106	106	107	108	109	110	111	112	112
Non-Residential	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Total New Assessments	97	98	99	99	100	101	102	102	103	104	105	106	106	107	108	109	110	110	111	112	113	114	115	116	116
Projected Number of Assessments																									
Residential	12051	12145	12240	12335	12431	12528	12626	12724	12823	12923	13024	13126	13228	13331	13435	13540	13646	13752	13859	13967	14076	14186	14297	14409	14521
Non-Residential	1685	1689	1693	1697	1701	1705	1709	1713	1717	1721	1725	1729	1733	1737	1741	1745	1749	1753	1757	1761	1765	1769	1773	1777	1781
Total Projected Assessments	13736	13834	13933	14032	14132	14233	14335	14437	14540	14644	14749	14855	14961	15068	15176	15285	15395	15505	15616	15728	15841	15955	16070	16186	16302
Backlog Assessments																									
Residential	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Non-Residential	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Backlog Assessments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Developer Charges / Vacant Assessments (Values in 2015/16 $)																									
Developer Charges $/Assessment																									
Residential	2957	4124	4124	4124	4124	4124	4124	4124	4124	4124	4124	4124	4124	4124	4124	4124	4124	4124	4124	4124	4124	4124	4124	4124	4124
Non-Residential	7947	11083	11083	11083	11083	11083	11083	11083	11083	11083	11083	11083	11083	11083	11083	11083	11083	11083	11083	11083	11083	11083	11083	11083	11083
Number of Vacant Residential Assessments	184	184	184	184	184	184	184	184	184	184	184	184	184	184	184	184	184	184	184	184	184	184	184	184	184
Average Charge of Vacant Assessments	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
% of Occupied Assessments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Depreciation of Existing Plant and Equipment (Values in 2015/16 $'000)																									
Current Replacement Cost of System Assets	130958																								
Override																									
Written Down Current Cost of System Assets	77129																								
Override																									
Annual Depreciation of Existing System Assets	1743																								
Override																									
Written Down Value of Plant and Equipment	652																								
Override																									
Annual Depreciation of Existing Plant and Equipment	109	109	109	109	109	107	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Lismore_Water_Supply_Financial_Plan 2015 : DSP cross-subsidy option 3

FINMOD

Base Forecast Data

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40
Existing Loan Payments (Values in Inflated $'000)																									
Existing Loan Payments : Principal (Total:6863)	234	250	267	285	305	326	348	372	397	424	370	485	518	553	420	384	409	259	216	41	0	0	0	0	0
Existing Loan Payments : Interest (Total:4616)	447	431	414	396	377	356	333	310	284	257	311	197	164	128	65	61	70	13	2	0	0	0	0	0	0
Capital Works Program (Values in 2015/16 $'000)																									
Subsidised Scheme (Total:7917)	2415	469	359	199	284	3375	619	67	84	46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other New System Assets (Total:17345)	2070	1947	22	37	992	830	8979	13	17	9	0	0	795	0	0	1504	0	0	0	0	0	130	0	0	0
Renewals (Total:86399)	2650	2650	4095	2650	2650	4432	2650	4296	2650	2773	2650	2650	2650	2650	3944	2650	3059	2650	2650	2650	2670	2670	2670	2670	2670
Total Capital Works (Total:111661)	7135	5066	4476	2886	3926	8637	12248	4376	2751	2828	2650	2650	3445	2650	3944	4154	3059	2650	2650	2650	2670	2800	2670	2670	2670
Grant For Acquisition of Assets (% of Subsidised Scheme)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grant For Acquisition of Assets ($) (Total:0)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Developer Provided Assets (Total:0)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Plant and Equipment Expenditure / Asset Disposal (Values in 2015/16 $'000)																									
Plant and Equipment Expenditure	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26
Proceeds from Disposal of Plant and Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Written Down Value of Plant and Equipment Disposed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gain/Loss on Disposal of Plant and Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Proceeds from Disposal of Assets	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Written Down Value of Assets Disposed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gain/Loss on Disposal of System Assets	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Lismore_Water_Supply_Financial_Plan 2015 : DSP cross-subsidy option 3

FINMOD

Revised/Additional Forecast Data

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40
OMA / Revenue Overrides (Values in 2015/16 $'000)																									
Administration	1137	1145	1153	1161	1169	1177	1185	1193	1201	1210	1219	1228	1237	1246	1255	1264	1273	1282	1291	1300	1309	1318	1327	1337	1347
Override																									
Engineering and Supervision	508	512	516	520	524	528	532	536	540	544	548	552	556	560	564	568	572	576	580	584	588	592	596	600	604
Override																									
Operating Expenses	1422	1432	1442	1452	1462	1472	1483	1494	1505	1516	1527	1538	1549	1560	1571	1582	1593	1604	1616	1628	1640	1652	1664	1676	1688
Override																									
Maintenance Expenses	832	838	844	850	856	862	868	874	880	886	892	898	904	911	918	925	932	939	946	953	960	967	974	981	988
Override																									
Energy Costs	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113
Override																									
Chemical Costs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Override																									
Purchase of Water	5060	5096	5133	5169	5206	5243	5281	5318	5356	5395	5434	5473	5512	5552	5592	5632	5673	5713	5754	5795	5837	5879	5921	5964	6007
Override																									
Other Expenses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Override																									
Other Revenue	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116
Override																									
Other Grants	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Override	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Contributions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Override																									
Developer Charges Overrides (Values in 2015/16 $'000)																									
Calculated from Scheme Data	307	432	436	436	440	444	448	448	453	457	461	465	465	469	473	477	481	481	486	490	494	498	502	506	506
Override																									
Pensioner Rebate (Values in Inflated $)																									
Pensioner Rebate per Pensioner ($)	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50
Override																									
Pensioner Rebate Subsidy (%)	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00
Override																									
Number of Pensioner Assessments	1800	1814	1829	1843	1857	1872	1886	1901	1916	1931	1946	1961	1976	1992	2007	2023	2039	2055	2071	2087	2103	2119	2136	2153	2169
Override																									
Percentage of Pensioners (%)	14.94	14.94	14.94	14.94	14.94	14.94	14.94	14.94	14.94	14.94	14.94	14.94	14.94	14.94	14.94	14.94	14.94	14.94	14.94	14.94	14.94	14.94	14.94	14.94	14.94
Override																									
Pensioner Rebate	158	159	160	161	162	164	165	166	168	169	170	172	173	174	176	177	178	180	181	183	184	185	187	188	190
Pensioner Rebate Subsidy	87	87	88	89	89	90	91	91	92	93	94	95	95	96	97	97	98	99	100	101	101	102	103	103	105
Revenue Split (%)																									
Residential Rates	22.41	22.44	22.47	22.50	22.54	22.57	22.60	22.63	22.66	22.69	22.72	22.75	22.78	22.81	22.84	22.88	22.91	22.94	22.97	23.00	23.03	23.06	23.09	23.12	23.15
Override																									
Non-Residential Rates	6.75	6.72	6.69	6.67	6.64	6.61	6.59	6.56	6.53	6.51	6.48	6.45	6.43	6.40	6.37	6.35	6.32	6.29	6.27	6.24	6.22	6.19	6.16	6.14	6.11
Override																									
Sales of Water: Residential	51.79	51.87	51.95	52.01	52.08	52.16	52.22	52.30	52.37	52.44	52.51	52.59	52.65	52.73	52.80	52.86	52.93	53.01	53.07	53.14	53.21	53.28	53.35	53.42	53.49
Override																									
Sales of Water: Non-Residential	19.05	18.97	18.89	18.82	18.74	18.66	18.59	18.51	18.44	18.36	18.29	18.21	18.14	18.06	17.99	17.91	17.84	17.76	17.69	17.62	17.54	17.47	17.40	17.32	17.25
Override																									
Extra Charges	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Override																									
Total Non-Residential Revenue (%)	25.80	25.69	25.58	25.49	25.38	25.27	25.18	25.07	24.97	24.87	24.77	24.66	24.57	24.46	24.36	24.26	24.16	24.05	23.96	23.86	23.76	23.66	23.56	23.46	23.36
Total Residential Revenue (%)	74.20	74.31	74.42	74.51	74.62	74.73	74.82	74.93	75.03	75.13	75.23	75.34	75.43	75.54	75.64	75.74	75.84	75.95	76.04	76.14	76.24	76.34	76.44	76.54	76.64
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Lismore_Water_Supply_Financial_Plan 2015 : DSP cross-subsidy option 3

FINMOD

Revised/Additional Forecast Data

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40
New Loan Payment Overrides (Values in Inflated $'000)																									
Standard Loan Payments: Principal	102	187	199	213	227	357	602	641	684	728	778	828	883	943	1005	1069	1141	1215	1295	1381	1107	899	958	1021	1089
Standard Loan Payments: Interest	258	451	437	424	410	688	1226	1186	1145	1099	1051	1001	946	886	824	758	687	612	531	446	361	292	233	169	102
Structured Loan Payments: Principal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Structured Loan Payments: Interest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Capitalised Interest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total New Loan Payments: Principal Override	102	187	199	213	227	357	602	641	684	728	778	828	883	943	1005	1069	1141	1215	1295	1381	1107	899	958	1021	1089
Total New Loan Payments: Interest Override	258	451	437	424	410	688	1226	1186	1145	1099	1051	1001	946	886	824	758	687	612	531	446	361	292	233	169	102
Capitalised Interest Override	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix 3 – FINMOD Outputs (Wastewater Base Case with Developer Charge = $10,449 per ET)

Lismore Wastewater Financial Plan 2015 : cross-subsidy DC = $10,448 per ET

FINMOD

Summary Report of Assumptions and Results

	2015/16	2019/20	2024/25	2029/30	2034/35	2039/40	2044/45
Inflation Rates - General (%)	2.50	2.50	2.50	2.50	2.50	2.50	2.50
Inflation Rates - Capital Works (%)	2.50	2.50	2.50	2.50	2.50	2.50	2.50
Borrowing Interest Rate (%)	6.50	6.50	6.50	6.50	6.50	6.50	6.50
Term of New Loans (years)	20	20	20	20	20	20	20
Investment Interest Rate (%)	5.50	5.50	5.50	5.50	5.50	5.50	5.50
Growth Rate - Residential (%)	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Developer Charges per Assessment - Residential (2015/16 $)	10496	10448	10448	10448	10448	10448	10448
Subsidised Scheme Capital Works ($m)	0.24	0.29	0.29	0.23	0.23	0.23	0.23
Grants on Acquisition of Assets ($m)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Renewals ($m)	2.63	7.76	4.80	10.20	3.57	2.83	2.83
Renewals (%)	0.80	2.24	1.38	2.93	1.02	0.81	0.80
Borrowing Outstanding ($m)	8.16	19.93	17.19	9.93	3.89	0.00	0.00
Mgmnt Cost / Assessment	140	140	140	140	141	140	140
Debt Equity Ratio	0.04	0.09	0.06	0.03	0.01	0.00	0.00
OMA Cost Per Assessment	489	536	535	534	532	530	529
Economic Real Rate of Return (%)	0.91	0.80	0.90	1.01	1.12	1.28	1.46
Return on Capital (%)	1.26	0.85	0.96	1.11	1.21	1.47	1.69
Net Debt ($m)	0.00	17.27	12.76	3.13	0.00	0.00	0.00
Debt Service Ratio	0.06	0.37	0.15	0.12	0.09	0.02	0.00
Average Residential Bills	788	839	841	843	844	846	847
Typical Residential Bills	808	857	857	857	857	857	857

Lismore Wastewater Financial Plan 2015 : cross-subsidy DC = $10,448 per ET

FINMOD

STANDARD LOAN PAYMENT SCHEDULE

Drawdown		2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40
2016/17 Principal	7687		195	209	222	237	252	270	287	307	327	348	372	396	421	449	479	511	545	581	619	660	0	0	0	0
Interest			497	483	470	455	440	423	405	386	365	344	322	296	271	243	213	182	147	111	74	32	0	0	0	0
2018/19 Principal	1				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2019/20 Principal	11591					295	315	335	358	382	406	433	462	492	525	559	596	636	678	723	770	821	876	933	995	0
Interest						749	729	709	686	662	637	611	582	552	519	485	447	408	366	321	274	223	168	111	48	0
2020/21 Principal	5091						130	138	147	157	167	179	191	203	216	230	246	262	279	297	317	338	360	384	410	437
Interest							328	320	311	301	291	280	269	255	242	228	212	196	179	161	141	120	98	74	49	21
Total Principal	24370	0	195	209	222	532	697	743	792	846	900	960	1025	1091	1162	1238	1321	1409	1502	1601	1706	1819	1236	1317	1405	437
Total Interest		0	497	483	470	1204	1497	1452	1402	1349	1293	1235	1173	1103	1032	956	872	786	692	593	489	375	266	185	97	21

Lismore Wastewater Financial Plan 2015 : cross-subsidy DC = $10,448 per ET

FINMOD

Historical Operating Statement

	2013/14*	2014/15*
EXPENSES		
Management Expenses	*1552*	*1669*
Administration	1086	1140
Engineering and Supervision	466	529
Operation and Maintenance Expenses	*4389*	*4143*
Operation Expenses	1308	1247
Maintenance Expenses	2241	2012
Energy Costs	488	466
Chemical Costs	352	418
Depreciation	*4427*	*4488*
System Assets	4200	4364
Plant & Equipment	227	124
Interest Expenses	592	622
Other Expenses	0	0
TOTAL EXPENSES	**10960**	**10922**
REVENUES		
Rates & Service Availability Charges	*10213*	*10768*
Residential	8236	8675
Non-Residential	1977	2093
Trade Waste Charges	145	198
Other Sales and Charges	0	0
Extra Charges	0	0
Interest Income	825	713
Other Revenues	59	53
Grants	*132*	*128*
Grants for Acquisition of Assets	0	0
Pensioner Rebate Subsidy	123	124
Other Grants	9	4
Contributions	*219*	*172*
Developer Charges	190	133
Developer Provided Assets	29	39
Other Contributions	0	0
TOTAL REVENUES	**11593**	**12032**
OPERATING RESULT	**633**	**1110**
OPERATING RESULT (less Grants for Acq of Assets)	**633**	**1110**

Lismore Wastewater Financial Plan 2015 : cross-subsidy DC = $10,448 per ET

FINMOD

Historical Statement of Financial Position

	2013/14*	2014/15*
Cash and Investments	3356	16754
Receivables	3227	1530
Inventories	299	298
Property, Plant & Equipment	*75945*	*190131*
System Assets (1)	75388	190131
Plant & Equipment	557	0
Other Assets	0	0
TOTAL ASSETS	**82827**	**208713**
LIABILITIES		
Bank Overdraft	0	0
Creditors	119	163
Borrowings	7078	8409
Provisions	332	273
TOTAL LIABILITIES	**7529**	**8845**
NET ASSETS COMMITTED	**75298**	**199868**
EQUITY		
Accumulated Operating Result	21654	62630
Asset Revaluation Reserve	53644	137238
TOTAL EQUITY	**75298**	**199868**
(1) Notes to System Assets		
Current Replacement Cost	125909	319038
Less: Accumulated Depreciation	50521	128907
Written Down Current Cost	75388	190131

Lismore Wastewater Financial Plan 2015 : cross-subsidy DC = $10,448 per ET

FINMOD

Base Forecast Data

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40
Financial Data																									
Inflation Rate - General (%)	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
Inflation Rate - Capital Works (%)	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
Borrowing Interest Rate for New Loans (%)	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50
Investment Interest Rate (%)	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
Number of Assessments																									
Growth Rate (%)																									
Residential Assessments	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Non-Residential Assessments	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Total Assessments	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.80	0.79	0.79	0.79	0.79	0.79	0.79	0.80	0.80	0.80	0.79	0.79	0.79	0.79	0.79	0.79
Number of New Assessments																									
Residential	94	95	96	96	97	98	99	100	101	102	102	103	104	105	106	107	108	109	110	110	111	112	113	114	115
Non-Residential	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Total New Assessments	96	97	98	98	99	100	101	102	103	104	104	105	106	107	108	109	110	111	112	112	113	114	115	116	117
Projected Number of Assessments																									
Residential	11161	11256	11352	11448	11545	11643	11742	11842	11943	12045	12147	12250	12354	12459	12565	12672	12780	12889	12999	13109	13220	13332	13445	13559	13674
Non-Residential	1120	1122	1124	1126	1128	1130	1132	1134	1136	1138	1140	1142	1144	1146	1148	1150	1152	1154	1156	1158	1160	1162	1164	1166	1168
Total Projected Assessments	12281	12378	12476	12574	12673	12773	12874	12976	13079	13183	13287	13392	13498	13605	13713	13822	13932	14043	14155	14267	14380	14494	14609	14725	14842
Backlog Assessments																									
Residential	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Non-Residential	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Backlog Assessments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Developer Charges / Vacant Assessments (Values in 2015/16 $)																									
Developer Charges $/Assessment																									
Residential	10496	10448	10448	10448	10448	10448	10448	10448	10448	10448	10448	10448	10448	10448	10448	10448	10448	10448	10448	10448	10448	10448	10448	10448	10448
Non-Residential	24453	25336	25336	25336	25336	25336	25336	25336	25336	25336	25336	25336	25336	25336	25336	25336	25336	25336	25336	25336	25336	25336	25336	25336	25336
Number of Vacant Residential Assessments	353	353	353	353	353	353	353	353	353	353	353	353	353	353	353	353	353	353	353	353	353	353	353	353	353
Average Charge of Vacant Assessments	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
% of Occupied Assessments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Depreciation of Existing Plant and Equipment (Values in 2015/16 $'000)																									
Current Replacement Cost of System Assets	327014																								
Override																									
Written Down Current Cost of System Assets	194884																								
Override																									
Annual Depreciation of Existing System Assets	4473																								
Override																									
Written Down Value of Plant and Equipment	0																								
Override																									
Annual Depreciation of Existing Plant and Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Lismore Wastewater Financial Plan 2015 : cross-subsidy DC = $10,448 per ET

FINMOD

Base Forecast Data

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40
Existing Loan Payments (Values in Inflated $'000)																									
Existing Loan Payments : Principal (Total:8409)	252	271	291	312	3408	294	316	340	332	357	383	411	441	373	359	61	65	69	74	0	0	0	0	0	0
Existing Loan Payments : Interest (Total:4318)	607	588	568	547	451	265	243	219	195	170	144	116	86	55	28	15	11	7	3	0	0	0	0	0	0
Capital Works Program (Values in 2015/16 $'000)																									
Subsidised Scheme (Total:7482)	239	335	319	319	294	294	309	291	291	291	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225
Other New System Assets (Total:18122)	1987	7233	2442	297	5391	41	19	14	14	14	0	0	0	0	0	0	0	0	0	0	0	250	0	0	0
Renewals (Total:135431)	2629	15548	7825	3310	7764	8172	2780	4840	2780	4797	2780	3310	2780	2780	10200	9638	4495	2780	2780	3573	2830	2830	2830	3870	2830
Total Capital Works (Total:161035)	4855	23116	10586	3926	13449	8507	3108	5145	3085	5102	3005	3535	3005	3005	10425	9863	4720	3005	3005	3798	3055	3305	3055	4095	3055
Grant For Acquisition of Assets (% of Subsidised Scheme)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grant For Acquisition of Assets ($) (Total:0)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Developer Provided Assets (Total:0)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Plant and Equipment Expenditure / Asset Disposal (Values in 2015/16 $'000)																									
Plant and Equipment Expenditure	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	12
Proceeds from Disposal of Plant and Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Written Down Value of Plant and Equipment Disposed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gain/Loss on Disposal of Plant and Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Proceeds from Disposal of Assets	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Written Down Value of Assets Disposed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gain/Loss on Disposal of System Assets	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Lismore Wastewater Financial Plan 2015 : cross-subsidy DC = $10,448 per ET

FINMOD

Revised/Additional Forecast Data

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40
OMA / Revenue Overrides (Values in 2015/16 $'000)																									
Administration	1178	1187	1196	1205	1215	1225	1235	1245	1255	1265	1275	1285	1295	1305	1315	1325	1336	1347	1358	1369	1380	1391	1402	1413	1424
Override																									
Engineering and Supervision	547	551	555	559	563	567	571	576	581	586	591	596	601	606	611	616	621	626	631	636	641	646	651	656	661
Override																									
Operating Expenses	1288	1298	1308	1318	1328	1338	1349	1360	1371	1382	1393	1404	1415	1426	1437	1448	1460	1472	1484	1496	1508	1520	1532	1544	1556
Override	1288	1383	1393	1795	1934	1944	1955	1966	1977	1988	1999	2010	2026	2037	2048	2059	2071	2083	2095	2107	2119	2136	2148	2160	2172
Maintenance Expenses	2079	2095	2112	2129	2146	2163	2180	2197	2214	2232	2250	2268	2286	2304	2322	2340	2359	2378	2397	2416	2435	2454	2473	2493	2513
Override																									
Energy Costs	481	485	489	493	497	501	505	509	513	517	521	525	529	533	537	541	545	549	553	557	561	565	569	573	578
Override																									
Chemical Costs	432	435	438	441	444	448	452	456	460	464	468	472	476	480	484	488	492	496	500	504	508	512	516	520	524
Override																									
Other Expenses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Override																									
Other Revenue	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55
Override																									
Other Grants	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Override	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Contributions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Override																									
Developer Charges Overrides (Values in 2015/16 $'000)																									
Calculated from Scheme Data	1036	1043	1054	1054	1064	1075	1085	1095	1106	1116	1116	1127	1137	1148	1158	1169	1179	1190	1200	1200	1210	1221	1231	1242	1252
Override																									
Pensioner Rebate (Values in Inflated $)																									
Pensioner Rebate per Pensioner ($)	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50
Override																									
Pensioner Rebate Subsidy (%)	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00
Override																									
Number of Pensioner Assessments	2599	2622	2644	2666	2689	2712	2735	2758	2782	2805	2829	2853	2877	2902	2926	2951	2976	3002	3027	3053	3079	3105	3131	3158	3185
Override																									
Percentage of Pensioners (%)	23.29	23.29	23.29	23.29	23.29	23.29	23.29	23.29	23.29	23.29	23.29	23.29	23.29	23.29	23.29	23.29	23.29	23.29	23.29	23.29	23.29	23.29	23.29	23.29	23.29
Override																									
Pensioner Rebate	227	229	231	233	235	237	239	241	243	245	248	250	252	254	256	258	260	263	265	267	269	272	274	276	279
Pensioner Rebate Subsidy	125	126	127	128	129	130	131	133	134	135	136	138	139	140	141	142	143	145	146	147	148	150	151	152	153
Revenue Split (%)																									
Residential Rates	79.41	79.52	79.62	79.72	79.83	79.93	80.04	80.13	80.23	80.34	80.44	80.54	80.63	80.73	80.84	80.94	81.04	81.13	81.22	81.32	81.42	81.52	81.61	81.70	81.80
Override																									
Non-Residential Rates	18.98	18.87	18.77	18.66	18.55	18.45	18.34	18.24	18.14	18.03	17.93	17.83	17.73	17.63	17.52	17.42	17.32	17.22	17.13	17.03	16.93	16.83	16.73	16.64	16.54
Override																									
Trade Waste Charges	1.61	1.61	1.61	1.62	1.62	1.62	1.62	1.63	1.63	1.63	1.63	1.63	1.64	1.64	1.64	1.64	1.64	1.65	1.65	1.65	1.65	1.65	1.66	1.66	1.66
Override																									
Other Sales and charges	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Override																									
Extra Charges	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Override																									
Total Non-Residential Revenue (%)	20.59	20.48	20.38	20.28	20.17	20.07	19.96	19.87	19.77	19.66	19.56	19.46	19.37	19.27	19.16	19.06	18.96	18.87	18.78	18.68	18.58	18.48	18.39	18.30	18.20
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Total Residential Revenue (%)	79.41	79.52	79.62	79.72	79.83	79.93	80.04	80.13	80.23	80.34	80.44	80.54	80.63	80.73	80.84	80.94	81.04	81.13	81.22	81.32	81.42	81.52	81.61	81.70	81.80

Lismore Wastewater Financial Plan 2015 : cross-subsidy DC = $10,448 per ET

FINMOD

Revised/Additional Forecast Data

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40
New Loan Payment Overrides (Values in Inflated $'000)																									
Standard Loan Payments: Principal	0	195	209	222	532	697	743	792	846	900	960	1025	1091	1162	1238	1321	1409	1502	1601	1706	1819	1236	1317	1405	437
Standard Loan Payments: Interest	0	497	483	470	1204	1497	1452	1402	1349	1293	1235	1173	1103	1032	956	872	786	692	593	489	375	266	185	97	21
Structured Loan Payments: Principal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Structured Loan Payments: Interest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Capitalised Interest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total New Loan Payments: Principal Override	0	195	209	222	532	697	743	792	846	900	960	1025	1091	1162	1238	1321	1409	1502	1601	1706	1819	1236	1317	1405	437
Total New Loan Payments: Interest Override	0	497	483	470	1204	1497	1452	1402	1349	1293	1235	1173	1103	1032	956	872	786	692	593	489	375	266	185	97	21
Capitalised Interest Override	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Lismore Wastewater Financial Plan 2015 : cross-subsidy DC = $10,448 per ET

FINMOD

Operating Statement

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40
EXPENSES																									
Management Expenses	*1725*	*1739*	*1751*	*1764*	*1777*	*1792*	*1806*	*1821*	*1836*	*1851*	*1866*	*1881*	*1896*	*1911*	*1926*	*1941*	*1957*	*1974*	*1989*	*2005*	*2021*	*2037*	*2053*	*2069*	*2085*
Administration	1178	1187	1196	1205	1215	1225	1235	1245	1255	1265	1275	1285	1295	1305	1315	1325	1336	1347	1358	1369	1380	1391	1402	1413	1424
Engineering and Supervision	547	551	555	559	563	567	571	576	581	586	591	596	601	606	611	616	621	626	631	636	641	646	651	656	661
Operation and Maintenance Expenses	*4280*	*4398*	*4433*	*4858*	*5022*	*5056*	*5092*	*5128*	*5164*	*5201*	*5238*	*5275*	*5316*	*5354*	*5391*	*5428*	*5466*	*5506*	*5545*	*5583*	*5622*	*5667*	*5706*	*5746*	*5787*
Operation Expenses	1288	1383	1393	1795	1934	1944	1955	1966	1977	1988	1999	2010	2026	2037	2048	2059	2071	2083	2095	2107	2119	2136	2148	2160	2172
Maintenance Expenses	2079	2095	2112	2129	2146	2163	2180	2197	2214	2232	2250	2268	2286	2304	2322	2340	2359	2378	2397	2416	2435	2454	2473	2493	2513
Energy Costs	481	485	489	493	497	501	505	509	513	517	521	525	529	533	537	541	545	549	553	557	561	565	569	573	578
Chemical Costs	432	435	438	441	444	448	452	456	460	464	468	472	476	480	484	488	492	496	500	504	508	512	516	520	524
Depreciation	*4506*	*4616*	*4656*	*4667*	*4749*	*4753*	*4759*	*4765*	*4769*	*4774*	*4778*	*4780*	*4783*	*4786*	*4789*	*4793*	*4796*	*4799*	*4802*	*4805*	*4808*	*4815*	*4818*	*4821*	*4825*
System Assets	4505	4614	4653	4662	4744	4747	4752	4757	4760	4764	4768	4770	4774	4776	4779	4783	4786	4790	4793	4795	4799	4805	4808	4812	4815
Plant & Equipment	1	2	3	5	5	6	7	8	9	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Interest Expenses	607	1059	1000	944	1499	1557	1462	1364	1267	1171	1077	982	884	789	696	612	537	459	382	306	229	158	107	55	12
Other Expenses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL EXPENSES	**11118**	**11811**	**11841**	**12234**	**13048**	**13159**	**13118**	**13078**	**13037**	**12997**	**12959**	**12918**	**12880**	**12840**	**12803**	**12774**	**12756**	**12738**	**12718**	**12700**	**12680**	**12678**	**12685**	**12692**	**12709**
REVENUES																									
Rates & Service Availability Charges	*10892*	*11313*	*11744*	*11841*	*11930*	*12027*	*12117*	*12213*	*12302*	*12395*	*12494*	*12584*	*12691*	*12780*	*12883*	*12979*	*13078*	*13181*	*13288*	*13384*	*13483*	*13585*	*13689*	*13796*	*13903*
Residential	8791	9143	9504	9595	9681	9772	9858	9949	10034	10124	10217	10303	10403	10490	10588	10680	10775	10873	10973	11067	11162	11260	11360	11461	11564
Non-Residential	2101	2170	2241	2246	2249	2256	2259	2265	2269	2272	2277	2281	2288	2291	2294	2299	2303	2308	2315	2318	2321	2325	2329	2334	2338
Trade Waste Charges	178	185	192	195	197	198	199	203	204	206	207	209	212	213	214	216	218	221	223	225	226	228	231	233	234
Other Sales and Charges	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Extra Charges	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest Income	937	686	270	176	164	133	167	168	191	201	237	297	366	445	324	140	116	198	297	374	466	567	674	751	866
Other Revenues	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55
Grants	*125*	*123*	*121*	*119*	*117*	*115*	*113*	*112*	*110*	*108*	*106*	*105*	*103*	*102*	*100*	*98*	*96*	*95*	*94*	*92*	*90*	*89*	*88*	*86*	*85*
Grants for Acquisition of Assets	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pensioner Rebate Subsidy	125	123	121	119	117	115	113	112	110	108	106	105	103	102	100	98	96	95	94	92	90	89	88	86	85
Other Grants	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Contributions	*1036*	*1043*	*1054*	*1054*	*1064*	*1075*	*1085*	*1095*	*1106*	*1116*	*1116*	*1127*	*1137*	*1148*	*1158*	*1169*	*1179*	*1190*	*1200*	*1200*	*1210*	*1221*	*1231*	*1242*	*1252*
Developer Charges	1036	1043	1054	1054	1064	1075	1085	1095	1106	1116	1116	1127	1137	1148	1158	1169	1179	1190	1200	1200	1210	1221	1231	1242	1252
Developer Provided Assets	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Contributions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL REVENUES	**13223**	**13405**	**13437**	**13441**	**13527**	**13603**	**13736**	**13846**	**13968**	**14082**	**14215**	**14377**	**14564**	**14744**	**14734**	**14657**	**14742**	**14941**	**15157**	**15330**	**15531**	**15745**	**15967**	**16163**	**16395**
OPERATING RESULT	**2105**	**1594**	**1596**	**1206**	**479**	**445**	**618**	**768**	**932**	**1084**	**1256**	**1459**	**1684**	**1904**	**1931**	**1883**	**1986**	**2202**	**2438**	**2630**	**2851**	**3067**	**3282**	**3471**	**3686**
OPERATING RESULT (less Grants for Acq of Assets)	**2105**	**1594**	**1596**	**1206**	**479**	**445**	**618**	**768**	**932**	**1084**	**1256**	**1459**	**1684**	**1904**	**1931**	**1883**	**1986**	**2202**	**2438**	**2630**	**2851**	**3067**	**3282**	**3471**	**3686**

Lismore Wastewater Financial Plan 2015 : cross-subsidy DC = $10,448 per ET

FINMOD

Cashflow Statement

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40
Cashflow From Operating Activities																									
Receipts																									
Rates and Charges	11070	11499	11937	12037	12127	12225	12316	12416	12506	12601	12701	12793	12903	12994	13097	13195	13296	13402	13511	13609	13710	13813	13920	14029	14137
Interest Income	937	686	270	176	164	133	167	168	191	201	237	297	366	445	324	140	116	198	297	374	466	567	674	751	866
Other Revenues	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55
Grants	125	123	121	119	117	115	113	112	110	108	106	105	103	102	100	98	96	95	94	92	90	89	88	86	85
Contributions	1036	1043	1054	1054	1064	1075	1085	1095	1106	1116	1116	1127	1137	1148	1158	1169	1179	1190	1200	1200	1210	1221	1231	1242	1252
Total Receipts from Operations	**13223**	**13405**	**13437**	**13441**	**13527**	**13603**	**13736**	**13846**	**13968**	**14082**	**14215**	**14377**	**14564**	**14744**	**14734**	**14657**	**14742**	**14941**	**15157**	**15330**	**15531**	**15745**	**15967**	**16163**	**16395**
Payments																									
Management	1725	1739	1751	1764	1777	1792	1806	1821	1836	1851	1866	1881	1896	1911	1926	1941	1957	1974	1989	2005	2021	2037	2053	2069	2085
Operations (plus WC Inc)	4327	4444	4479	4906	5070	5104	5140	5177	5213	5250	5288	5325	5368	5405	5443	5480	5520	5559	5598	5637	5677	5722	5760	5802	5843
Interest Expenses	607	1059	1000	944	1499	1557	1462	1364	1267	1171	1077	982	884	789	696	612	537	459	382	306	229	158	107	55	12
Other Expenses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Payments from Operations	**6659**	**7241**	**7231**	**7615**	**8347**	**8454**	**8407**	**8362**	**8317**	**8273**	**8231**	**8188**	**8148**	**8104**	**8065**	**8034**	**8013**	**7991**	**7969**	**7948**	**7926**	**7917**	**7921**	**7926**	**7940**
Net Cash from Operations	**6564**	**6164**	**6206**	**5826**	**5180**	**5149**	**5329**	**5484**	**5652**	**5808**	**5984**	**6189**	**6416**	**6640**	**6669**	**6624**	**6729**	**6949**	**7187**	**7382**	**7605**	**7828**	**8046**	**8237**	**8455**
Cashflow from Capital Activities																									
Receipts																									
Proceeds from Disposal of Assets	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Payments																									
Acquisition of Assets	4866	23127	10598	3938	13461	8518	3119	5156	3096	5113	3016	3545	3017	3016	10436	9874	4731	3016	3016	3809	3066	3316	3066	4106	3067
Net Cash from Capital Activities	**-4866**	**-23127**	**-10598**	**-3938**	**-13461**	**-8518**	**-3119**	**-5156**	**-3096**	**-5113**	**-3016**	**-3545**	**-3017**	**-3016**	**-10436**	**-9874**	**-4731**	**-3016**	**-3016**	**-3809**	**-3066**	**-3316**	**-3066**	**-4106**	**-3067**
CashFlow from Financing Activities																									
Receipts																									
New Loans Required	0	7500	0	1	10501	4500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Payments																									
Principal Loan Payments	252	455	476	496	3569	876	913	952	967	1007	1049	1094	1139	1114	1130	954	993	1032	1074	1067	1110	736	765	796	242
Net Cash from Financing Activities	**-252**	**7045**	**-476**	**-495**	**6931**	**3624**	**-913**	**-952**	**-967**	**-1007**	**-1049**	**-1094**	**-1139**	**-1114**	**-1130**	**-954**	**-993**	**-1032**	**-1074**	**-1067**	**-1110**	**-736**	**-765**	**-796**	**-242**
TOTAL NET CASH	**1446**	**-9918**	**-4868**	**1393**	**-1349**	**255**	**1297**	**-624**	**1589**	**-311**	**1919**	**1549**	**2260**	**2511**	**-4897**	**-4205**	**1005**	**2901**	**3097**	**2505**	**3429**	**3777**	**4215**	**3335**	**5146**
Current Year Cash	1446	-9918	-4868	1393	-1349	255	1297	-624	1589	-311	1919	1549	2260	2511	-4897	-4205	1005	2901	3097	2505	3429	3777	4215	3335	5146
Cash & Investments @Year Start	16754	17756	7647	2712	4004	2591	2777	3974	3268	4739	4319	6086	7448	9472	11690	6627	2363	3286	6036	8911	11137	14211	17549	21234	23969
Cash & Investments @Year End	**18200**	**7838**	**2779**	**4104**	**2655**	**2846**	**4073**	**3350**	**4857**	**4427**	**6238**	**7634**	**9709**	**11982**	**6793**	**2422**	**3368**	**6187**	**9133**	**11416**	**14567**	**17988**	**21764**	**24569**	**29116**
Capital Works Funding:																									
Internal Funding for New Works ($'000)	2226	68	2761	616	185	335	328	305	305	305	225	225	225	225	225	225	225	225	225	225	225	475	225	225	225
Internal Funding for Renewals	2629	15548	7825	3310	2764	3672	2780	4840	2780	4797	2780	3310	2780	2780	10200	9638	4495	2780	2780	3573	2830	2830	2830	3870	2830
New Loans	0	7500	0	1	10501	4500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grants	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Capital Works	**4855**	**23116**	**10586**	**3927**	**13450**	**8507**	**3108**	**5145**	**3085**	**5102**	**3005**	**3535**	**3005**	**3005**	**10425**	**9863**	**4720**	**3005**	**3005**	**3798**	**3055**	**3305**	**3055**	**4095**	**3055**

Lismore Wastewater Financial Plan 2015 : cross-subsidy DC = $10,448 per ET

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Statement of Financial Position

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40
Cash and Investments	18200	7838	2779	4104	2655	2846	4073	3350	4857	4427	6238	7634	9709	11982	6793	2422	3368	6187	9133	11416	14567	17988	21764	24569	29116
Receivables	1581	1593	1606	1619	1632	1645	1658	1672	1685	1698	1712	1725	1739	1753	1766	1781	1795	1809	1823	1838	1852	1867	1881	1896	1911
Inventories	308	310	313	316	318	321	323	326	328	331	334	336	339	342	345	347	350	353	356	358	361	364	367	370	373
Property, Plant & Equipment	*195244*	*213755*	*219696*	*218967*	*227678*	*231441*	*229800*	*230190*	*228516*	*228853*	*227090*	*225855*	*224087*	*222315*	*227961*	*233042*	*232975*	*231190*	*229403*	*228406*	*226662*	*225162*	*223408*	*222692*	*220933*
System Assets (1)	195234	213737	219669	218934	227641	231400	229756	230145	228470	228807	227044	225809	224041	222270	227915	232996	232929	231144	229357	228360	226616	225116	223362	222646	220886
Plant & Equipment	10	19	27	33	37	41	44	45	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	47
Other Assets	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL ASSETS	**215333**	**223497**	**224394**	**225005**	**232283**	**236252**	**235855**	**235537**	**235386**	**235309**	**235374**	**235551**	**235874**	**236392**	**236865**	**237592**	**238489**	**239539**	**240715**	**242018**	**243442**	**245381**	**247421**	**249526**	**252333**
LIABILITIES																									
Bank Overdraft	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Creditors	168	170	171	173	174	175	177	178	180	181	182	184	185	186	188	190	191	193	194	196	197	199	200	202	203
Borrowings	8157	15003	14161	13321	19927	23065	21589	20110	18653	17192	15723	14245	12759	11334	9927	8731	7525	6309	5081	3890	2685	1884	1073	250	3
Provisions	282	284	286	289	291	293	296	298	300	303	305	308	310	313	315	318	320	323	325	328	330	333	336	338	341
TOTAL LIABILITIES	**8607**	**15457**	**14619**	**13782**	**20392**	**23534**	**22062**	**20587**	**19133**	**17675**	**16211**	**14737**	**13254**	**11833**	**10430**	**9238**	**8036**	**6824**	**5601**	**4414**	**3212**	**2415**	**1609**	**791**	**547**
NET ASSETS COMMITTED	**206726**	**208040**	**209775**	**211223**	**211891**	**212719**	**213794**	**214951**	**216253**	**217634**	**219163**	**220814**	**222620**	**224559**	**226434**	**228354**	**230452**	**232715**	**235115**	**237604**	**240229**	**242965**	**245812**	**248736**	**251786**
EQUITY																									
Accumulated Operating Result	64735	64750	64767	64394	63302	62203	61304	60577	60031	59651	59452	59461	59695	60143	60608	61012	61510	62212	63133	64223	65508	66977	68626	70423	72392
Asset Revaluation Reserve	141991	143290	145008	146829	148589	150516	152489	154374	156222	157984	159711	161354	162926	164417	165828	167342	168943	170503	171982	173382	174722	175988	177186	178313	179394
TOTAL EQUITY	**206726**	**208040**	**209775**	**211223**	**211891**	**212719**	**213794**	**214951**	**216253**	**217635**	**219164**	**220815**	**222621**	**224560**	**226435**	**228354**	**230453**	**232715**	**235116**	**237605**	**240230**	**242966**	**245813**	**248736**	**251786**
(1) Notes to System Assets																									
Current Replacement Cost	329240	336808	339569	340186	345872	346207	346535	346840	347145	347450	347675	347899	348125	348350	348575	348800	349025	349249	349475	349700	349925	350400	350625	350850	351075
Less: Accumulated Depreciation	134006	123071	119900	121252	118231	114806	116778	116695	118676	118643	120630	122090	124084	126080	120660	115804	116095	118105	120118	121340	123310	125284	127263	128204	130189
Written Down Current Cost	195234	213737	219669	218934	227641	231400	229756	230145	228470	228807	227044	225809	224041	222270	227915	232996	232929	231144	229357	228360	226616	225116	223362	222646	220886

Lismore Wastewater Financial Plan 2015 : cross-subsidy DC = $10,448 per ET

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Performance Indicators

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40
Typical Residential Bills	808	832	857	857	857	857	857	857	857	857	857	857	857	857	857	857	857	857	857	857	857	857	857	857	857
Average Residential Bills (2015/16$)	788	813	838	839	839	840	840	840	840	841	841	841	842	842	843	843	843	844	844	844	845	845	845	846	846
Mgmnt Cost / Assessment (2015/16$)	140	140	140	140	140	141	141	140	140	140	141	140	141	141	140	140	141	141	140	141	140	141	141	141	140
OMA Cost per Assessment (2015/16$)	489	496	496	527	536	536	535	536	535	535	534	534	535	534	534	533	533	532	532	532	532	532	531	531	530
Operating Sales Margin (%)	14.45	15.46	17.67	14.88	13.58	13.87	14.10	14.36	14.57	14.80	14.99	15.23	15.51	15.72	15.99	16.22	16.46	16.71	16.98	17.13	17.35	17.52	17.76	18.01	18.23
Economic Real Rate of Return (%)	0.91	0.92	1.06	0.90	0.80	0.81	0.83	0.85	0.88	0.90	0.92	0.95	0.98	1.01	1.01	1.01	1.03	1.07	1.10	1.12	1.15	1.18	1.22	1.25	1.28
Debt Service Ratio	0.06	0.11	0.11	0.11	0.37	0.18	0.17	0.17	0.16	0.15	0.15	0.14	0.14	0.13	0.12	0.11	0.10	0.10	0.10	0.09	0.09	0.06	0.05	0.05	0.02
Debt/Equity Ratio	0.04	0.07	0.07	0.06	0.09	0.11	0.10	0.09	0.09	0.08	0.07	0.06	0.06	0.05	0.04	0.04	0.03	0.03	0.02	0.02	0.01	0.01	0.00	0.00	0.00
Interest Cover	4.47	2.51	2.60	2.28	1.32	1.29	1.42	1.56	1.74	1.93	2.17	2.48	2.90	3.41	3.77	4.07	4.70	5.79	7.38	9.60	13.46	20.37	31.55	64.14	318.48
Return on capital (%)	1.26	1.19	1.16	0.96	0.85	0.85	0.88	0.91	0.93	0.96	0.99	1.04	1.09	1.14	1.11	1.05	1.06	1.11	1.17	1.21	1.27	1.31	1.37	1.41	1.47
Cash and Investments (2015/16$'000)	18200	7838	2779	4104	2655	2846	4073	3350	4857	4428	6239	7635	9709	11983	6793	2423	3369	6187	9134	11417	14567	17988	21765	24569	29116
Debt outstanding (2015/16$'000)	8157	15003	14161	13321	19927	23065	21589	20110	18653	17192	15723	14245	12759	11334	9927	8731	7525	6309	5081	3890	2685	1884	1073	250	3
Net Debt (2015/16$'000)	0	7165	11382	9217	17272	20219	17516	16760	13796	12764	9484	6610	3050	0	3134	6308	4156	122	0	0	0	0	0	0	0

Appendix C

Drinking Water Management System

Drinking Water Management System

Lismore City Council

December 2015

Drinking Water Management System

Lismore City Council

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Document History and Status

Revision	Date issued	Approved by	Date approved	Revision type
0.1	22/10/2012	K. Pither	22/10/2012	Draft to Lismore City Council
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1.0	11/12/2012	J. Howey	11/12/2012	Final
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Project manager:	Karen Pither
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Name of project:	Drinking Water Management System
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Introduction

This Drinking Water Quality Management System (DWMS) for the Lismore City Council drinking water supply scheme has been developed in accordance with the twelve elements of the *Australian Drinking Water Guidelines* (ADWG) and with reference to the NSW *Guidelines for Drinking Water Management Systems* (Draft – 2012).

This DWMS contains or references all policies, procedures and registers, as supporting documents and appendices that are required to meet the *Public Health Act 2010* requirement for drinking water suppliers to develop and implement a quality assurance program to maintain drinking water quality.

Lismore City Council

Lismore is located in the far north coast of New South Wales. The Lismore Local Government area extends from North Woodburn in the south to Nimbin in the north and from Clunes in the east to just west of Goolmangar, covering a total area of some 1267 km^2. Lismore CBD is located 30 minutes drive from the coast and within 45 minutes of Byron Bay.

Figure 1 provides an overview of the Lismore City Local Government Area.

Figure 1 Lismore City Council Local Government Area

Detailed descriptions and diagrams of the schemes, treatment plants and distributions systems are presented in the *Risk Assessment Workshop Report* (Appendix A). Table 1 provides a brief overview of the Lismore City Council service.

Table 1 Water Service Summary

Service Description	Details
Local Water Utility Name and Contact Details	Lismore City Council 43 Oliver Avenue Goonellabah NSW 2480 Tel: 1300 87 83 87 Fax: 02 66 250 400
Schemes that the plan refers to	Nimbin – treatment and supply Lismore, including Caniaba – supply only Dunoon/The Channon Clunes North Woodburn

Service Description	Details
Communities served	Lismore Caniaba Dunoon The Channon Modanville Nimbin Clunes North Woodburn
Current Population (2006)	43,950
Future Population (2031)	49,580
Current Connections (2007)	11,505 residential 1,193 non residential
Current Demand (2010)	3,470 ML
Future Demand (2020)	4,075 ML

Scope

This DWMS covers the Lismore City Council water supply scheme; the collection, treatment and distribution of water to Nimbin village and rural customers and the distribution of bulk water supplied by Rous Water to Lismore City, including Caniaba, Dunoon, The Channon, Modanville, Dunoon Road, Nimbin, Clunes and North Woodburn.

Coverage of this DWMS starts at the receiving point of Nimbin catchment and bulk water transfer points and finishes at the point of supply of drinking water to customers.

1. Commitment to Drinking Water Quality Management

1.1. Drinking Water Quality Policy

Lismore City Council has developed a Drinking Water Quality Policy that was reviewed in June 2012. The policy outlines Lismore City Council's commitment to managing its water supply effectively to provide a safe, high-quality drinking water that protects public health and consistently meets the NHMRC/NRMMC *Australian Drinking Water Guidelines*, and consumer and other regulatory requirements. A copy of policy is attached (Appendix B).

Table 2 identifies Lismore City Council's planning documents that are relevant to the DWMS and contain supporting information. These documents are available on the Lismore City Council website.

Table 2 Lismore City Council Planning Documents

Guideline	Planning Document	Details
NSW Water and Sewerage Strategic Business Planning Guidelines Planning and Reporting Guidelines for Local Government in NSW	• Delivery Plan 2010 - 2014 • Operational Plan 2012 - 2013 • Community Strategic Plan 2008v- 2018 • Strategic Business Plan for Water Supply & Wastewater Services 2007/08	Documentation available on Lismore City Council's website (www.lismore.nsw.gov.au)
Integrated Water Cycle Management Framework and Guidelines NSW Office of Water	Integrated Water Cycle Management Evaluation Study and Strategy Plan (Draft)	Dated 29 January 2010

Guideline	Planning Document	Details
General	Lismore City Council Management Plan 2009/10 - 2012	Summarises Council's activities including community engagement, budgeting, programming and linkages to Strategic Plan Documentation available on Lismore City Council's website (www.lismore.nsw.gov.au)

1.2. Regulatory and Formal Requirements

Lismore City Council is required to comply with a range of regulatory instruments and guidelines. The Lismore City Council *Strategic Business Plan for Water Supply & Wastewater Services* provides a comprehensive list of legislative requirements. The *Legal and Other Requirements Register* (Appendix C) summarises the key regulatory requirements for Lismore City Council and how Council complies with those requirements.

Lismore City Council distributes water supplied by Rous Water under the *Water Supply Agreement*, referred to as the Service Level Agreement (SLA). The current SLA was adopted in March 2014 and is an agreement between Rous Water and four constituent councils - Byron Shire Council, Lismore City Council, Ballina Shire Council and Richmond Valley Council.

1.3. Engagement

1.3.1. Employee Responsibilities

Those employees within the Water Supply Service Organisational Structure depicted in Figure 2, with responsibilities directly related to water quality management have those requirements relevant to their position reflected in their Position Description.

The Drinking Water Policy states that all managers and employees involved in the supply of drinking water are responsible for understanding, implementing, maintaining and continuously improving the DWMS.

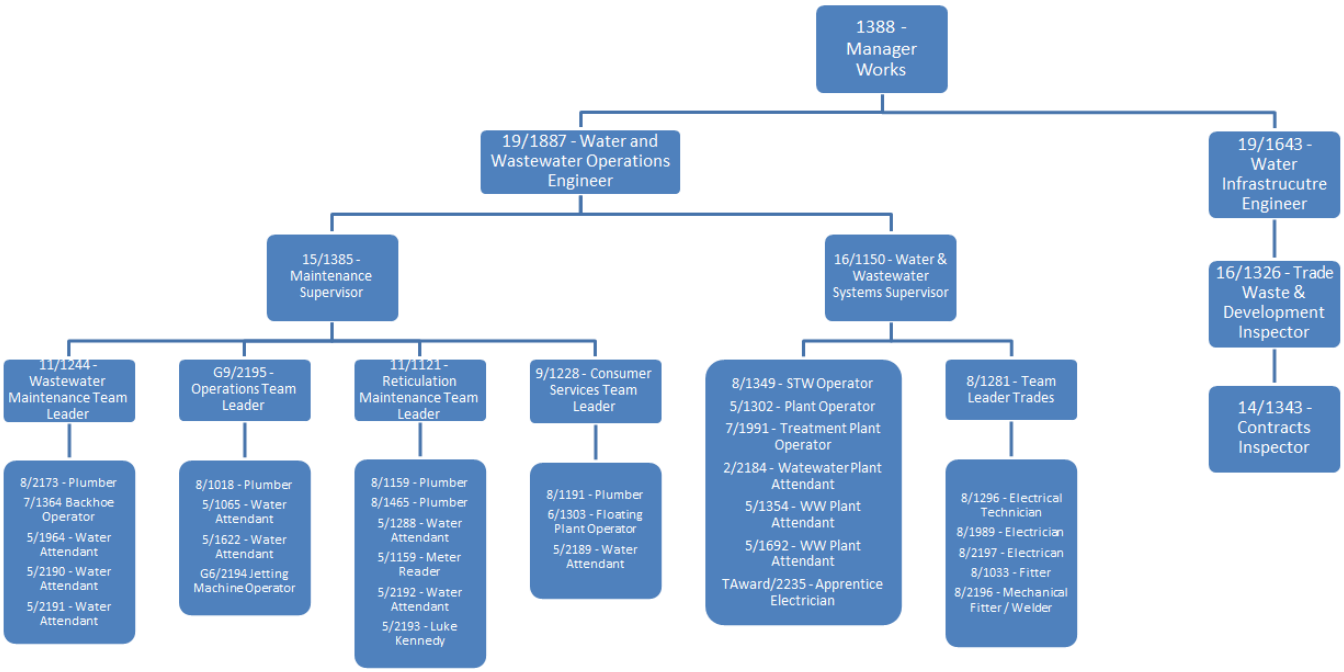


Figure 2 Water Supply Service Organisational Structure

1.3.2. Communication with Employees

Lismore City Council's drinking water policy contains a commitment to ensuring that all managers involved in the supply of drinking water are responsible for understanding, implementing, maintaining and continuously improving the drinking water quality management system. Lismore City Council communicate with staff about drinking water management and their obligations and responsibilities during annual performance reviews, regular meetings and throughout daily operation. Water operations staff attended the risk assessment workshop for the DWMS and are aware of the risk management framework.

1.3.3. Identifying and Communicating Regulatory Changes

It is the responsibility of Lismore City Council to ensure regulatory compliance. Lismore City Council reviews legislative requirements as part of the strategic business planning process and communicates the requirements through the strategic business planning reporting process.

Any changes to this DWMS due to regulatory and formal requirements are to be communicated to relevant managers, employees and contractors.

1.3.4. Engaging Stakeholders

Many aspects of drinking water quality management require involvement with other agencies and stakeholders. Similarly, consultation with relevant health and other regulatory authorities is necessary for establishing many elements of the DWMS, such as monitoring and reporting requirements, emergency response plans and communication strategies. This means establishing two-way communication paths with state government departments, Lismore City Council customers, contractors and other local water utilities.

Lismore City Council have prepared a *Community Engagement Policy* (reviewed 2010) that sets out Council's commitment to engage and consult with the community using agreed protocols

Table 3 summarises the key stakeholders for the DWMS and how Lismore City Council communicates with them.

Table 3 Stakeholder Summary

Stakeholder	Engagement	Comments
Rous Water	Water Supply Agreement Communication relating to water supply, quality, disruptions etc.	The Water Supply Agreement contains protocols for communication between Rous Water and the constituent councils
Community/ consumers	Communication relating to water supply, quality, disruptions etc. Integrated Planning and Reporting process	*Lismore City Council Community Engagement Policy*
NSW Health	NSW Health Drinking Water Monitoring Program Notifications of water quality issues as per protocols	NSW Health attended Lismore City Council's DWMS Risk Assessment Workshop NSW Health provide advice on public health and regulatory issues

Stakeholder	Engagement	Comments
NSW Office of Water (NOW)	Annual performance reporting	NOW attended Lismore City Council's DWMS Risk Assessment Workshop NOW provide advice and undertake inspections of treatment plants and water supply systems

2. Assessment of the Drinking Water Supply System

The assessment of the drinking water supply system is an essential prerequisite for subsequent steps in which effective strategies for prevention and control of hazards are planned and implemented. This includes understanding the characteristics of the drinking water system, what hazards may arise, how these hazards create risks, and the processes and practices that affect drinking water quality. The drinking water supply system is defined as everything from the point of collection of water to the consumer and can include:

- catchments, including groundwater systems;
- source waters;
- storage reservoirs and intakes;
- treatment systems;
- service reservoirs and distribution systems; and
- consumers.

Water quality can be affected at each of these points, and because they are all interrelated, integrated management is essential.

2.1. System Analysis

The Lismore City Council supply system is described the *Risk Assessment Workshop Report* and the *Risk Assessment Briefing Paper*, (Appendix A). The scheme description, layout plans and process flow diagrams were reviewed and verified at the risk assessment workshop.

2.2. Assessment of Water Quality Data

A review of historical water quality data can assist in understanding source water characteristics and system performance both over time and following specific events such as heavy rainfall. This can aid the identification of hazards and aspects of the drinking water system that require improvement. Water quality should be reviewed at last annually and used to inform the risk assessment.

Water quality data from routine conditions as well as complaints, exceedences and climatic information have been collected and reviewed. The Risk Assessment Briefing Paper contains graphical representations and summary tables of the data for the scheme,

which was utilised in the risk assessment process. This was used to help identify, hazards, hazardous events, and long-term trends in water quality.

The water quality analysis was completed prior to the risk assessment workshop and the results are presented in the *Risk Assessment Workshop Report*.

2.3. Hazard Identification and Risk Assessment

Hazards and hazardous events are based on:

- information gathered in Section 2.1 – System Analysis
- information gathered in Section 2.2.– Assessment of Water Quality Data
- hazards added through water treatment or reticulation such as treatment chemicals
- operational experience, gathered during the risk assessment workshop

2.3.1. Assessment of Risks

The process undertaken for the risk assessment was as follows:

- assembly of the risk assessment team, which was:
  - multi-disciplinary, including staff from all areas of operations
  - included at least one member with formal risk assessment training or equivalent experience or skills, the remaining members of the team received an introduction to the risk assessment process, prior to commencing the risk assessment
  - representatives of the constituent councils
- in a workshop with the risk assessment team the following steps were undertaken:
  - analysis of the process flow diagram, describing processes
  - review of background information and related work, which included the characterisation of raw water from all sources
  - identification of microbial, physical, chemical and radiological hazards and their sources and assessment of the inherent risk
  - identification of hazardous events, and limiting hazards, that could occur at each step in the water supply system,
  - assessment of maximum risk using the risk methodology
  - identification of preventive measures and the assessment of residual risk using the risk methodology
  - evaluation of significant risks and identification of required further risk treatments

- identification of critical control points (CCPs) by assessing each of preventive measures used to reduce risk using a CCP Decision Tree.

Details of the risk assessment and the risk assessment team are described in the *Risk Assessment Workshop Report.* Hazardous events that could have an effect on water quality are listed in order of scheme component in the risk register (*Risk Assessment Workshop Report*).

2.3.2. Methodology

In this risk assessment three different risks were identified:

- **Inherent risk** – this is the level of risk in Lismore City Council's Nimbin raw water source, Mulgum Creek.
- **Maximum risk** – risk without existing barriers/preventive measures in place. Therefore, maximum risk is the inherent risk plus any additional sources of hazards/ hazardous events due to Lismore City Council's treatment and /or distribution network.
- **Residual risk** – the risk after current barriers and preventive measures are taken into consideration.

For this risk assessment a risk that was Medium (8) or greater was deemed to be significant (or unacceptable). Significant maximum risks require adequate risk mitigation to be in place and robust operational procedures. Significant residual risks identify a gap in risk mitigation and require further risk treatments to bring the level of risk down to an acceptable level.

Risk scores were assessed using a likelihood and consequence risk matrix, Table 4. The risk score is the intercept of likelihood and consequence.

Table 4 Risk Matrix

Likelihood	Consequence				
	Insignificant	Minor	Moderate	Major	Catastrophic
Almost certain	Medium (6)	High (10)	High (15)	Extreme (20)	Extreme (25)
Likely	Medium (5)	Medium (8)	High (12)	High (16)	Extreme (20)
Possible	Low (3)	Medium (6)	Medium (9)	High (12)	High (15)
Unlikely	Low (2)	Low (4)	Medium (6)	Medium (8)	High (10)
Rare	Low (1)	Low (2)	Low (3)	Medium (5)	Medium (6)

In identifying risk the first step is to determine the consequence of the hazardous event. The consequence categories used are defined in Table 5.

Table 5 Consequence Descriptors

Consequence	Descriptor	Definition
1	Insignificant	Isolated exceedence of aesthetic parameter with little or no disruption to normal operation
2	Minor	Potential local aesthetic, isolated exceedence of chronic health parameter
3	Moderate	Potential widespread aesthetic impact or repeated breach of chronic health parameter
4	Major	Potential acute health impact, no declared outbreak expected
5	Catastrophic	Potential acute health impact, declared outbreak expected

Following the identification of the consequence the likelihood of that consequence materialising was determined using the likelihood categories defined in Table 6. To assist in the categorisation of hazardous events a unit was considered to be a day e.g. a seasonal event that lasted a week was considered to happen seven times per year would have been defined as possible.

The advantage of using "likelihood of the consequence" approach is that it does not overstate risk. If you were to calculate the likelihood of the hazard occurring it would not be a realistic representation.

Table 6 Likelihood Descriptors

Likelihood	Descriptor	Definition
1	Rare	May occur only in exceptional circumstances. E.g. occurs less than or equal to once every 5 years
2	Unlikely	Could occur at some time. E.g. occurs more often than once every 5 years and up to once per year
3	Possible	Might occur or should occur at some time. E.g. occurs more often than once per year and up to once a month (12/yr)
4	Likely	Will probably occur in most circumstances. E.g. occurs more often than once per month (12/yr) and up to once per week (52/yr)
5	Almost Certain	Is expected to occur in most circumstances. E.g. occurs more often than once per week (52/yr)

For each risk assessment the level of uncertainty in the assessment was identified using the definitions in Table 7 as a guide.

Table 7 Uncertainty Descriptors

Level of Uncertainty	Descriptor	Definition
1	Certain	there is 5 years of continuous monitoring data, which has been trended and assessed, with at least daily monitoring the processes involved are thoroughly understood
2	Confident	there is 5 years of continuous monitoring data, which has been collated and assessed, with at least weekly monitoring or for the duration of seasonal events there is a considerable understanding of the processes involved
3	Reliable	there is at least a year of continuous monitoring data available, which has been assessed there is a good understanding of the processes involved

Level of Uncertainty	Descriptor	Definition
4	Estimate	there is limited monitoring data available There is a reasonable understanding of the processes involved
5	Uncertain	there is limited or no monitoring data available the processes are not well understood

The results of the risk assessment were recorded in the risk register and are included in the *Risk Assessment Workshop Report* (Appendix A*)*. Currency of the risk assessment will be maintained by Lismore City Council, the following will trigger a review:

- 12 months follow the last complete review of the risk assessment
- a non-compliance or water quality incident
- ongoing exceedence of a CCP critical limit.

2.3.3. Inherent Risk

The risks that are present in the system are reflective of the catchment and nature of the treatment processes. Significant residual risks that were identified during the Rous Water risk assessment workshop were also included as inherent risks for the Lismore water supply system. These are the risks inherently in the water that need to be managed by Lismore City Council's infrastructure, where possible.

2.3.4. Maximum Risk

Maximum risk is the additional inherent risk plus the risks due to hazards introduced by the treatment process and any problems with the system's integrity. Working out the maximum risk allows operators to identify important preventative measures and barriers.

Full details of the maximum risk assessments are presented in the *Risk Assessment Workshop Report*. It is the maximum risk that must be managed by Lismore City Council. Maximum risk was assessed for each hazardous event.

2.3.5. Residual Risk

Details of the residual risk assessment are presented in the *Risk Assessment Workshop Report*. Residual risk is determined once **existing** preventive measures and barriers have been applied. Residual risk is the level of risk a particular hazard is assessed as posing to the drinking water once the existing preventative measure/s have been applied. Barriers

and preventative measures were identified during the risk assessment workshop for identified hazards.

In order to ensure that hazards and hazardous events are managed effectively, measures need to be in place to eliminate or reduce the associated risk. This DWMS addresses this through the implementation of the following:

- identification of significant hazards
- assessment of hazardous events that result in significant hazards
- formalise preventative measures that manage significant hazards
- critical control points - these are points in the system that can be monitored and action taken, to prevent the process going out of control leading to a non-compliant product, in good time
- improvement actions for unacceptable residual risks

Section 3 discusses preventive measures and barriers in further detail.

2.3.6. Uncertainty

Assessing uncertainty provides an indication of the need to undertake further work or gather more data to ensure that the risk assessment is accurate and reliable. This work can be undertaken prior to the finalisation of the DWMS or at a point in the future, in which case these activities should be reflected in the *Improvement Plan* (Appendix F).

3. Preventive Measures for Drinking Water Quality Management

In order to ensure that hazards and hazardous events are managed effectively, measures need to be in place to eliminate or reduce the associated risk. This DWMS addresses this through the implementation of the following:

- Preventive measures that reduce the likelihood of contaminants being at concentration, which may cause harm to the consumer.
- Multiple barriers - a series of barriers that ensure contaminants are at an acceptable level.
- Critical control points - these are points in the system that can be monitored and action can be taken to prevent the process going out of control leading to a non-compliant product.

3.1. Preventive Measures and Multiple Barriers

An important aspect of a drinking water quality management system is a multiple barrier approach to prevent contaminants entering the potable water supply. This DWMS covers the sourcing, treatment, disinfection and distribution of potable water.

3.2. Critical Control Points

In HACCP style quality assurance systems monitoring plays a key role in risk management, but the focus is shifted from reliance on end product compliance testing and verification to targeted operational monitoring and processes.

A critical control point (CCP) is defined as an activity, procedure or process at which control can be applied and which is essential to prevent a hazard or reduce it to an acceptable level. Not all activities are amenable to selection as critical control points. A critical control point has several operational requirements, including:

- Operational parameters that can be measured and for which critical limits can be set to define the operational effectiveness of the activity (e.g. chlorine residuals for disinfection).
- Operational parameters that can be monitored frequently enough to reveal any failures in a timely manner (online and continuous monitoring is preferable).

- Procedures for corrective action that can be implemented in response to deviation from critical limits.

All preventative measures identified in the risk assessment were assessed using the decision tree identified in Figure 3 to determine if they are CCPs. The CCPs for the Lismore City Council supply system are identified in Table 8, with the critical and alert limits and the monitoring requirements. Procedures for the monitoring of CCPs and the corrective action and reporting required in response to an exceedence of a critical or alert limit and are presented in Appendix D and Appendix E.

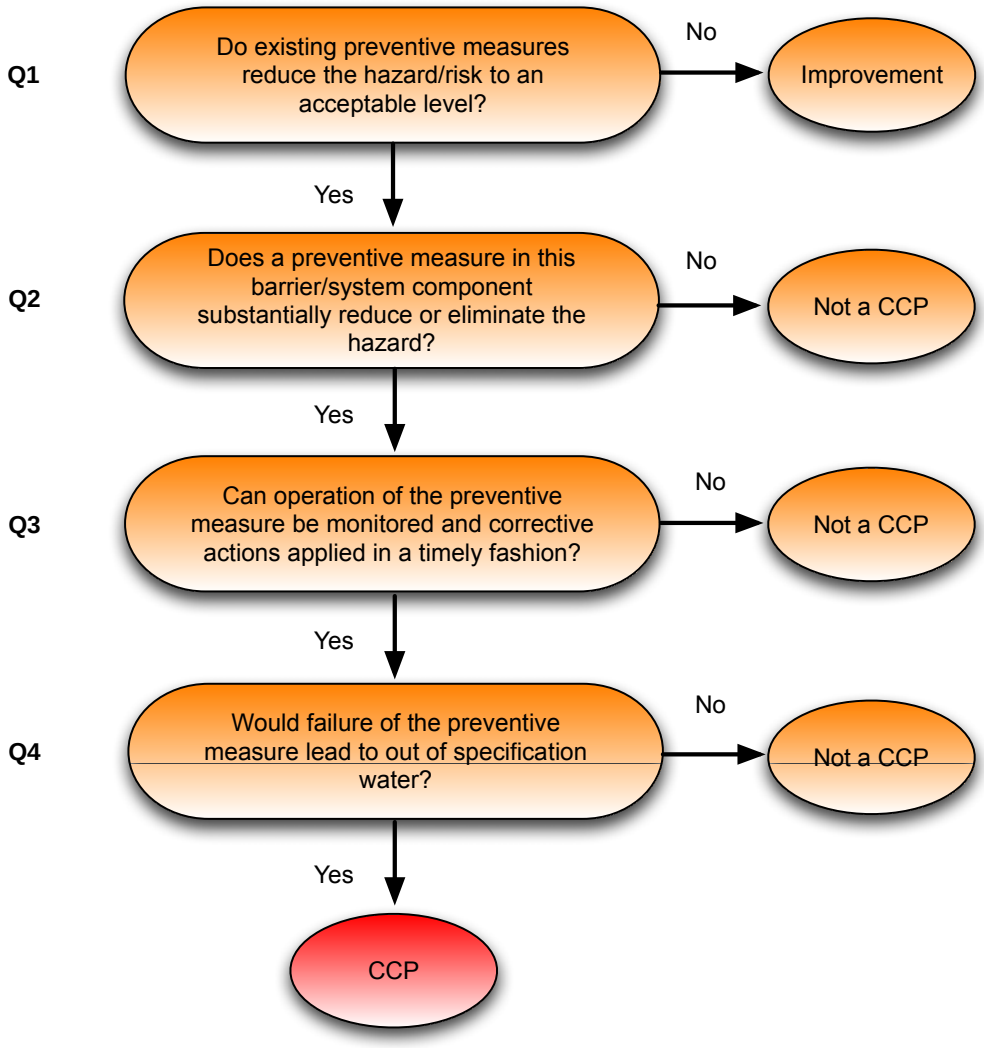


Figure 3 Critical Control Point Decision Tree

Table 8 Critical Control Point Monitoring

Preventive measure	Parameter	Monitoring method	Location	Frequency	Responsibility	Target value for optimal performance	Critical Control Point	Alert level	Critical limit	Corrective action procedure
Chlorine dosing (contact tank)	Chlorine	Online Grab Grab	Post Contact Tank	Continuous Weekly Twice Weekly	Operations Richmond Labs Operations	2.5 mg/L	Yes	Low 1 mg/L High 3.5 mg/L	Low low 0.5 mg/L High high 4 mg/L	Appendix D
Chlorine dosing (DE Williams)	Chlorine	Online	Sibley Street	Continuous	Operations	1.2 mg/L (at Sibley St) 2 mg/L (leaving reservoir)	Yes	Low 0.5 mg/L High 2.5 mg/L (Sibley St)	Low Low 0.2 mg/L High High 3 mg/L (Sibley St)	Appendix D
DE Williams Dam algae control	Cell counts	Grab Visual inspection	DE Williams Dam	Weekly between Nov and March	Operations	< 200 cells/mL	Yes	> 200 cells/mL	> 2000 cells/mL	Appendix D
Flushing (rural)	Turbidity	Online	DE Williams inlet	Continuous	Operations	< 4 NTU	Yes		> 4 NTU (at DE Williams inlet)	Appendix D W-07 Nimbin Flushing Procedure

Preventive measure	Parameter	Monitoring method	Location	Frequency	Responsibility	Target value for optimal performance	Critical Control Point	Alert level	Critical limit	Corrective action procedure
Selective abstraction	Turbidity	Online	Contact Tank	Continuous	Operations	<4NTU	Yes	4 - 10 NTU	>10 NTU	At 4 NTU Limit filling of dam 4-10 NTU fill only if dam level low > 10 NTU cease filling dam, seek management advice (Operations Engineer) SOP W-02 trigger flushing procedure (SOP W-07) following 3 days of bypass

4. Operational Procedures and Process Control

Operational procedures, monitoring and process control are key components of ensuring that consistent and reliable performance is achieved and maintained. These components create a systematic mechanism for process and product checking that fulfils the quality assurance aspect of this DWMS.

4.1. Operational Procedures

Operational procedures formalise the activities that are essential to ensure the provision of consistently good quality water. Detailed procedures are required for the operation of all processes and activities (both ongoing and periodic), including preventive measures, operational monitoring and verification procedures, and maintenance requirements. Table 9 lists the existing procedures and the reference numbers that relate to this DWMS. Formalised procedures for all operations relating to the Lismore City Council supply system are yet to be developed. Procedures to be developed are identified and prioritised in the *Improvement Plan* (Appendix F).

Table 9 Operational Procedures

Procedure Name	Doc Number	Date revised
CCP Procedures	Appendix E	August 2014
Improvement Plan	Appendix F	October 2012
Nimbin Blue Green Algae Management Plan	W-01	July 2014
Nimbin Water Operations	W-02	August 2014
Water Sampling Protocol	W-03	July 2014
Nimbin Water Restriction Protocol	W-04	July 2014
Mains Flushing Procedure	W-05	December 2009
Reservoir Inspection Procedure	W-06	July 2014
Nimbin Flushing Procedure	W-07	July 2014

4.2. Operational Monitoring

Operational monitoring includes the planned sequence of measurements and observations to assess and confirm the performance of preventive measures. Measurements are of operational parameters that will indicate whether processes are functioning effectively.

The procedure for operational monitoring is documented in the operational procedures (Appendix D). Lismore City Council currently undertake the operational monitoring of their system using the Water Quality Log Sheets, that are used to record and review all of the results of the operational monitoring undertaken on a day to day basis

4.3. Corrective Action

Procedures are essential for immediate corrective action required to re-establish process control following failure to meet target criteria or critical limits. The procedures should include instructions on required adjustments, process control changes and additional monitoring. Responsibilities and authorities, including communication and notification requirements, should be clearly identified. Corrective action and reporting requirements for the exceedence of CCP critical or alert limits are identified in the CCP procedures in Appendix E.

4.4. Equipment Capability and Maintenance

The capability of equipment is an important consideration in maintaining process control. Equipment and infrastructure in a drinking water supply system need to be adequately designed and of sufficient capacity (size, volume, detention times) to handle all flow rates (peak and otherwise) without limiting performance.

Lismore City Council undertakes the maintenance of equipment using the Maintenance Checklist. Laboratory equipment used for in-house monitoring is calibrated prior to each use, in accordance with manufacturers specifications.

Lismore City Council has identified the need to formalised procedures for maintenance and calibration, which include preventative maintenance schedules and tracking to improve the ability to audit and manage infrastructure.

4.5. Materials and Chemicals

The selection of materials and chemicals used in water systems is an important consideration as they have the potential to adversely affect drinking water quality. Lismore City Council does not have formal procedures for the purchase and use of water treatment chemicals. All chemicals are purchased from regular suppliers that Lismore City Council have determined to be reliable.

A formalised procedure for the purchase and receipt of chemicals will be developed as part of the Improvement Plan (Appendix F).

Table 10 Chemical suppliers

Chemical	Supplier	Contact
Sodium Hypochlorite	Elite Chemicals.	1873 Lytton Road Lytton QLD 4178 (07) 3893 7500

5. Verification of Drinking Water Quality

Verification of drinking water quality provides an assessment of the overall performance of the system and the ultimate quality of drinking water being supplied to consumers. This incorporates monitoring drinking water quality as well as assessment of consumer satisfaction.

5.1. Drinking Water Quality Monitoring

Drinking water quality monitoring is a wide-ranging assessment of the quality of water in the distribution system and importantly, as supplied to the consumer. It includes regular sampling and testing to assess whether water quality is complying with guideline values, any regulatory requirements or agreed levels of service.

Lismore City Council participate in the NSW Health Drinking Water Monitoring Program, the monitoring locations are identified in procedure *W-03 Water Sampling Protocol*. The results from the NSW Health monitoring program are recorded on the NSW Health Drinking Water Database, which Lismore City Council can access and review. Review of the NSW Database results are undertaken by the Water Operations Engineer:

- after the result of each microbiological sample is reported
- monthly for trends and water quality implications

The monitoring of the Lismore City Council water supply system is undertaken in accordance with *W-03 Water Sampling Protocol* (Appendix D). The protocol identifies:

- monitoring points
- parameters
- communication
- reporting requirements

Monitoring within reservoirs is undertaken in accordance with W-06 *Water Reservoir Inspection Procedure* and blue green algae testing is undertaken in accordance with W-01 *Nimbin Blue Breen Algae Management Plan* (Appendix D).

5.2. Consumer Satisfaction

Lismore City Council record and respond to consumer water quality complaints and enquires through the CRM system (Customer Request Management), which is initiated

when a complaint is received by the contact centre. Complaints are tracked through the Job Execution Process which tracks and records the action taken.

Lismore City Council maintain a register of complaints which is reviewed regularly. The register will be used to inform future reviews of the DWMS and monitoring plans.

5.3. Short-term Evaluation of Results

Short-term performance evaluation entails the review of drinking water quality monitoring data and consumer satisfaction, to verify that the quality of water supplied to consumers conforms to guideline values. If the quality does not conform, then immediate corrective actions and/or incident and emergency responses are undertaken.

5.4. Corrective Action

If the short-term evaluation of drinking water quality monitoring data indicates non-conformance with guideline values or other requirements, an investigation is undertaken and, if necessary, a corrective action implemented as quickly as possible. Failure to take immediate or effective action may lead to the development of a more serious situation, which could require incident and emergency response protocols to be instituted. Implementation of corrective action could also be required due to operational monitoring to optimise the process.

6. Management of Incidents and Emergencies

Considered and controlled responses to incidents or emergencies that can compromise the safety of water quality are essential for protecting public health, as well as maintaining consumer confidence and the organisation's reputation. Although preventive strategies are intended to prevent incidents and emergency situations from occurring, some events cannot be anticipated or controlled, or have such a low probability of occurring that providing preventive measures would be too costly. For such incidents, there must be an adaptive capability to respond constructively and efficiently.

Water quality incidents are addressed in the standard operating procedures and in accordance with the NSW Health protocols.

6.1. Communication

Effective communication is vital in managing incidents and emergencies. Clearly defined protocols for both internal and external communications have been established and are outlined in the Lismore City Local Disaster Plan (DISPLAN).

6.2. Incident and Emergency Response Protocols

Incident and emergency response protocols are regarded as a priority and are managed in accordance with the Emergency Risk Management Report. Following implementation of the DISPLAN, assessment of the incident and contingency planning is undertaken.

Water quality incidents must be managed in accordance with the following protocols:

- NSW Health Response Protocol – Management of Microbiological Quality
- NSW Health Response Protocol - Treatment Failure, Cryptosporidium and Giardia
- NSW Health Response Protocol - Management of Physical and Chemical Quality
- NSW Water Directorate - Blue Green Algae Management Protocols
- NSW Code of Practice for Fluoridation of Public Water Supplies

Table 11 identifies the external emergency contacts relevant to water quality incidents.

Table 11 External Emergency Contacts

External Contact	Details
Northern Rivers Public Health Unit	Environmental Health Officer Mobile 0414 569 516 On call pager 132 222 pager number 314857 Geoff.sullivan@ncahs.health.gov.au
NSW Office of Water	Regional Inspector Alstonville Telephone 6627 0110 Mobile 0412 283 768 terry.call@water.nsw.gov.au

The emergency services based the Lismore City Council Local Government Area are identified in Table 12.

Table 12 Emergency Services

Community	Service	Phone Number
All emergencies	Police, Fire, Ambulance	000
All Areas	State Emergency Service	(02) 6621 9400 A/H (02) 6621 9400
Lismore	Police Fire Ambulance	02 6626 0599 02 6621 5660 131 233
Nimbin	Police Ambulance	02 6689 1244 131 233

7. Employee Awareness and Training

To ensure drinking water quality is effectively managed all employees need to have an understanding and awareness of the DWMS. Employees need to have appropriate skills and training in all aspects of their job description in order to operate the water supply system.

Lismore City Council ensures the requirements for employee awareness and training are met through the *Human Resources Strategy Policy* (October 2007).

7.1. Employee Awareness and Involvement

An understanding of drinking water quality management is essential for empowering and motivating employees to make effective decisions. All employees involved in drinking water supply must be aware of:

- Lismore City Council's drinking water quality policy
- characteristics of the water supply system and preventive strategies in place throughout the system
- emergency and incident response procedures
- regulatory and legislative requirements
- roles and responsibilities of employees and departments
- how their actions can impact on water quality and public health

Lismore City Council achieves this through communication and training, which is part of the annual performance appraisal process. A drinking water awareness training presentation is provided in Appendix G. This presentation will be rolled out to existing staff via toolbox meetings and to new staff during the induction process.

7.2. Employee Training

Employees and contractors must be appropriately skilled and trained in the management and operation of water supply systems, as their actions can have a major impact on drinking water quality and public health.

All relevant staff receive ongoing on-the-job training in order to fulfil their role and additional training needs are identified and addressed during the annual performance appraisal. The annual appraisal includes:

- review of position description

- assessment of competencies
- review and revise training plan for the following year

All water operators have a minimum qualification of Cert III in Water Operations. Lismore City Council identify the additional training needs for each team member during the annual performance appraisal. Additional training that should be considered during the annual appraisal include:

- Regional Organisation of Councils and Alliance Workshops and Training
- NSW Health Workshops
- fluoridation courses
- NOW Training and Update Seminars
- conferences and other seminars

8. Community Involvement and Awareness

Community consultation, involvement and awareness can have a major impact on public confidence in the water supply and the organisation's reputation. A communication program is a long-term commitment, including both consultation and education, and should be designed to provide an active, two-way exchange of information. This will help to ensure that the needs and expectations of consumers are understood and are being satisfied.

Lismore City Council has prepared the *Community Strategic Plan* under the Strategic Business Planning process and the *Integrated Water Cycle Management Evaluation Study and Strategy Plan* that include processes for engaging with the community. The *Lismore City Council Management Plan 2009/10-2012* also addresses community consultation.

8.1. Community Consultation

Decisions on drinking water quality made by a drinking water supplier and the relevant regulatory authorities must be aligned with the needs and expectations of consumers. Therefore, the community and appropriate industry sectors should be consulted and involved during decision-making processes. Lismore City Council encourages community consultation through a range of mediums, including:

- customer service team
- newsletters
- ratepayer surveys
- public meetings
- targeted consultation with community groups
- media coverage
- Councillor workshops

Council newsletters and planning reports are made publicly available through the website.

8.2. Community Education

Effective communication to increase community awareness and knowledge of drinking water quality issues and the various areas of responsibility is essential. Communication helps consumers to understand and contribute to decisions about the service provided

by a drinking water supplier. A thorough understanding of the diversity of views held by individuals in the community is necessary to satisfy community expectations.

Lismore City Council communicates potential water quality issues due to the public in a variety of ways depending on the severity and scope of the issue. Methods for communicating with customers include:

- local radio announcement
- Lismore City Council website
- letter box drop
- customer service team

8.3. Consumer Feedback and Water Quality Complaints

Lismore City Council have developed a *Complaints Handling Policy* (February 2006) that provides clear guidelines for the management of complaints to ensure all complaints are dealt with on a prompt and equitable basis. The *Complaints Handling Policy* contains the procedure for managing complaints and conducting internal and external review of complaints.

Water quality complaints and consumer feedback are tracked as required for the NSW Office of Water Performance Reporting form.

9. Research and Development

A corporate commitment to conduct and participate in research and development activities on drinking water quality issues is important. Such a commitment helps to ensure continual improvement and the ongoing capability to meet drinking water quality requirements.

9.1. Investigative Studies and Research Monitoring

Investigative studies and research monitoring include strategic programs designed to increase understanding of a water supply system, to identify and characterise potential hazards, and to fill gaps in knowledge. Improved understanding of the factors affecting water quality characteristics allows suppliers to anticipate periods of poor water quality and respond to them in an effective way.

Lismore City Council undertake a broad range of research and investigation in relation to water quality issues. Recent investigations include:

- The regional investigation of Water Loss Management (initiative of the NRWG)
- The regional Demand Management Plan study currently getting underway (initiative of the NRWG).
- The Northern Rivers Regional Bulk Water Strategy (initiative of NOROC).
- Investigation of Clunes water supply and the impact of proposed changes to the bulk water supply associated with proposed fluoridation of the supply. This included commissioning modelling to determine the extent of pressure problems following future implementation of fluoridation of the water supply. Work is intended to progress on investigating and implementing the preferred solution identified.
- Ongoing investigation and community consultation with regard to proposed upgrading of the Nimbin water supply.
- Development of a computer model of the water supply to investigate the performance of the water supply. Over time, this model may allow modelling of water supply issues such as chlorine residual etc.
- Participation in the Regional Hydraulic Modelling User Group to initiate several projects aimed at promoting an understanding of the use of hydraulic modelling.

The risk assessment process may identify actions to investigate water quality or improve knowledge to the system, which will be captured in the *Improvement Plan* (Appendix F).

In addition to actions identified in the Improvement Plan, an assessment of uncertainty was completed during the risk assessment. Identifying areas of uncertainty, investigative studies can target these areas to improve decision-making during the risk assessment.

9.2. Validation of Processes

Validation involves evaluating scientific and technical information available on processes and then undertaking investigations, where necessary, to validate system-specific operational procedures, critical limits and target criteria. The aim of process validation is to ensure effective operation and control.

Lismore City Council continuously monitors the water supply system to validate the on-going performance. Table 13 summarises the ways in which Lismore City Council validate their system.

Table 13 Validation summary

Scheme Component	Validation
Effectiveness of preventative measures	Operational monitoring Regular review of results
Critical limits and corrective actions	Operational monitoring Regular review of results CCP reporting Verification monitoring
Reticulation system controls	Verification monitoring
Whole of system	Risk assessment process DWMS development Regular review Audit processes

Chlorine C.t. will be investigated and calculated as part of the augmentation of the Nimbin system, identified in the *Improvement Plan* (Appendix F).

9.3. Design of Equipment

The selection and design of new equipment and infrastructure must be validated. Validation is also required to confirm design changes necessary to improve plant performance and control systems. To fulfil this requirement all new equipment installed is thoroughly validated. Validation details are identified during the design and commissioning process, as appropriate.

10. Documentation and Reporting

Appropriate documentation provides the foundation for the establishment and maintenance of effective drinking water quality management systems. Documentation should:

- demonstrate that a systematic approach is established and is implemented effectively
- develop and protect the organisation's knowledge base
- provide an accountability mechanism and tool
- facilitate review and audits by providing written evidence of the system
- establish due diligence and credibility

10.1. Management of Documentation and Records

This DWMS identifies all documents and records that are required for the management of drinking water quality. Lismore City Council's *Record Management Plan* identifies the policy for record keeping, including relevant legislation, standards and contacts. The purpose of the *Record Management Plan* is to ensure that full and accurate records of all activities and decisions of the Council are created, managed and retained or disposed of appropriately, and in accordance with relevant legislation.

10.2. Monitoring and Reporting

Lismore City Council monitor water quality performance in accordance with *Lismore City Council Management Plan* and the NSW Health Protocols. The *Management Plan* identifies a Key Performance Indicator of ensuring "95% compliance with ADWG bacteriological water quality guidelines for the provision of filtered water".

Reporting includes the internal and external reporting of activities pertinent to the implementation and performance of drinking water quality management. External reporting is undertaken when required by legislation and includes:

- NSW Health compliance reporting
- Annual reporting under the *Local Government Act 1993* (NSW)
- NOW Water supply and sewerage performance and benchmarking reporting
- State of the Environment reporting

11. Evaluation and Audit

Long-term evaluation of drinking water quality results and audit of drinking water quality management are required to determine whether preventive strategies are effective and whether they are being implemented appropriately. These reviews enable performance to be measured against objectives and help to identify opportunities for improvement.

11.1. Long-term Evaluation of Results

Water quality has been assessed as part of the risk assessment process and will continue to be reviewed on an annual basis and prior to the annual review of the Improvement Plan, budgeting process and strategic planning process. The long-term evaluation of results will include:

- critical control point performance
- water quality data results
- levels of service, including customer complaints

Reviews should take into consideration the requirements of the ADWG, levels of service, NSW Water Supply and Sewerage Performance Monitoring Reports.

11.2. Audit of Drinking Water Quality Management System

Auditing is the systematic evaluation of activities and processes to confirm that objectives are being met. It includes assessment of the implementation and capability of management systems. Auditing provides valuable information on those aspects of the system that are effective, as well as identifying opportunities for improvement.

Internal and external reporting will be undertaken in accordance with the requirements to be developed by NSW Health. The requirements for undertaking audits of the DWMS will be captured in a formalised procedure as identified in the *Improvement Plan* (Appendix F).

Internal audits should address:

- implementation of CCPs and responses to exceedences
- operational control
- progress against the Improvement Plan
- record keeping

- data collection and management, including NOW performance reporting requirements
- compliance with the Fluoridation Act, Regulation and Codes of Practice.

External audits must be undertaken by independent auditors that are approved by NSW Health. Components of the DWMS will also be audited by NOW inspectors and NSW Health officers.

12. Review and Continual Improvement

This DWMS will be reviewed annually to ensure management systems are effective and reflective of the drinking water supply system.

All management systems should be reviewed in accordance with the requirements of the Strategic Business Planning process.

12.1. Review by Senior Executive

Senior executive support, commitment and ongoing involvement are essential to the continual improvement of the organisation's activities relating to drinking water quality. Senior executive should regularly review its approach to drinking water quality management, develop action plans and commit the resources necessary to improve operational processes and overall drinking water quality performance.

In order to ensure continual improvement the management review team will review the following, at least annually:

- audit reports, where available
- drinking water quality performance
- previous management reviews
- customer complaints
- regulator and Stakeholder feedback
- drinking water policy
- changes to legislation, expectations and requirements;
- changes in the activities of the organisation
- advances in science and technology
- outcomes of drinking water quality incidents and emergencies
- reporting and communication

Records of the review will be documented.

12.2. Drinking Water Management System Improvement Plan

An *Improvement Plan* has been developed to ensure continual improvement and is attached in Appendix F.

The *Improvement Plan* will be updated based on internal and external audit results, non-conformances and incident and emergency feedback.

Progress against the *Improvement Plan* will be monitored by the Operations Engineer every six months.

13. References

National Health & Medical Research Council and Natural Resource Management Ministerial Council. 2004. *National Water Quality Management Strategy: Australian Drinking Water Guidelines*. 6th Ed. Australia: NHMRC & NRMMC.

New South Wales Government 2004, *Integrated Water Cycle Management Guidelines for NSW Local Water Utilities*, Department of Energy, Utilities and Sustainability, Sydney, NSW.

New South Wales Government 2010, *Planning and Reporting Guidelines for Local Government in NSW*, Division of Local Government, Department of Premier and Cabinet, Sydney, NSW.

New South Wales Government 2011, *NSW Water Sewerage Business Planning Guidelines,* NSW Office of Water, Sydney, NSW.

New South Wales Government 2012, *NSW Guidelines for Drinking Water Management Systems*, New South Wales Health, New South Wales Department of Primary Industries – Office of Water, NSW.

Public Health Act 2010 (NSW), s. 15 (Austl.)

Public Health Regulation 2012 (NSW), p. 5 (Austl.)

Glossary

Word	Description
ADWG	Australian Drinking Water Guidelines, published by the National Health and Medical Research Council (NHMRC).
Catchment	Area of land that collects rainfall and contributes to surface water (streams, rivers, wetlands) or to groundwater.
Critical control point	A point, step or procedure at which control can be applied and which is essential to prevent or eliminate a hazard or reduce it to an acceptable level.
Critical limit	A prescribed tolerance that must be met to ensure that a critical control point effectively controls a potential health hazard; a criterion that separates acceptability from unacceptability (adapted from Codex Alimentarius).
C.t.	The product of residual disinfectant concentration (C) in milligrams per litre determined before or at taps providing water for human consumption, and the corresponding disinfectant contact time (t) in minutes.
Disinfection	The process designed to kill most microorganisms in water, including essentially all pathogenic (disease-causing) bacteria. There are several ways to disinfect, with chlorine being most frequently used in water treatment.
Distribution system	A network of pipes leading from a treatment plant to customers' plumbing systems.
Drinking water supply system	All aspects from the point of collection of water to the consumer (can include catchments, groundwater systems, source waters, storage reservoirs and intakes, treatment systems, service reservoirs and distribution systems, and consumers).
DWMS	Drinking Water Management System
Hazard	A biological, chemical, physical or radiological agent that has the potential to cause harm.
Hazardous event	An incident or situation that can lead to the presence of a hazard (what can happen and how).
Inherent risk	The risk in the source water without treatment barriers in place.

Maximum risk	Risk without existing barriers in place for example, treatment and/or disinfection. This is the maximum level of risk and in most instances it is the same as the inherent risk. However, there are a number of parameters whereby the treatment process adds to the risk, these include hazards such as trihalomethanes and chlorine. Therefore maximum risk is the total of the inherent risk and the additional risks added during treatment.
Multiple barriers	A series of barriers that ensure contaminants are at an acceptable level
Preventive measure	Any planned action, activity or process that is used to prevent hazards from occurring or reduce them to acceptable levels.
Quality assurance	All the planned and systematic activities implemented within a quality system, and demonstrated as needed, to provide adequate confidence that an entity will fulfil requirements for quality (e.g. AS/NZS ISO 8402:1994).
Residual risk	The risk remaining after consideration of existing preventive measures.
Risk	The likelihood of a hazard causing harm in exposed populations in a specified time frame, including the magnitude of that harm.
Source water	Water in its natural state, before any treatment to make it suitable for drinking.
Validation	The substantiation by scientific evidence (investigative or experimental studies) of existing or new processes and the operational criteria to ensure capability to effectively control hazards.
Verification	Assessment of the overall performance of the water supply system and the ultimate quality of drinking water being supplied to consumers; incorporates both drinking water quality monitoring and monitoring of consumer satisfaction.

Appendix D

Work Health and Safety Policy

Work Health and Safety Policy

Purpose
Lismore City Council is committed to the provision of a safe & healthy work environment for all workers including employees, contractors, volunteers, visitors and persons that may be affected by works undertaken by Council through the elimination or minimisation of risks.

Implementation
This commitment will be demonstrated by:

- Allocating necessary resources to meet commitments;
- Establishing measurable objectives and targets to ensure continuous improvement;
- Promoting a culture where harm to our people through work is unacceptable;
- Developing and implementing health and safety standards that exceed the minimum legislative requirements;
- Adopting a risk management approach to achieve compliance with all NSW WHS related legislation to ensure the health and safety of employees, contractors, volunteers, visitors and contractors on WHS issues;
- Ensuring that plant, equipment and substances are safe and without risk to the health & safety of personnel;
- Investigating all accidents, incidents and occurrences with control measures implemented and reviewed to ensure elimination of initial breakdown;
- Communicating WHS through instruction, training and supervision to improve individuals' understanding of workplace hazards, including safe work practices and emergency procedures;
- Consulting between management, employees, volunteers, visitors and contractors on WHS issues;
- Providing adequate systems and resources to effectively manage rehabilitation and return to work processes;
- Ensuring that employees, volunteers, visitors & contractors comply with appropriate WHS standards, Codes of Conduct & workplace directions to ensure their own and others health & safety at work;
- Implementing, maintaining and reviewing the Work Health and Safety Management System (WHSMS).

Responsibilities
While the obligation for each person is different, all persons must ensure that the way they carry out their work does not interfere with the health and safety of themselves and other persons at the place of work.

Duty Holders
Person conducting a business or undertaking Council)
Council must ensure, so far as is reasonably practicable, the health and safety of:

- Workers engaged, or caused to be engaged by the person, and
- Workers whose activities in carrying out work are influenced or directed by the person, while the workers are at work in the business or undertaking.

The General Manager has ultimate responsibility for the implementation of Council's WHS systems and for reviewing the overall health and safety performance of the organisation.

Officer Duties
Officers of Council have a duty of obligation to exercise 'due diligence' to ensure that the person conducting a business or undertaking complies with that duty of obligation. Officers are defined as a person who makes, or participates in making decisions that affect the whole or a substantial part of a business or undertaking.

Council shall fulfil these responsibilities through the appointed **General Manager, Executive Directors and Program Managers** who are responsible and accountable for the safety of workers including employees, contractors, volunteers, visitors and persons that may be affected by works undertaken by Council as well as Council property under their control.

All workers
All workers have responsibility for:

- Taking reasonable care for their own health and safety;
- Taking reasonable care that their acts or commissions do not adversely affect the health and safety or other persons;
- Following all WHS legislation, Council safety requirements and relevant codes of practice;
- Co-operating with management in the support of promotion of Health and Safety in the workplace;
- Not undertaking any task without the relevant induction, training or competency'
- Promptly report all hazards, injuries and safety incidents;
- Presenting for work in a fit state that does not prevent them carrying out their duties in a safe and responsible manner.

Compliance with Health and Safety Requirements
Council employees must observe Council's health and safety policies, protocols, procedures and instructions. If a breach occurs, it may be necessary for disciplinary action in accordance with disciplinary procedures under the Local Government (State) Award.

Gary Murphy
General Manager

Date 16/10/15

Appendix E

TBL Performance Reports and Action Plan

Lismore City Council — TBL Water Supply Performance — DRAFT — 2013-14

WATER SUPPLY SYSTEM - Lismore City Council serves a population of 30,800 (14,300 connected properties). Lismore Council reticulates fully treated bulk water provided by Rous County Council to most of Lismore and various villages. Council has 1 storage dam (total capacity 25 ML). The water supply network comprises 18 service reservoirs (45 ML), 5 pumping stations, 0.3 ML/d delivery capacity into the distribution system, 78 km of transfer and trunk mains and 265 km of reticulation.

PERFORMANCE - Lismore City Council achieved 100% implementation of the NSW BPM requirements. The 2014-15 typical residential bill was $666 which was above the statewide median of $582 (Indicator 14). The economic real rate of return was 0.2% which was less than the statewide median (Indicator 43). The operating cost (OMA) per property was $495 which was above the statewide median of $400 (Indicator 49). Water quality complaints were negligible compared to the statewide median of 3 (Indicator 25). Compliance was achieved for microbiological water quality (100% of the population, 2 of 2 zones compliant), chemical water quality and physical water quality. There were no failures of the chlorination system or the treatment system. Lismore City Council reported no water supply public health incidents. Current replacement cost of system assets was $126M ($9,200 per assessment). Cash and investments were $3M, debt was $7.1M and revenue was $11M (excluding capital works grants).

IMPLEMENTATION OF REQUIREMENTS OF NSW BEST-PRACTICE MANAGEMENT (BPM) FRAMEWORK

(1) Complete Current Strategic Business Plan & Financial Plan	**YES**	**(3) Sound water conservation implemented**	**YES**
(2) (2a) Pricing - Full Cost Recovery, without significant cross subsidies	Yes	**(4) Sound drought management implemented**	**YES**
(2b,2c) Pricing - Appropriate Residential Charges	Yes	**(5) Complete performance reporting (by 15 September)**	**YES**
(2d) Pricing - Appropriate Non-residential Charges	Yes	**(6) Integrated water cycle management strategy**	**YESC**
(2e) Pricing - DSP with Commercial Developer Charges	Yes	**IMPLEMENTATION OF ALL REQUIREMENTS**	**100%**

TRIPLE BOTTOM LINE (TBL) PERFORMANCE INDICATORS

						LWU RESULT	RANKING >10,000 properties	RANKING All LWUs	MEDIANS* Statewide	MEDIANS* National
							Note 1	Note 2	Note 3	Note 4
	NWI	No.				Col 1	Col 2	Col 3	Col 4	Col 5
UTILITY	CHARACTERISTICS	C1	1	**Population served:**	**30800**					
		C4	2	**Number of connected properties:**	**14300**	Number of assessments: 13620				
			3	**Residential connected properties** (% of total)		%	89		91	
			4	**New residences connected to water supply** (%)		%	0.4	5	4	0.9
		A3	5	**Properties served per kilometre of water main**		Prop/km	42			32
			6	**Rainfall** (% of median annual rainfall)		%	61	5	5	77
		W11	7	**Total urban water supplied at master meters** (ML)		ML	3,190			6,800
			8	**Peak week to average consumption** (%)		%				152
			9	**Renewals expenditure** (% of current replacement cost of system assets)		%	1.8	1	1	0.5
			10	**Employees per 1000 properties**		per 1,000 prop	1.2	2	1	1.5
SOCIAL	CHARGES & BILLS	P1		**Residential tariff structure for 2014-15:**	two part; independent of land value; access charge $203.88					
		P1.3	12a	**Residential water usage charge for 2013-14all usage (c/kL)**		c/kL (2013-14)	272	1	1	208
			12	**Residential water usage charge for 2014-15all usage (c/kL)**		c/kL (2014-15)	299	1	1	213
		P3	14a	**Typical residential bill for 2013-14** ($/assessment)		$ (2013-14)	606	4	3	550
			14	**Typical residential bill for 2014-15** ($/assessment)		$ (2014-15)	666	4	3	582
			15	**Typical developer charge for 2014-15** ($/equivalent tenement)		$ (2014-15)	2,900	5	4	5,500
		F4	16	**Residential revenue from usage charges** (% of residential bills)		%	70	3	3	73
		F5	17	**Revenue per property** - water ($/property)		$/prop	760	4	4	795
	HEALTH		18	**Water Supply Coverage** (% of Urban Population with reticulated WS)		% of population	97.8	5	3	99.6
		H6	18a	**Risk based drinking water quality plan?**			Yes			
			19	**Physical compliance achieved? Note 11**			Yes	1	1	
			19a	**Chemical compliance achieved? Note11**			Yes	1	1	
		H4	19b	**% population with chemical compliance**			100	1	1	100
			20	**Microbiological (E. coli) compliance achieved? Note 11**			Yes	1	1	
		H3	20a	**% population with microbiological compliance**		% of population	100	1	1	100
	SERVICE LEVELS	C9	25	**Water quality complaints per 1000 properties**		per 1,000 prop	0	1	1	3
		C10	26	**Water service complaints per 1000 properties**		per 1,000 prop	0.6	2	1	6
		C17	27	**Incidence of unplanned interruptions per 1000 properties**		per 1,000 prop	32	3	4	50
		C15	28	**Average duration of interruption** (min)		min	120	1	2	150
		A8	30	**Number of water main breaks per 100 km of water main**		per 100km	37	5	5	10
			31	**Drought water restrictions** (% of time)		% of time	0	1	1	0
			32	**Total days lost** (%)		%	0.4	2	2	2.9
ENVIRONMENTAL	NATURAL RESOURCE MANAGEMENT	W12	33	**Average annual residential water supplied - STATEWIDE (**kL/property)		kL/prop	155	1	1	173
			33a	**Average annual residential water supplied - COASTAL LWUs** (kL/property)		kL/prop	155	2	2	157
			33b	**Average annual residential water supplied - INLAND LWUs** (kL/property)		kL/prop				263
		A10	34	**Real losses** (leakage) (L/service connection/day)		L/connection/day	40	1	1	70
			35	**Energy consumption per Megalitre** (kiloWatt hours)		kWh	104	1	1	620
			36	**Renewable energy consumption** (% of total energy consumption)		%				0
		E12	36a	**Net greenhouse gas emissions - WS & Sge** (net tonnes CO2 - equivalents per 1000 properties)		t CO2	250	1	2	370
ECONOMIC	FINANCE		42	**Current replacement cost per assessment** ($)		$	9,200	5	5	16,500
		F17	43	**Economic real rate of return** - Water (%)		%	0.2	5	4	1.2
			44	**Return on assets** - Water (%)		%	-0.1	5	4	1.1
		F22	45	**Net Debt to equity** - WS&Sge (%)		%	-1	3	2	1
		F23	46	**Interest cover** - WS&Sge			>100	1	1	4
			47	**Loan payment per property** - Water ($)		$	45	3	2	64
		F24	47b	**Net profit after tax** - WS & Sge ($'000)		$'000	-150	4	5	1180
	EFFICIENCY		48	**Operating cost (OMA) per 100km of main** ($'000)		$'000	1,150	2	3	1,290
		F11	49	**Operating cost (OMA) per property ($/prop) Note 9**		$/prop	495	4	3	400
			50	**Operating cost (OMA) per kilolitre** (cents)		c/kL	124	3	3	126
			51	**Management cost** ($/prop)		$/prop	127	2	2	140
			52	**Treatment cost (**$/prop)		$/prop				58
			53	**Pumping cost** ($/prop)		$/prop	9	1	1	43
			54	**Energy cost** ($/prop)		$/prop	7	1	1	25
			55	**Water main cost** ($/prop)		$/prop	100	4	4	74
		F28	56	**Capital Expenditure** ($/prop)		$/prop	160	3	3	181

NOTES :

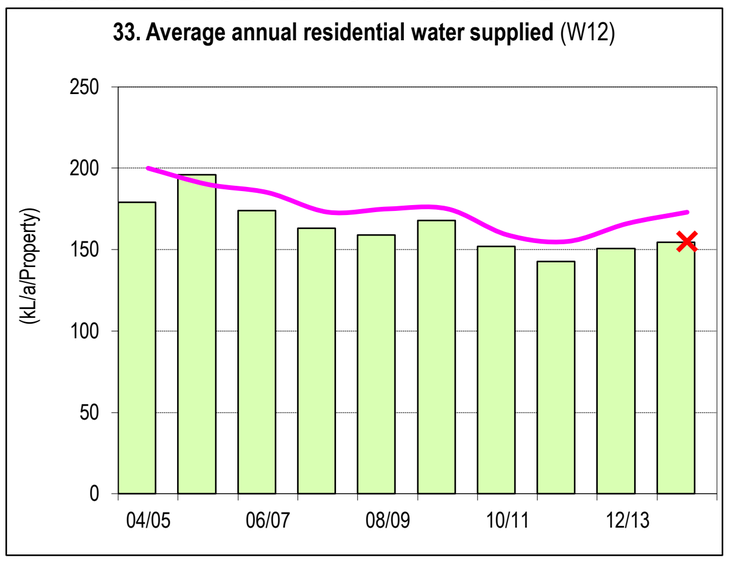
1 Col 2 rankings are on a % of LWUs basis - best reveals performance compared to similar sized LWUs (ie. Col 1 is compared with LWUs with >10,000 properties).
2 Col 3 rankings are on a % of LWUs basis - best reveals performance compared to all LWUs (ie. Col 1 is compared with all LWUs).
3 Col 4 (Statewide Median) is on a % of connected properties basis- best reveals statewide performance (gives due weight to larger LWUs & reduces effect of smaller LWUs).
4 Col 5 (National Median) is the median value for the 67 utilities reporting water supply performance in the National Performance Report 2013-14 (www.bom.gov.au).
5 LWUs are required to annually review key projections & actions in the later of their IWCM Strategy and financial plan and their Strategic Business Plan and to annually 'roll forward', review and update their 30-year total asset management plan (TAMP) and 30-year financial plan.
6 Lismore City Council is a reticulator - water harvesting and water treatment are provided by Rous County Council.
7 2014-15 Non-residential Tariff: Access Charge based on Service Connection Size*(40mm: $815.52), Two Part Tariff; Usage Charge 299c/kL.
8 Non-residential water supplied was 31% of potable water supplied excluding non-revenue water.
Non-residential revenue was 26% of annual rates and charges, indicating fair pricing of services between the residential and non-residential sectors.
9 Operating cost (OMA) per property was $495, including $220 for bulk supply. Other components were: management ($127), operation ($123), maintenance ($19) & energy ($7).
10 Rehabilitations included 0.9% of water mains, 0.71% of service connections and 3.9% of water meters. Renewals expenditure was $651,000/100km of main.
11 Compliance with ADWG 2011 for drinking water quality is shown as "Yes" if compliance has been achieved (indicators 19, 19a & 20).
12 Lismore City Council has 3 fully qualified water treatment operators who meet the requirements of the National Certification Framework.

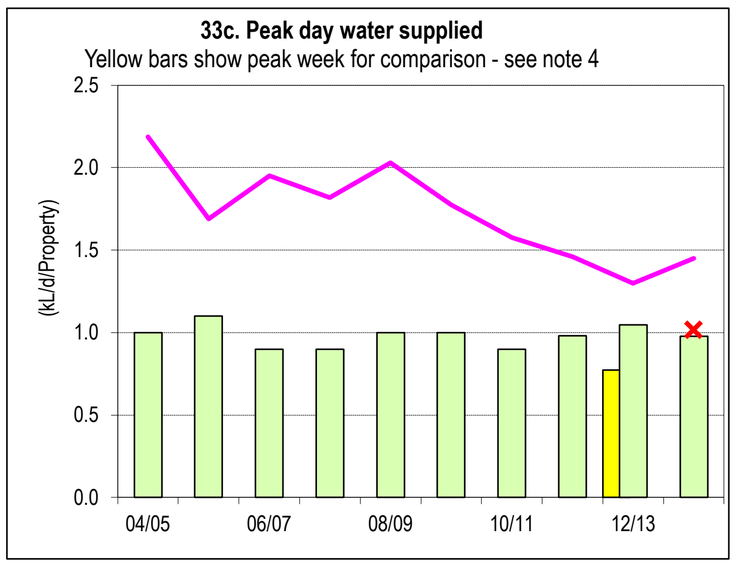
* The Statewide medians shown are draft only and are provided to assist Council. They must not be publicly disclosed.

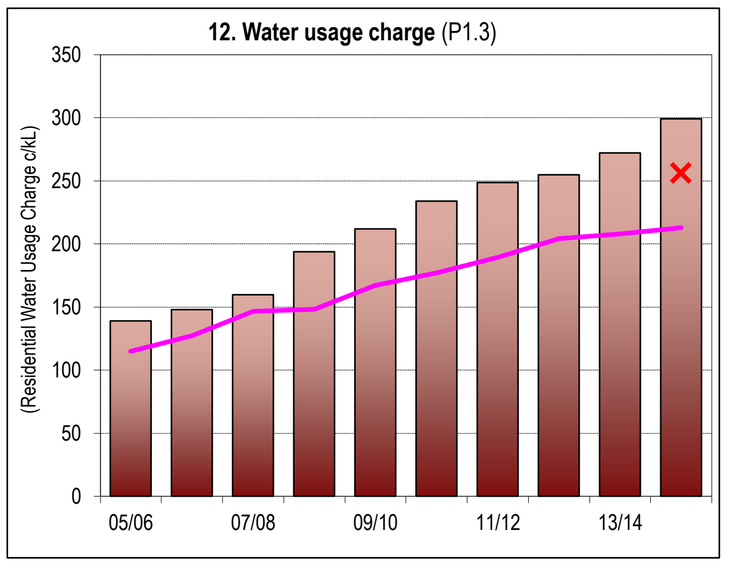
Lismore City Council — TBL Water Supply Performance (page 2) — DRAFT — 2013-14

(Results shown for 10 years together with 2013-14 Statewide Median and Top 20%)

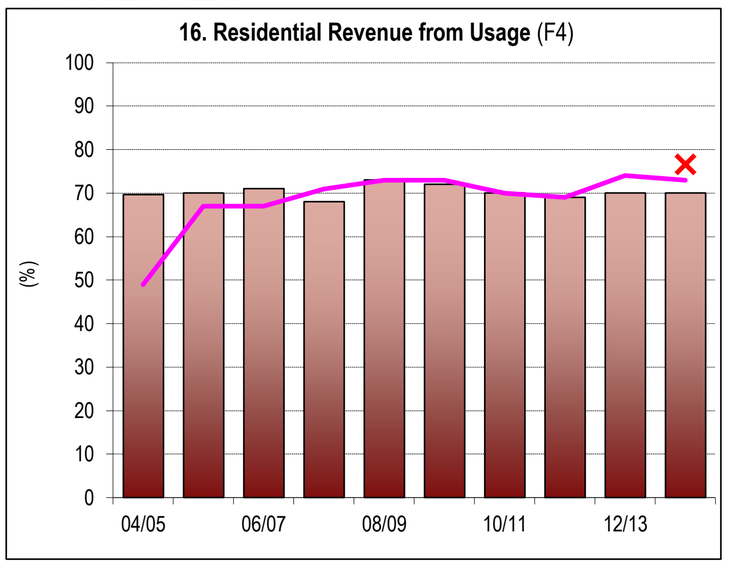
RESIDENTIAL USE/REVENUE FROM USAGE

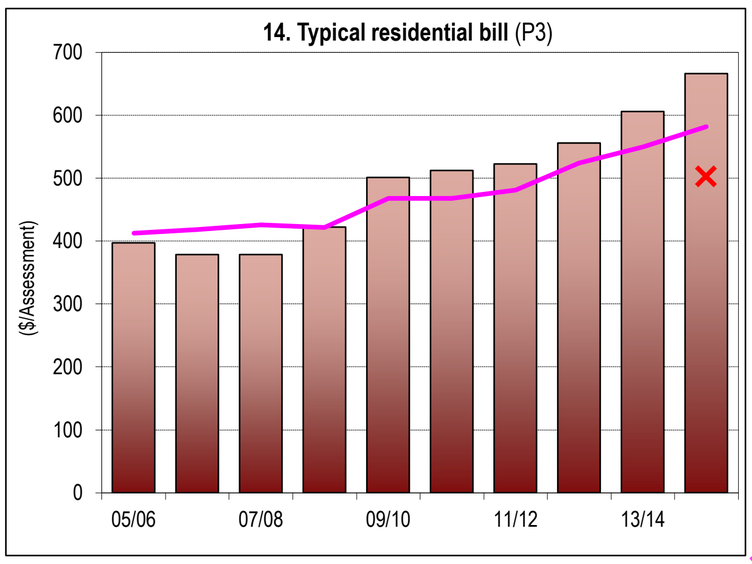


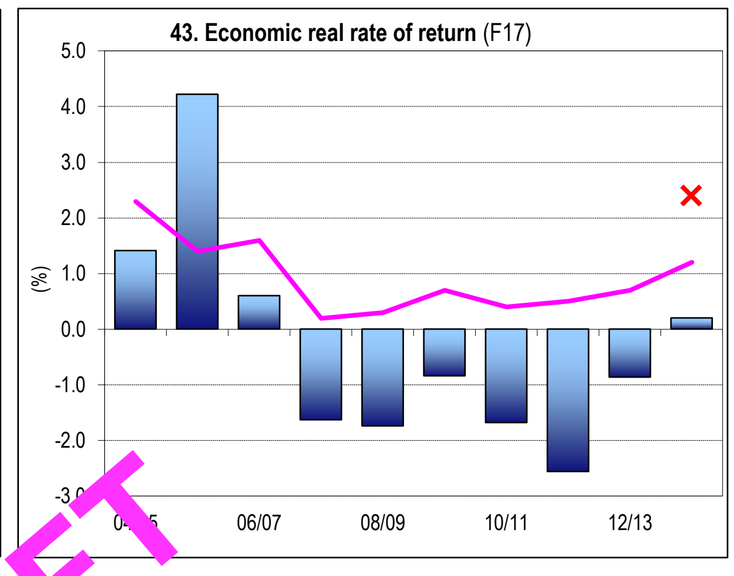




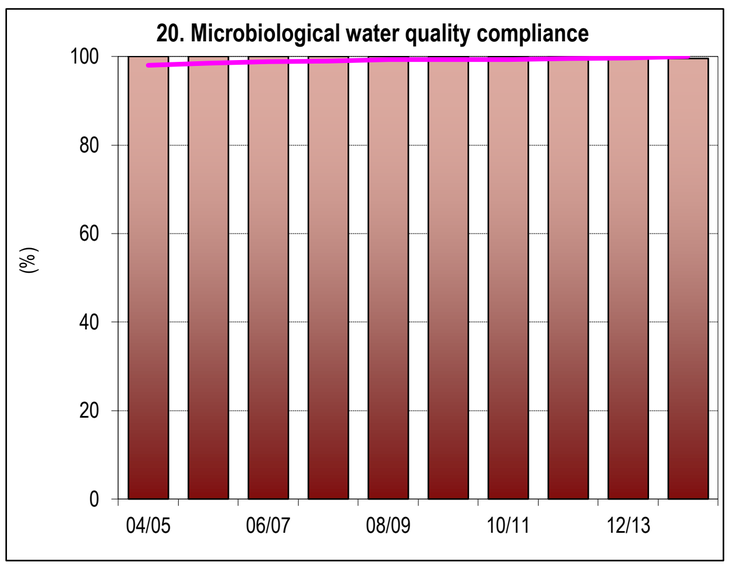
COST RECOVERY

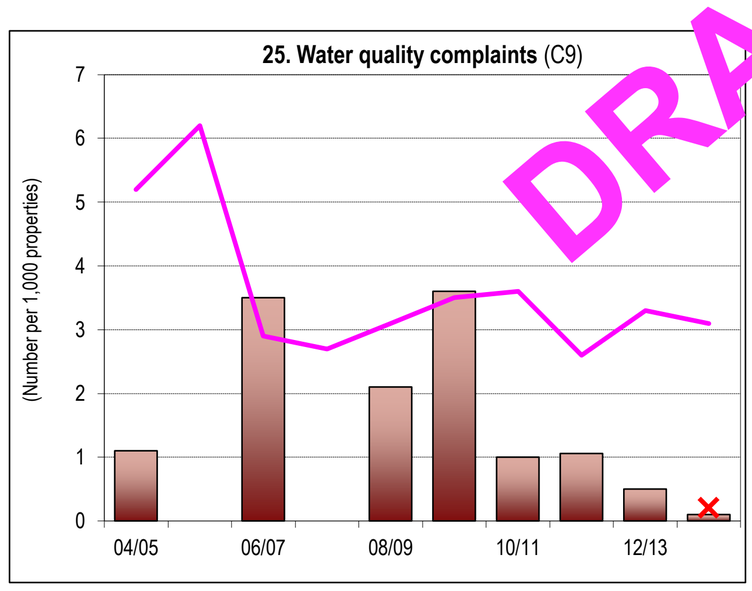


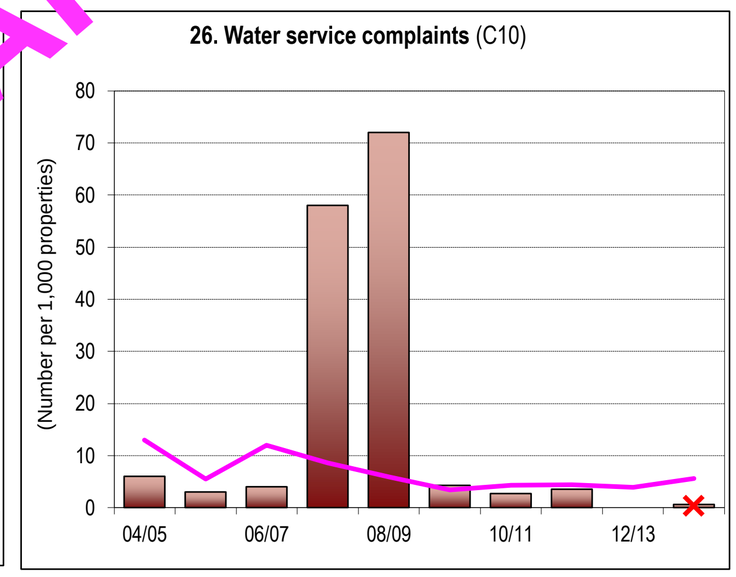




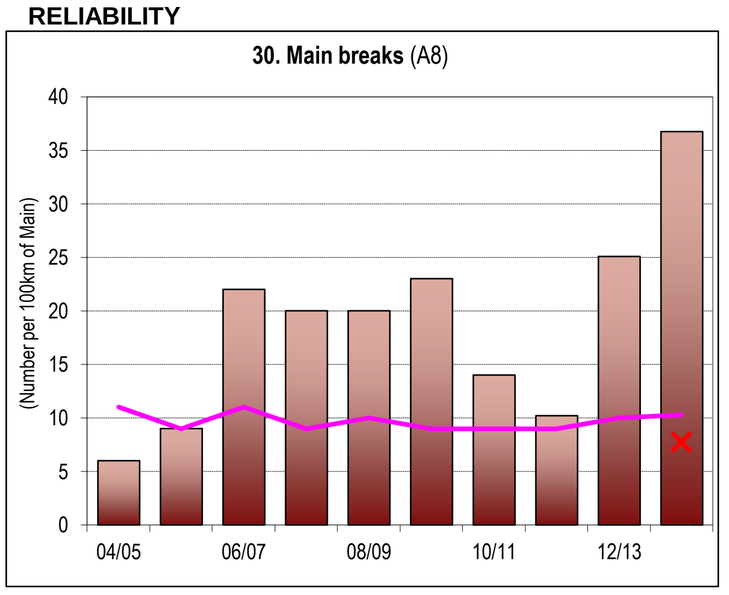
WATER QUALITY/CUSTOMER SERVICE

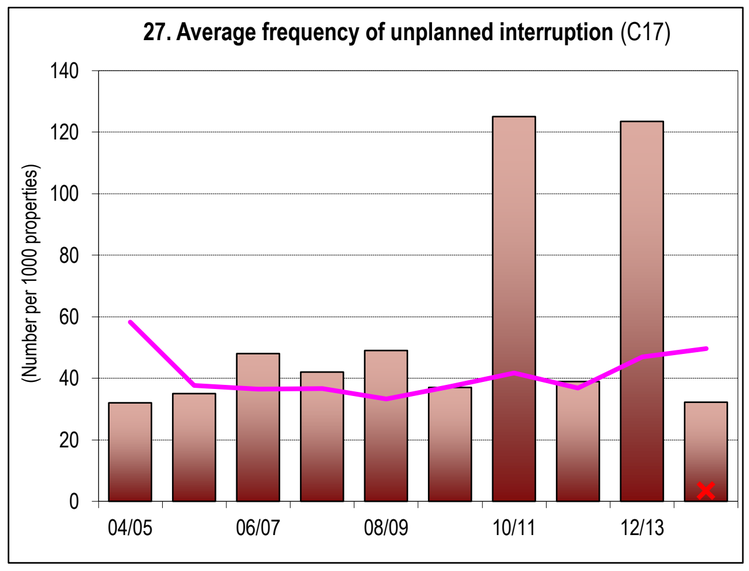


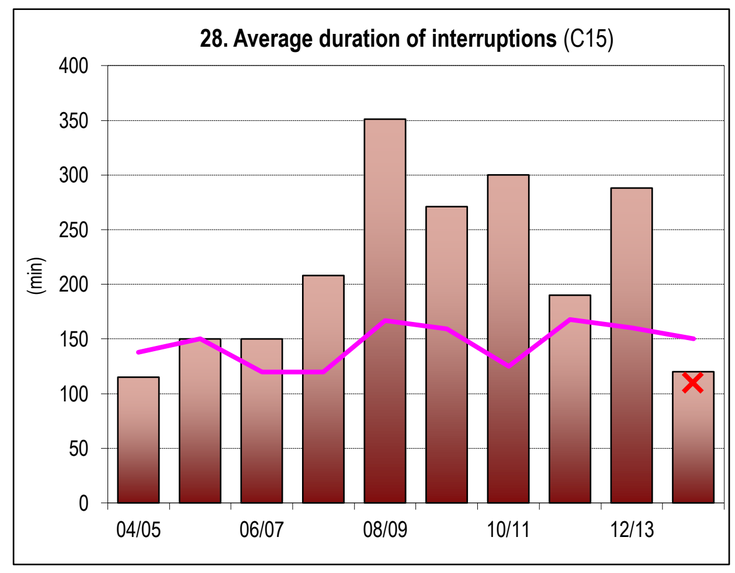




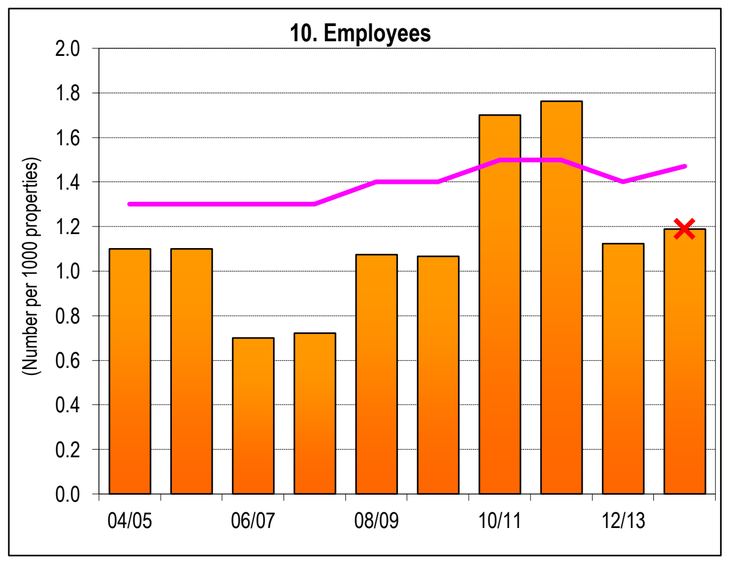
RELIABILITY

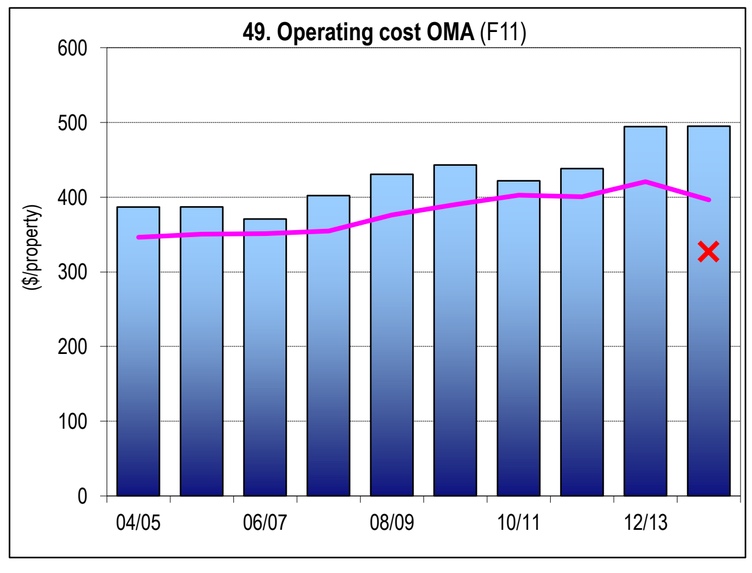


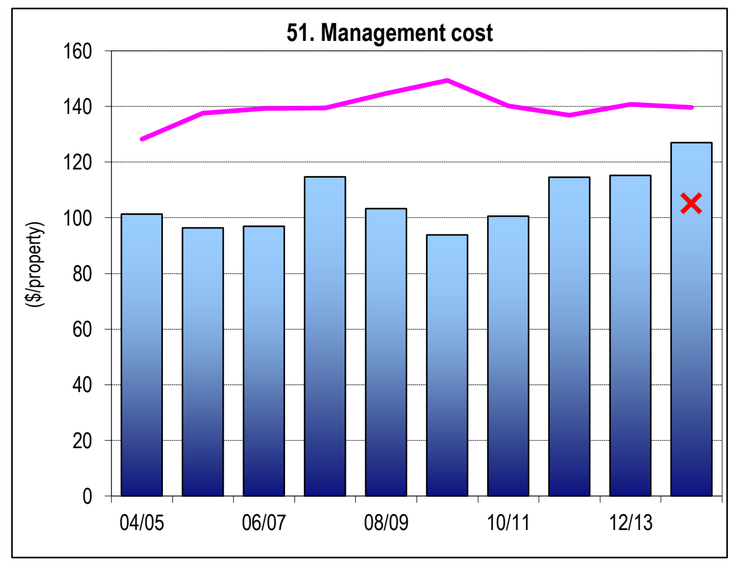




EFFICIENCY







NOTES:

1. Costs are in Jan 2014$ except for graphs 12 and 14, which are in Jan 2015$.
2. Microbiological water quality compliance 1999-00 to 2003-04 was on the basis of 1996 NHMRC/ARMCANZ Australian Drinking Water Guidelines for E. coli; from 2004-05 to 2010-11 compliance was on the basis of the 2004 NHMRC/NRMMC Australian Drinking Water Guidelines (ADWG) and for 2011-12 to 2013-14 compliance was on the basis of the 2011 ADWG.
3. Indicators 33 and 33c - Green shading of bars shows % of time Drought Water Restrictions applied in each year: 0 - 30% | 30-50% | >50% of time
4. Indicator 33c - Yellow bars show Peak Week Water Supplied for comparison with Peak Day Water Supplied shown in green.

LEGEND

State Median for all years

Top 20% for 2013-14

DRAFT

DRAFT

* The Statewide medians shown are draft only and are provided to assist Council. They must not be publicly disclosed.

Lismore City Council Water Supply – Action Plan Page 1

Summary
In 2013-14, Lismore City Council implemented all the water supply requirements of the *NSW Best-Practice Management Framework* and its performance has been [to be completed by Council].

Key actions from Council's Strategic Business Plan:
- *Insert achievements for Key Action 1 here for Lismore City Council*
- *Insert achievements for Key Action 2 here for Lismore City Council*

INDICATOR		RESULT[2]		COMMENT/DRIVERS	ACTION
	Best-Practice Management Framework	Implemented all the Best-Practice Requirements[1]	Very good	Implementation of the requirements demonstrates effectiveness and sustainability of water supply business. 100% implementation is required for eligibility to pay an 'efficiency dividend'.	
CHARACTERISTICS					
5	Connected property density	42 per km of main High ranking (2, 1)		A connected property density below 30 can significantly increase the cost per property of providing services, as will also a high number of small discrete water supply schemes.	
9	Renewals expenditure	1.8% Highest ranking (1, 1)	Very good	Adequate funds must be programmed for works outlined in the Asset Management Plan – page 3 of the 2013-14 NSW Performance Monitoring Report.	**FOR INDICATORS 9 to 56** Where ranking is low, investigate reasons including past performance and trends, develop remedial action plan and summarise in this column.
10	Employees	1.2 per 1,000 props High ranking (2, 1)			
SOCIAL - CHARGES					
12	Residential water usage charge	299 c/kL Highest ranking (1, 1)	Good	Benefits of strong pricing signals are shown on page 5 of the 2013-14 NSW Performance Monitoring Report.	
13	Residential access charges	$204 per assessment Highest ranking (1, 1)	Good		See 16.
14	Typical residential bill[3] (TRB)	$666 per assessment Low ranking (4, 3)	Good	TRB should be consistent with projection in the financial plan. Drivers – OMA Management Cost and Capital Expenditure.	See 43.
15	Typical developer charges	$2900 per ET (reticulator component)			
16	Residential revenue from usage charges	70% of residential bills Median ranking (3, 3)	Satisfactory	≥ 75% of residential revenue should be generated through usage charges.	
SOCIAL – HEALTH					
19	Physical quality compliance	Yes Highest ranking (1, 1)	Very good		
19 a	Chemical quality compliance	Yes Highest ranking (1, 1)	Very good		
20	Microbiological compliance[4]	Yes Highest ranking (1, 1)	Very good	Critical indicator. LWUs should annually review their DWMS in accordance with NSW guidelines[4].	

1. *Council needs to annually 'roll forward', review and update its 30-year total asset management plan (TAMP) and 30-year financial plan, review Council's TBL Performance Report and prepare an **Action Plan** to Council. The Action Plan is to include any actions identified in Council's annual review of its DWMS (Indicator 20) and any section 61 Reports from the NSW Office of Water. Refer to pages 27, 28, 107 and 111 of the 2013-14 NSW Water Supply and Sewerage Performance Monitoring Report.*
2. *The ranking relative to similar size LWUs is shown first (Col. 2 of TBL Report) followed by the ranking relative to all LWUs (Col. 3 of TBL Report).*
3. *Review and comparison of the 2014-15 **Typical Residential Bill (Indicator 14)** with the projection in the later of your IWCM Strategy and financial plan and your Strategic Business Plan is **mandatory**.*
   In addition, if both indicators 43 and 44 are negative, you must report your proposed 2015-16 typical residential bill to achieve full cost recovery.
4. ***Microbiological compliance (Indicator 20)** is a **high priority** for each NSW LWU. Corrective action for non-compliance (≤97%), or any 'boil water alerts' must be reported in your Action Plan. Refer to pages 7, 8 and 28 of the 2013-14 NSW Water Supply and Sewerage Performance Monitoring Report (www.water.nsw.gov.au) and NSW Guidelines for drinking water quality management systems, NSW Health and NSW Office of Water, 2013.*

Lismore City Council Water Supply – Action Plan Page 2

INDICATOR		RESULT		COMMENT/DRIVERS	ACTION
SOCIAL – LEVELS OF SERVICE					
25	Water quality complaints	0 per 1,000 props Highest ranking (1, 1)	Very good	Critical indicator of customer service. Can be influenced by the type of business - e.g. unfiltered supply.	
26	Service complaints	0.6 per 1,000 props High ranking (2, 1)	Good	Key indicator of customer service.	
27	Average frequency of unplanned interruptions	32 per 1,000 props Median ranking (3, 4)	Satisfactory	Key indicator of customer service, condition of network and effectiveness of operation.	
30	Number of main breaks	37 per 100km of main Lowest ranking (5, 5)	May require review	Drivers – condition and age of water mains, ground conditions.	Monitor breaks, including past performance and trends.
32	Total Days Lost	0.4% High ranking (2, 2)	Good		
ENVIRONMENTAL					
33	Average annual residential water supplied	155 kL per prop Highest ranking (1, 1)	Good	Drivers – available water supply, climate, location (Inland or coastal), pricing signals (Indicator 3), restrictions.	
34	Real losses (leakage)	40 L/c/d Highest ranking (1, 1)	Very good	Loss reduction is important where an LWU is facing drought water restrictions or the need to augment its water supply system.	
ECONOMIC					
43	Economic Real Rate of Return (ERRR)	0.2% Lowest ranking (5, 4)	Satisfactory	Reflects the rate of return generated from operating activities (excluding interest income and grants). An ERRR or ROA of ≥ 0% is required for full cost recovery.	
44	Return on assets (ROA)	-0.1% Lowest ranking (5, 4)		See 43.	
45	Net debt to equity	-1% Median ranking (3, 2)		LWUs facing significant capital investment are encouraged to make greater use of borrowings – page 14 of the 2013-14 NSW Performance Monitoring Report.	
46	Interest cover	>100 Highest ranking (1, 1)	Very good	Drivers – in general, an interest cover > 2 is satisfactory.	
47	Loan payment	$45 per prop Median ranking (3, 2)	Satisfactory	The component of TRB required to meet debt payments. Drivers – expenditure on capital works, short term loans.	
49	Operating cost (OMA)	$495 per prop Low ranking (4, 3)	May require review	Prime indicator of the financial performance of an LWU. Drivers – development density, level of treatment, management cost, topography, number of discrete schemes and economies of scale.	Review components carefully to ensure efficient operating cost.
51	Management cost	$127 per prop High ranking (2, 2)	Good	Typically about 40% of the OMA. Drivers – No. of employees. No. of small discrete water schemes.	
52	Treatment cost		Not reported	Drivers – type and quality of water source. Size of treatment works	
53	Pumping cost	$9 per prop Highest ranking (1, 1)	Very good	Drivers – topography, development density and location of water source.	
55	Water main cost	$100 per prop Low ranking (4, 4)	May require review	Drivers – age and condition of mains. Ground conditions. Development density.	
56	Capital expenditure	$160 per prop Median ranking (3, 3)	Satisfactory	An indicator of the level of investment in the business. Drivers – age and condition of assets, asset life cycle and water source.	

Lismore City Council — TBL Sewerage Performance — DRAFT — 2013-14

SEWERAGE SYSTEM - Lismore City Council serves a population of 28,200 (12,760 connected properties) and has 3 sewage treatment works providing tertiary and advanced tertiary treatment. The system comprises 53,100 EP treatment capacity (Intermittent Extended Aeration (Activated Sludge) and Oxidation Pond), 33 pumping stations (144 ML/d), 39 km of rising mains and 320 km of gravity trunk mains and reticulation. 1% of effluent was recycled (Indicator 27) and the treated effluent is discharged to river. Lismore City Council has 3 Pollution Incident Response Management Plans (PIRMPs) for their sewage treatment works.

PERFORMANCE - Residential growth for 2013-14 was 0.8% which is similar to the statewide median. Lismore City Council achieved 89% implementation of the NSW BPM requirements. The 2014-15 typical residential bill was $772 which was above the statewide median of $669 (Indicator 12). The economic real rate of return was 0.2% which was less than the statewide median (Indicator 46). The operating cost per property (OMA) was $466 which was above the statewide median of $430 (Indicator 50). Sewage odour complaints were less than the statewide median of 1 (Indicator 21). Lismore Council reported no public health incidents. Council did not comply with the P requirements of the environmental regulator for effluent discharge. The current replacement cost of system assets was $314M ($25,800 per assessment), cash and investments were $16M, debt was $9M and revenue was $10.8M (excluding capital works grants).

IMPLEMENTATION OF REQUIREMENTS OF NSW BEST-PRACTICE MANAGEMENT (BPM) FRAMEWORK

(1) Complete current strategic business plan & financial plan	**YES**	**(2e) Pricing** - DSP with commercial developer charges	Yes
(2) **(2a) Pricing** - Full Cost Recovery without significant cross subsidies	Yes	**(2f) Pricing** - Liquid trade waste approvals & policy	Yes
(2b) Pricing - Appropriate Residential Charges	Yes	**(3) Complete performance reporting** (by 15 September)	**YES**
(2c) Pricing - Appropriate Non-Residential Charges	[11]	**(4) Integrated water cycle management strategy**	**YESC**
(2d) Pricing - Appropriate Trade Waste Fees and Charges	Yes	**IMPLEMENTATION OF ALL REQUIREMENTS**	**89%**

TRIPLE BOTTOM LINE (TBL) PERFORMANCE INDICATORS

	NWI	No.			LWU RESULT	RANKING >10,000 properties Note 1	RANKING All LWUs Note 2	MEDIANS* Statewide Note 3	MEDIANS* National Note 4
					Col 1	Col 2	Col 3	Col 4	Col 5
UTILITY — CHARACTERISTICS	C5	1	**Population served: 28,200**						
	C8	2	**Number of connected properties: 12,760**	Number of assessments: 12,150					
	C6	3	**Number of residential connected properties: 11,710**						
		4	**New residences connected to sewerage** (%)	%	0.8	5	3	1.0	
	A6	5	**Properties served per kilometre of main**	Prop/km	36			38	
	W18	6	**Volume of sewage collected** (ML)	ML	3,743			4,600	
		7	**Renewals expenditure** (% of current replacement cost of system assets)	%	0.5	2	3	0.5	
		8	**Employees per 1000 properties**	per 1,000 prop	2.0	4	4	1.6	
SOCIAL — CHARGES & BILLS	P4		**Description of residential tariff structure:**	access charge/prop; independent of land value					
	P4.1	11a	**Residential access charge for 2013-14 ($/assessment)**	$ 2013-14	738	4	5	625	
		11	**Residential access charge for 2014-15 ($/assessment)**	$ 2014-15	772	4	5	669	
	P6	12a	**Typical residential bill for 2013-14 ($/assessment)**	$ 2013-14	738	4	5	625	
		12	**Typical residential bill for 2014-15 ($/assessment)**	$ 2014-15	772	4	5	669	
		13	**Typical developer charge for 2014-15 ($/equivalent tenement)**	$ 2014-15	10,330	1	1	5,100	
		14	**Non-residential sewer usage charge** (c/kL)	c/kL				136	
	F6	15	**Revenue per property** - Sge ($)	$	840	4	2	846	
SOCIAL — HEALTH		16	**Sewerage Coverage** (% of Urban Population with Reticulated Sge Service)	%	95.3	5	2	97.9	
	E3	17	**Percent of sewage treated to a tertiary level** (%)	%	98	3	3	98	
	E4	18	**Percent of sewage volume treated that was compliant** (%)	%	79	5	4	100	
	E5	19	**Number of sewage treatment works compliant at all times**		2 of 3				
SOCIAL — SERVICE LEVELS		21	**Odour complaints per 1000 properties**	per 1,000 prop	0.6	2	4	1.0	
	C11	22	**Service complaints - sewerage per 1000 properties**	per 1,000 prop	16	4	3	8	
	C16	23a	**Average sewerage interruption** (minutes)	min	69	2	2	109	
		25	**Total days lost** (%)	%	0.0	1	1	2.9	
ENVIRONMENTAL — NATURAL RESOURCE MANAGEMENT	W19	26	**Volume of sewage collected per property** (kL)	kL	293	5	5	221	
	W26	26a	**Total recycled water supplied** (ML)	ML	30	5	5	630	
	W27	27	**Recycled water** (% of effluent recycled)	%	1	5	5	12	
	E8	28	**Biosolids reuse** (%)	%				100	
		30	**Energy consumption - sewerage** (kWh/ML)	kWh	575	1	3	770	
		31	**Renewable energy consumption** (% of total energy consumption)	%	0	1	1	0	
	E12	32	**Net greenhouse gas emissions - WS & Sge** (net tonnes CO2 equivalents per 1000 properties)		250	1	2	370	
ENVIRONMENTAL — ENVIRONMENTAL PERFORMANCE		33	**90th Percentile licence limits for effluent discharge:**	BOD 15 mg/L; SS 20 mg/L; Total N 15 mg/L; Total P 1 mg/L					
		34	**Compliance with BOD in licence** (%)	%	100	1	1	100	
		35	**Compliance with SS in licence** (%)	%	100	1	1	100	
	A14	36	**Sewer main breaks and chokes** (per 100 km of main)	per 100km main	49	4	4	37	
		37a	**Sewer overflows** (per 100 km of main)	per 100km main	1	1	2	13	
	E13	37b	**Sewer overflows reported to environmental regulator** (per 100km of main)		1.4	4	5	0.8	
		39	**Non res & trade waste % of total sge volume**	%	23	3	2	21	
ECONOMIC — FINANCE		43	**Revenue from non-residential plus trade waste charges** (% of total revenue)	%	20	2	3	18	
		44	**Revenue from trade waste charges** (% of total revenue)	%	1.4	4	3	2.0	
	F18	46	**Economic real rate of return** - Sge (%)	%	0.2	5	4	1.5	
		46a	**Return on assets** - Sge (%)	%	0.3	4	4	1.3	
		48a	**Loan payment per property** - Sge ($)	$	61	4	2	90	
	F24	48b	**Net profit after tax** - WS & Sge ($'000)	$'000	-151	4	5	1180	
ECONOMIC — EFFICIENCY		49	**Operating cost (OMA) per 100 km of main** ($'000)	$'000	1,660	2	4	1,730	
	F12	50	**Operating cost (OMA) per property ($) (Note 9)**	$	466	3	4	430	
		51	**Operating cost (OMA) per kL** (cents)	c/kL	159	1	2	206	
		52	**Management cost per property** ($)	$	122	1	3	161	
		53	**Treatment cost per property** ($)	$	189	4	4	155	
		54	**Pumping cost per property** ($)	$	51	2	3	68	
		55	**Energy cost per property** ($)	$	38	2	3	42	
		56	**Sewer main cost per property** ($)	$	96	5	5	47	
	F29	57	**Capital Expenditure per property -** Sewerage ($)	$	210	3	2	193	

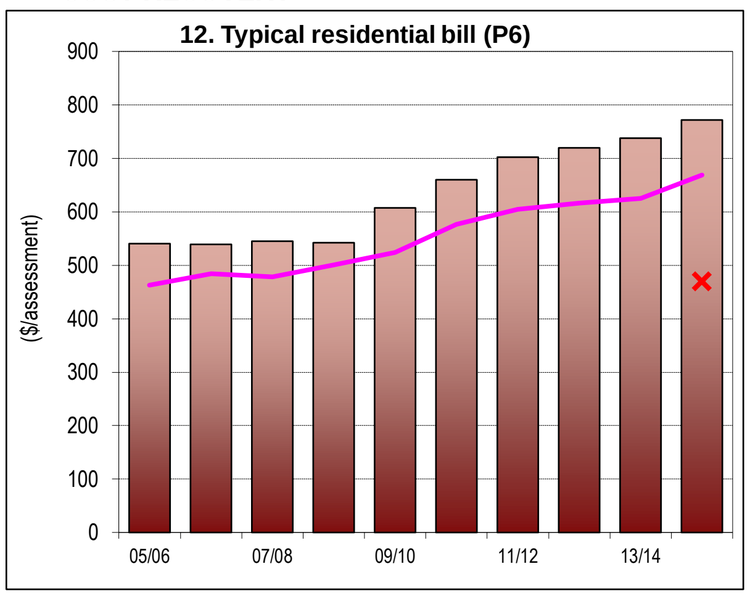
NOTES :

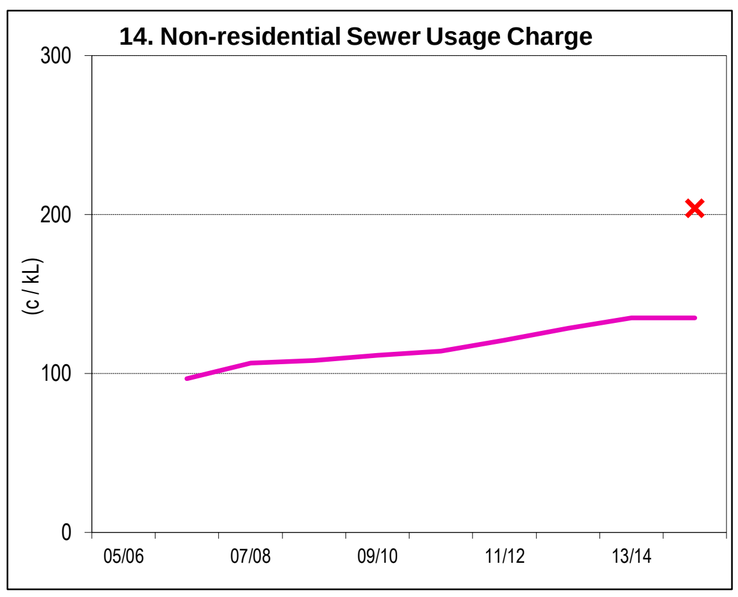
1 Col 2 rankings are on a % of LWUs basis - best reveals performance compared to similar sized LWUs (ie. Col 1 is compared with LWUs with >10,000 properties).
2 Col 3 rankings are on a % of LWUs basis - best reveals performance compared to all LWUs (ie. Col 1 is compared with all LWUs). - see attachment.
3 Col 4 (Statewide Median) is on a % of connected properties basis- best reveals statewide performance (gives due weight to larger LWUs & reduces effect of smaller LWUs).
4 Col 5 (National Median) is the median value for the 66 utilities reporting sewerage performance in the National Performance Report 2013-14 (www.bom.gov.au).
5 LWUs are required to annually review key projections & actions in the later of their IWCM Strategy and financial plan and their Strategic Business Plan and to annually 'roll forward', review and update their 30-year total asset management plan (TAMP) and 30-year financial plan.
6 Non-residential access charge - $772 (uniform access charge). No usage charge.
7 Non-residential and trade waste volume was 23% of total sewage collected.
Non-residential revenue was 20% of revenue from access, usage & trade waste charges, indicating fair pricing of services between the residential and non-residential sectors.
8 Compliance with Total N in Licence was 100%. Compliance with Total P in Licence was 79%.
9 Operating cost (OMA)/property was $466. Components were: management ($122), operation ($64), maintenance ($176), energy ($38), chemical ($28) & effluent/biosolids ($39).
10 Lismore City Council rehabilitations included 0.1% of its service connections. Renewals expenditure was $438,000/100km of main.
11 BPM Framework - Council needs to implement Appropriate Non-residential Charges (2c).

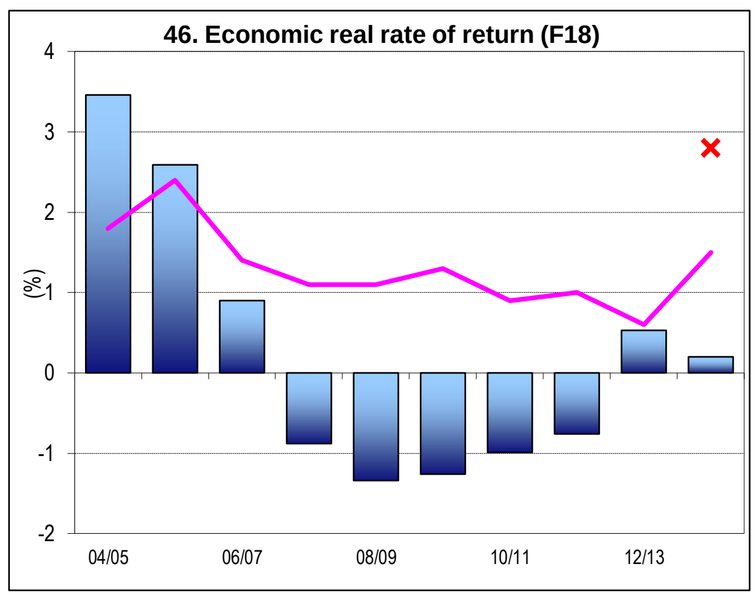
* The Statewide medians shown are draft only and are provided to assist Council. They must not be publicly disclosed.

(Results shown for 10 years together with 2012/13 Statewide Median and Top 20%)

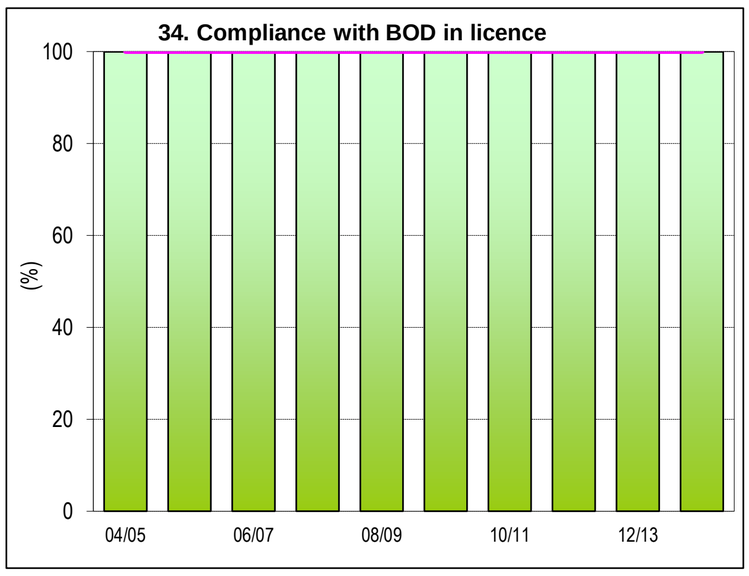
COST RECOVERY

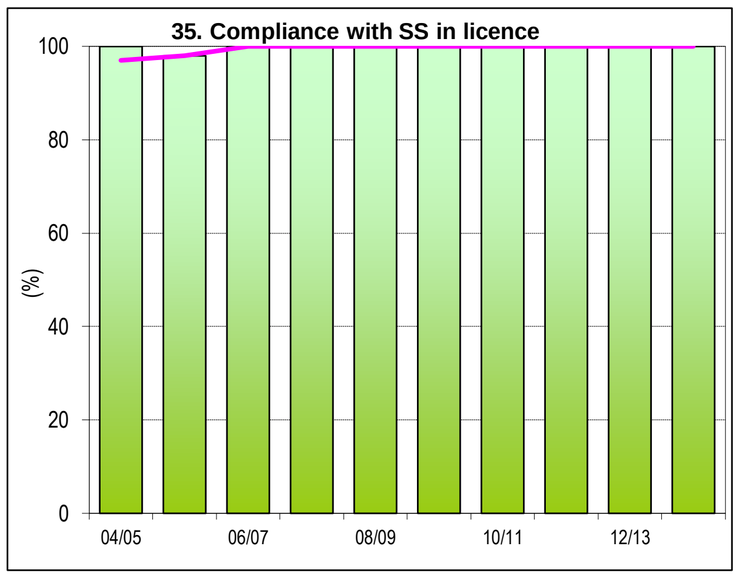


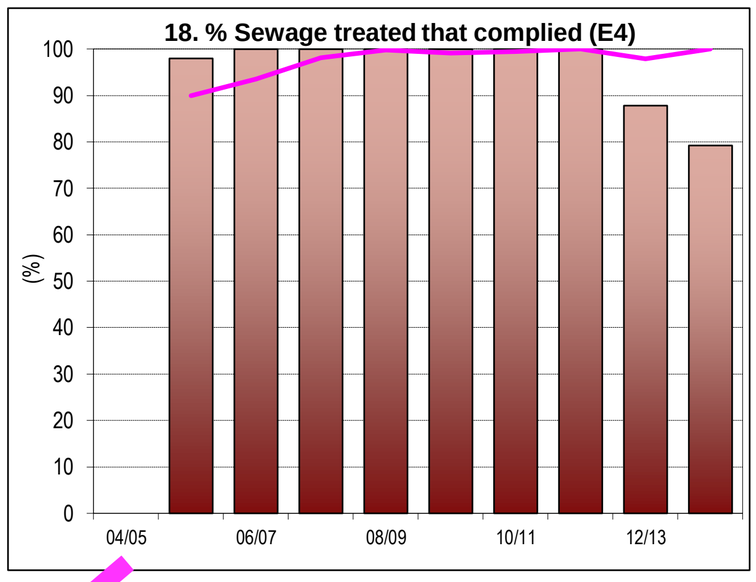




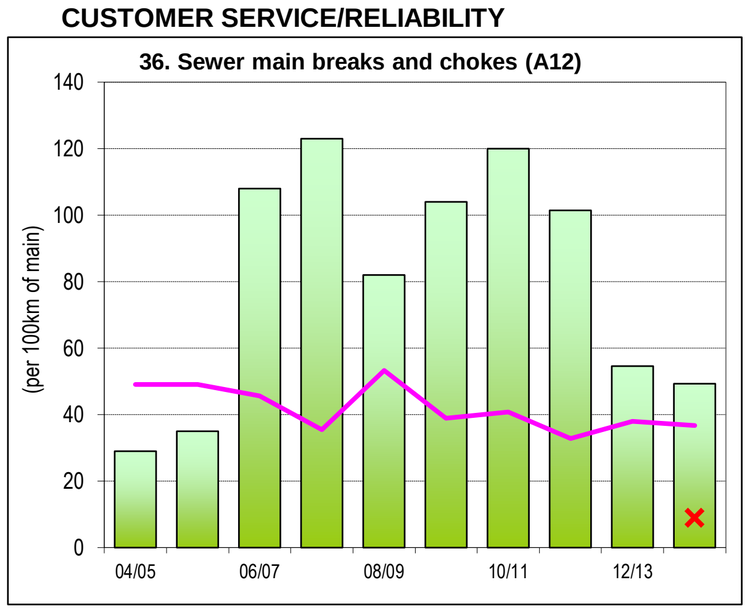
COMPLIANCE

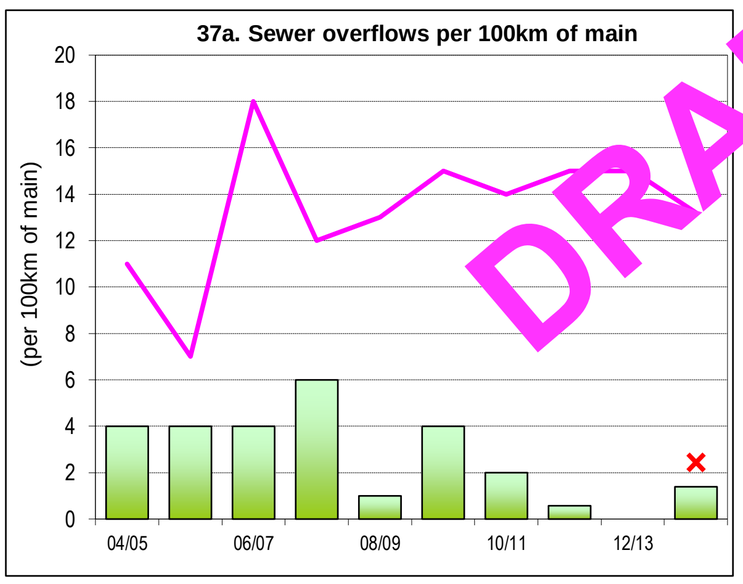


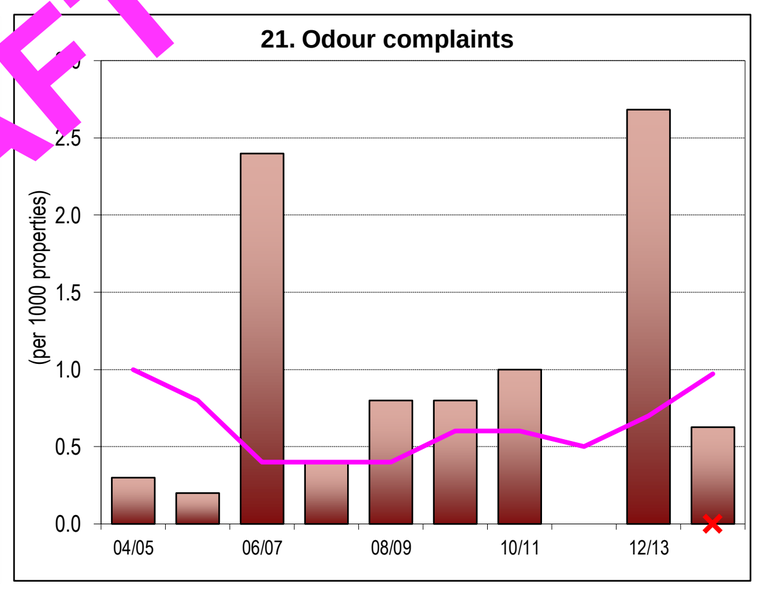




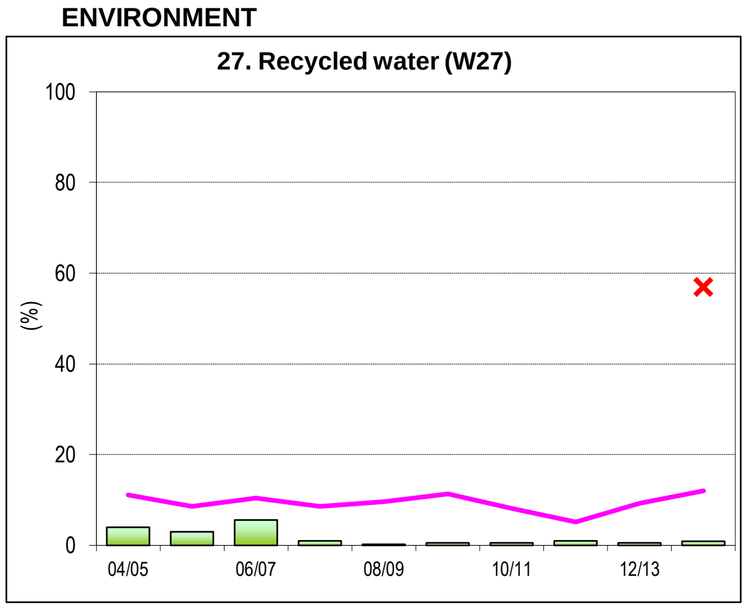
CUSTOMER SERVICE/RELIABILITY

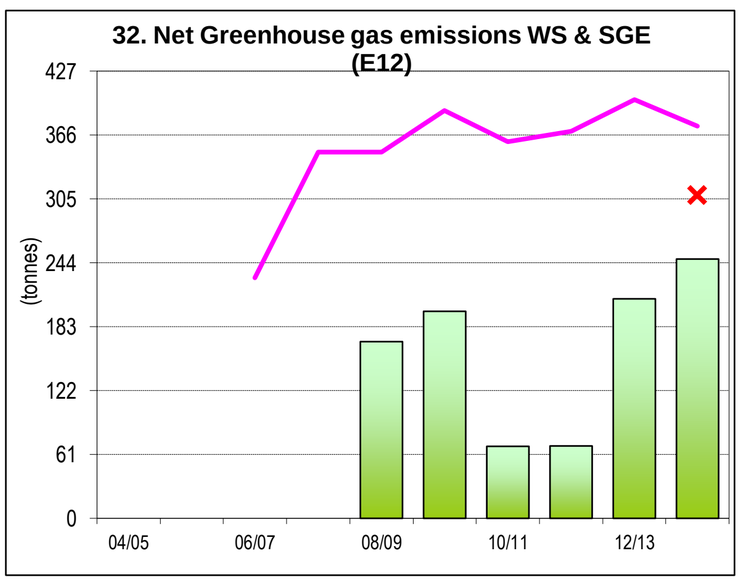


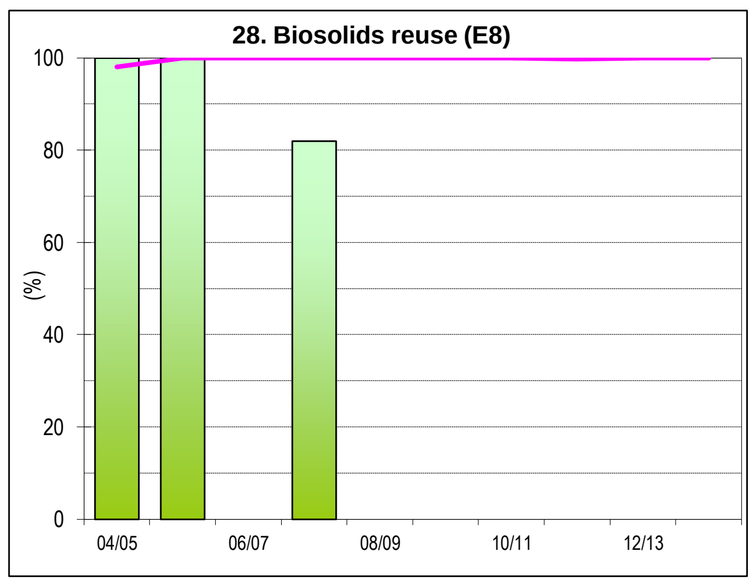




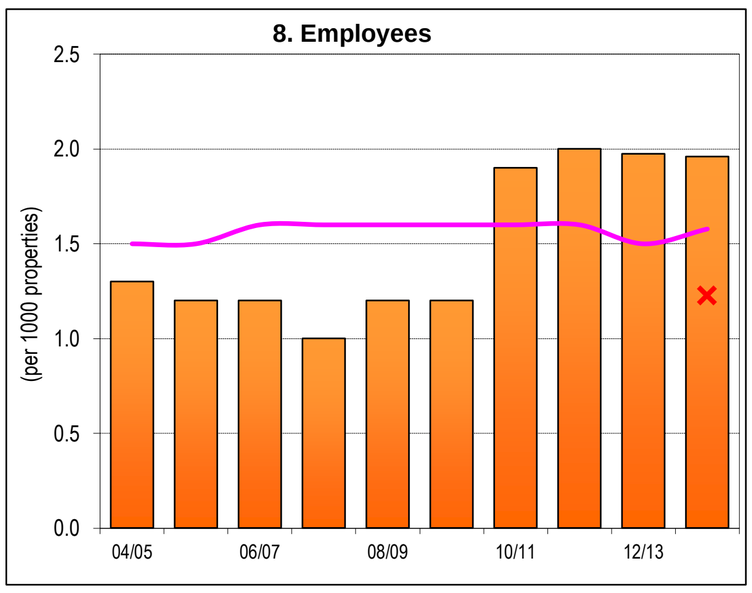
ENVIRONMENT

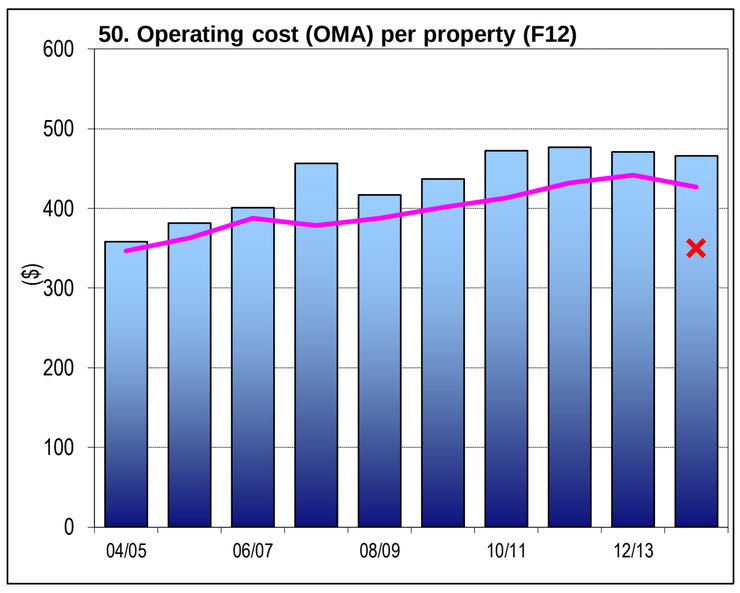


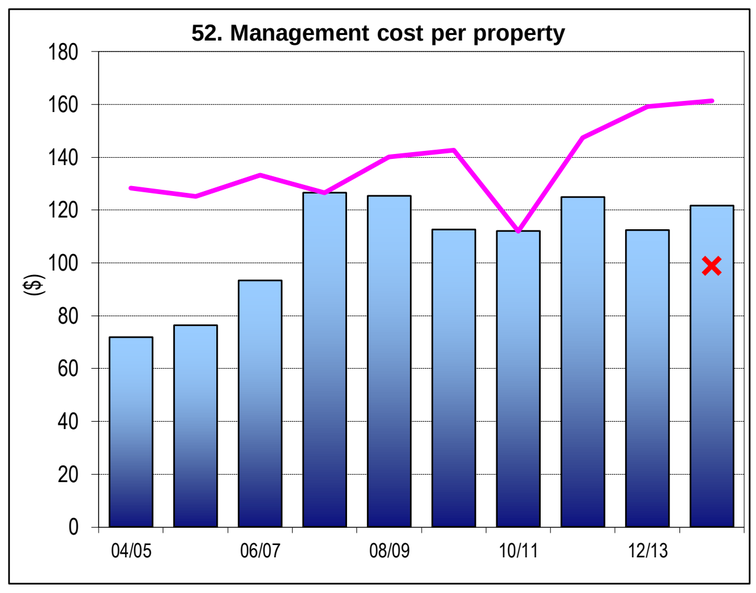




EFFICIENCY







NOTES:

1. Costs are in Jan 2014$ except for graphs 12 and 14, which are in Jan 2015$.

DRAFT

LEGEND

State Median for all years

Top 20% for 2013-14

* The Statewide medians shown are draft only and are provided to assist Council. They must not be publicly disclosed.

Lismore City Council Sewerage – Action Plan Page 1

Summary

In 2013-14, Lismore City Council implemented 89% of the sewerage requirements of the *NSW Best-Practice Management Framework* and its performance has been [to be completed by Council].

Key actions from Council's Strategic Business Plan:

- *Insert achievements for Key Action 1 here for Lismore City Council*
- *Insert achievements for Key Action 2 here for Lismore City Council*

INDICATOR		RESULT[2]		COMMENT/DRIVERS	ACTION
	Best-Practice Management Framework	Implemented 89% of the Best Practice Requirements[1]		Implementation demonstrates effectiveness and sustainability of water supply and sewerage business. 100% implementation is required for eligibility to pay an 'efficiency dividend'.	Address BPM requirement: - (2c) Appropriate non-residential charges
CHARACTERISTICS					
5	Connected property density	36 per km of main	Similar to the statewide median of 38	A connected property density below about 30 can significantly increase the cost per property of providing services.	
7	Renewals expenditure	0.5% High ranking (2, 3)	Good	Adequate funds must be programmed for works outlined in the Asset Management Plan – page 3 of the 2013-14 NSW Performance Monitoring Report.	**FOR INDICATORS 7 to 57** Where ranking is low, investigate reasons including past performance and trends, develop remedial action plan and summarise in this column.
8	Employees	2 per 1,000 props Low ranking (4, 4)	May require review		
SOCIAL – CHARGES					
12	Typical residential bill[3] (TRB)	$772 per assessment Low ranking (4, 5)		TRB should be consistent with projection in the financial plan. Drivers – OMA Management Cost and Capital Expenditure.	
13	Typical Developer Charges	$10330 per ET Highest ranking (1, 1)	Good		
14	Non-residential sewer usage charge			Need to address BPM requirement (2c) for complying non-residential charges.	
SOCIAL - HEALTH					
16	Sewerage coverage	95.3% Lowest ranking (5, 2)	May require review		
17	Percent sewage treated to tertiary level	98% Median ranking (3, 3)	Satisfactory		
18	Percent of sewage volume that complied	79% Lowest ranking (5, 4)	May require review	Key indicator of compliance with regulator.	
19	Sewage treatment works compliant at all times	2 of 3		Key indicator of compliance with regulator.	
SOCIAL – LEVELS OF SERVICE					
21	Odour Complaints	0.6 per 1,000 props High ranking (2, 4)	Good	Critical indicator of customer service and operation of treatment works.	
22	Service complaints	16 per 1,000 props Low ranking (4, 3)	May require review	Key indicator of customer service.	
23 a	Average Duration of Interruption	69 minutes High ranking (2, 2)	Good	Key indicator of customer service, condition of network and effectiveness of operation.	
25	Total Days Lost	0% Highest ranking (1, 1)	Very good		

*1. Council needs to annually 'roll forward', review and update its 30-year total asset management plan (TAMP) and 30-year financial plan, review Council's TBL Performance Report and prepare an **Action Plan** to Council. The Action Plan is to include any actions identified in Council's annual review of its DWMS (Indicator 20) and any section 61 Reports from the NSW Office of Water. Refer to pages 27, 28, 107 and 111 of the 2013-14 NSW Water Supply and Sewerage Performance Monitoring Report.*

Lismore City Council Sewerage – Action Plan Page 2

INDICATOR		RESULT		COMMENT/DRIVERS	ACTION
ENVIRONMENTAL					
26	Volume of sewage collected per property	293 kL Lowest ranking (5, 5)		Compare sewage collected to water supplied.	
27	Percentage effluent recycled	1% Lowest ranking (5, 5)	May require review	Key environmental indicator. Drivers – availability of potable water, demand, proximity to customers, environment.	
28	Biosolids reuse		Not reported	Key environmental indicator.	
32	Net Greenhouse gas emissions (WS & Sge)	250 t CO2/1000 props Highest ranking (1, 2)	Very good	Drivers – gravity vs pumped networks, topography, extent of treatment.	
34	Compliance with BOD in licence	100% Highest ranking (1, 1)	Very good	Key indicator of compliance with regulator requirements.	
35	Compliance with SS in licence	100% Highest ranking (1, 1)	Very good	Drivers – algae in maturation ponds, impact of drought.	
36	Sewer main breaks and chokes	49 per 100km of main Low ranking (4, 4)	May require review	Drivers – condition and age of assets, ground conditions.	
37 a	Sewer overflows to the environment	1 per 100km of main Highest ranking (1, 2)	Very good	Drivers – condition of assets, wet weather and flooding.	
39	Non-residential percentage of sewage collected	23% Median ranking (3, 2)		For non-residential, compare % of sewage collected to indicator 43 (% of revenue).	
ECONOMIC					
43	Non-residential revenue	20% High ranking (2, 3)	Good	See 39 above.	
46	Economic Real Rate of Return (ERRR)	0.2% Lowest ranking (5, 4)	Satisfactory	Reflects the rate of return generated from operating activities (excluding interest income and grants). An ERRR or ROA of ≥ 0% is required for full cost recovery.	
46 a	Return on assets	0.3% Low ranking (4, 4)		See 46.	
47	Net debt to equity	-1% Median ranking (3, 2)		LWUs facing significant capital investment are encouraged to make greater use of borrowings – page 14 of the 2013-14 NSW Performance Monitoring Report.	
48	Interest cover	>100 Highest ranking (1, 1)	Very good	Drivers – in general, an interest cover of > 2 is satisfactory.	
48 a	Loan payment	$61 per prop Low ranking (4, 2)		The component of TRB required to meet debt payments. Drivers – expenditure on capital works, short term loans.	
50	Operating cost (OMA)	$466 per prop Median ranking (3, 4)	Satisfactory	Prime indicator of the financial performance of an LWU. Drivers – development density, level of treatment, management cost, topography, number of discrete schemes and economies of scale.	Review carefully to ensure efficient operating cost.
52	Management cost	$122 per prop Highest ranking (1, 3)	Very good	Drivers –number of discrete schemes, number of employees. Typically about 40% of OMA.	
53	Treatment cost	$189 per prop Low ranking (4, 4)	May require review	Drivers – type and level of treatment, economies of scale.	
54	Pumping cost	$51 per prop High ranking (2, 3)	Good	Drivers – topography, development density, effluent recycling.	
56	Sewer main cost	$96 per prop Lowest ranking (5, 5)	May require review	Drivers – topography, development density, effluent recycling.	
57	Capital expenditure	$210 per prop Median ranking (3, 2)	Satisfactory	An indicator of the level of investment in the business. Drivers – age and condition of assets, asset life cycle.	

2. The ranking relative to similar size LWUs is shown first (Col. 2 of TBL Report) followed by the ranking relative to all LWUs (Col. 3 of TBL Report).
3. Review and comparison of the 2014-15 ***Typical Residential Bill (Indicator 12)*** with the projection in your Strategic Business Plan is **mandatory**. In addition, if both indicators 46 and 46a are negative, you must report your proposed 2015-16 typical residential bill to achieve full cost recovery.