WATER PLAN - 2008

31 July 2007

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Checked:	Damian O'Doherty
Approved:	Grant Green
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PO Box 1158
Warrnambool 3280

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1. INTRODUCTION

Wannon Water is proud to set out what it is determined to achieve for its customers over the five years from July 2008.

Wannon Water was formed on 1 July 2005 from an amalgamation of the three predecessor water authorities in southwest Victoria:

- Glenelg Water
- Portland Coast Water
- South West Water

This is the first Water Plan for our customers as an integrated business, as Wannon Water inherited the Water Plans and prices that had been developed by the three previous water businesses.

1.1 Wannon Water's Business and Customers

Wannon Water provides essential water and sewerage services to 70,000 people across 24,000 square kilometres of southwest Victoria, stretching from the South Australian border in the west across to Port Campbell on the south coast and stretching up as far as the Grampians in the north of the region. The major centres of population are Warrnambool, Portland and Hamilton.

The widely scattered character of the region means that Wannon Water has to operate a large number of small plants and systems to guarantee supply to our customers, including 21 water treatment facilities and 16 water reclamation plants. The water supplied to customers comes from similarly widely dispersed sources including the Otways, the Grampians and the Dilwyn Aquifer.

Wannon Water has four important groups of customers:

- Residential customers: domestic households across the region
- Non-residential customers: businesses (excluding major customers)
- Major Customers: 21 large industrial customers
- Rural customers: farming enterprises who may receive by agreement either a treated or untreated water supply, depending upon their location

Table 1-1: Wannon Water Customer Numbers & Consumption 2006-07

Source	Main Towns	Residential	Non-residential	Major	Rural	Total
Otways	Warrnambool Camperdown	17,464	2,008	17	1,205	20,694
Dilwyn West	Portland Port Fairy	8,012	1,075	3		9,090
Dilwyn East	Timboon	901	104		108	1,113
Grampians	Hamilton	4,911	776	2	221	5,910
Tullich Bore	Casterton	1,009	181		160	1,350
Other	Coleraine Penshurst	1,189	21		142	1,602
Total Customers		**33,508**	**4,415**	**22**	**1,814**	**39,760**
Volume (ML)		**6,018**	**2,111**	**3,104**	**2,438**	**13,671**
% of supply		44.1%	15.4%	22.7%	17.8%	100%

1.2 Amalgamation

The process of amalgamation in creating Wannon Water was a major exercise involving:

- Welding together three disparate organisations and systems into a quality customer focussed water business
- Putting in place standardised and effective systems to ensure improved and consistent compliance with external obligations
- Restructuring to establish a well trained and professional team to carry the responsibility for service delivery
- Rectifying major outstanding issues identified after the amalgamation
- Re-setting priorities across the single organisation to ensure that the works program delivered the best return for the total investment available.

The Board and Management Team committed serious time and resources to making sure that the business established robust and effective systems and revalidated its priorities and expenditure plans to deliver optimal outcomes for water customers across the region.

1.3 Drought

The other major factor that has driven business decisions and expenditure since 2005 has been the continued serious drought. Wannon Water developed a Drought Response Plan which included the introduction of permanent water savings measures on 1 May 2006, and a new four-stage Water Restrictions By-law.

The drought triggered the need for additional expenditure, in particular the sinking of extra bores to prevent Hamilton from running out of water, and has brought forward other projects to provide greater security for many communities. The drought has also decreased revenues in the Hamilton area as customers reduced consumption in response to the water restrictions. This is a challenging business environment.

This Water Plan includes a comprehensive *Water Supply Demand Strategy* that identifies a prudent and responsible investment program to enhance security of supply and promote water conservation over the next fifty years. This will ensure that the region has continued access to water for domestic and business needs to support community health and well being.

1.4 Customer Service

Customer service is the heart of Wannon Water's business. Wannon Water commits to delivering high quality services to all customers, and to putting things right quickly and without fuss if things go wrong. Customers are consulted through numerous routes to develop and implement policies and programs. Wannon Water welcomes customer contacts and complaints as they help us learn how to improve service delivery.

An independent customer satisfaction survey was commissioned in May 2007 to assess whether or not customers were satisfied with Wannon Water's performance. The level of customer satisfaction was exceptional, with 94% of domestic customers and 94% of business customers indicating that they were 'extremely-satisfied' or 'satisfied' with the overall level of services provided. The comparable figures for 2006 were 92% and 93% respectively.

Customer Service Benchmarking Australia was engaged in 2006 by the Essential Services Commission to assess the contact centre customer service delivery of regionally based Victorian water business. Wannon Water was rated the first out of the 15 Victorian water authorities assessed. This benchmarking demonstrates the quality of Wannon Water's customer service culture.

Wannon Water inherited three very different sets of customer service standards from the merged water businesses. In the 2005-06 year a revised single set of customer service performance targets were adopted following consultation with and support from Wannon Water's Customer Engagement Committee and approval by the Essential Services Commission. These targets focus the organisation's attention on those issues that matter most to customers.

Given the high level of customer satisfaction with the services provided by Wannon Water in the first regulatory period it is intended to roll forward the same levels of service targets into this Water Plan. Wannon Water is confident of maintaining a high level of customer satisfaction and achieving the service standards set out in this Water Plan.

1.5 Innovation and Sustainability

Wannon Water is committed to developing a business that is sustainable in the fullest sense of the word – promoting water conservation and re-use of recycled water, minimising the impacts on the environment, supporting the community and ensuring long-term commercial viability.

The drought and climate change create a significant challenge for all communities. Customers expect Wannon Water to take a lead in developing sustainable policies and practices. A specialist group of staff has been established to identify, develop and help direct innovative ways to help Wannon Water promote greater innovation and sustainability.

2. WATER PLAN EXECUTIVE SUMMARY

2.1 Introduction

In this draft Water Plan Wannon Water sets out proposals to ensure the continued delivery of high quality, secure water and sewerage services to 70,000 people across a large area of southwest Victoria.

The priorities and targets in the plan have been developed through a collaborative exercise involving our customers, who seek high quality services at a reasonable price, and our regulators, who are concerned to ensure compliance with external obligations.

This Water Plan provides a proper balance between the expenditure needed to maintain levels of service consistent with the Customer Charter and setting water, sewerage and trade waste charges at a reasonable level to fund the business.

Wannon Water welcomes feedback and comments from customers, stakeholders, regulators and the wider community to ensure that the final proposed plan represents a consensus view of the program of works and targets needed to ensure the long-term sustainable delivery of services to communities in southwest Victoria.

2.2 Overview of First Price Period

Wannon Water has delivered against the commitments in the Water Plans from the three prior water authorities in the region. Wannon Water:

- Is delivering against a suite of updated Customer Service Standards agreed with our Customer Engagement Committee and the Essential Services Commission, where there are now robust and reliable systems in place to record our performance against targets;
- Has created a new business with a higher level of professional capacity and compliance to meet raised customer and stakeholder expectation;
- Has made good progress in delivering the key projects nominated in the previous Water Plans;
- Has developed and implemented additional projects to respond to the drought and identified in the due diligence assessment following the amalgamation; and
- Will complete projects by the end of the first Water Plan period with a total value in excess of the commitments of the three former authorities.

Overall, customers in the region can be confident that the charges for their water, sewerage and trade waste services have been used wisely and properly to deliver high quality services and respond to an unprecedented drought. Wannon Water is not seeking to recover forecast revenue lost due to the impact of Water Restrictions on the level of demand for the Hamilton, Balmoral, Glenthompson and Coleraine water supply systems.

2.3 Key Outcomes for the Second Price Period

Programs are proposed to ensure restoration of secure water supplies to the whole region in response to the unprecedented drought conditions of the last couple of years. Expenditure is also required to upgrade water reclamation plants to protect the environment and allow increased water recycling. Beyond that there is a prioritised program of works to ensure continued delivery of efficient and high quality services across the region.

The twelve major capital works projects in the Water Plan, in order of value are:

- $28.7M to construct the Hamilton Grampians Inter-Connector Pipeline;
- $7.3M to construct a Warrnambool office building;
- $5.7M to upgrade the water reclamation plant at Portland;
- $4.0M to provide an alternative water supply to Coleraine;
- $3.3M to provide sewerage services to Dutton Way outside Portland;
- $3.2M to replace rural and urban water mains in Camperdown;
- $2.8M to provide SCADA at various sites throughout Wannon Water;
- $2.9M to upgrade and extend the water reclamation plant at Warrnambool;
- $2.1M to provide water services to Dutton Way outside Portland;
- $1.7M to provide sewerage services in the West Portland area;
- $1.5M to provide additional infrastructure to increase water recycling across the region;
- $1.2M to provide sewer services in the Wangoom Road area of Warrnambool.

Wannon Water aims to maintain the levels of service set out in the Customer Charter. Wannon Water considers that the targets in the Customer Charter represent a proper balance, delivering quality services that focus on the priorities for customers at a value for money price. Given the excellent customer level of satisfaction (94% in 2007) no changes are proposed for existing levels of service except for the introduction of two Guaranteed Service Levels backed by payment for non performance impacting on individual customers.

Two Guaranteed Service Level payments proposed to be introduced from 1 July, 2008 relating to the frequency of unplanned water supply interruptions and the frequency of sewer spills on a customer's property.

2.4 Expenditure Forecasts

2.4.1 Operating Expenditure

The schedule of operating expenditure proposed over the life of the Water Plan is set out in Table 2.1:

Table 2-1: Operating Expenditure proposed over Water Plan ($M)

2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
$25.23	$25.91	$27.70	$34.06	$32.62	$34.67	$34.22	$34.23

Comparative figures are provided for the earlier price period. The increase reflects the process of establishing Wannon Water as a credible new business taking over the responsibility of service delivery from the three smaller merged authorities. The figures indicate the operating expenditure required to meet the higher levels of service and compliance that are now the minimum baseline for water corporations.

The increase in expenditure over the full period and in particular in 2010-11 reflects a number of projects coming on line:

- Commissioning of the new water supply to Hamilton;
- Implementation of additional capacity at both the Warrnambool and Port Fairy water reclamation plants;
- Introduction of a new biosolids processing facility at Hamilton; and
- De-sludging of treatment lagoons at the Hamilton water reclamation plant.

2.4.2 Capital Expenditure

A realistic program of capital works is proposed to provide the infrastructure and capacity needed to deliver the standard of service and compliance required. The program is front-loaded to respond to a number of early priorities, in particular augmentation of Hamilton's water supply. Stripping out this one project reveals a program at a relatively steady state between $13M and $18M per annum. The lower level currently proposed for the final year leaves the ability to respond to new demands that arise over the period.

Table 2-2: Expenditure Schedule for Capital Works Program ($M)

2009	2010	2011	2012	2013	Total
$31.72	$32.52	$13.51	$16.37	$10.62	$104.74

In developing the forward capital works program Wannon Water has reviewed the main drivers for expenditure. These are set out in Table 2.3:

Table 2-3: Key Drivers for Water Plan ($M)

Primary Driver	Total	% of Total
Asset Replacement or Refurbishment	$25.52	24%
Corporate Services	$0.84	1%
Efficiency Improvement	$13.89	13%
Growth	$10.44	10%
Level of Service	$29.01	28%
New Systems & OH&S	$6.45	6%
Regulatory Compliance	$18.59	18%
Total	**$104.74**	

2.5 Revenue Requirements

The revenue required to deliver these commitments and ensure adequate finance for the proposed expenditure is calculated from three key elements:

- **Operating Expenditure:** this is recovered in the year in which it is incurred;
- **Return on Capital:** this provides a commercial return on the value of the capital invested in the business. This value comprises an opening regulatory asset base (RAB) updated by the addition of new validated capital expenditure less depreciation, contributions and disposals; and
- **Regulatory Depreciation:** this provides a return of the value of the capital invested in the business over the life of the asset.

Taking these factors together generates an overall revenue requirement of $235.87M for the five years of the second price period.

Table 2-4: Total Revenue Requirement – Water Plan ($M)

	2008-09	2009-10	2010-11	2011-12	2012-13	Totals
Operating Expenditure	34.06	32.62	34.67	34.22	34.23	169.79
Return on Assets	7.11	8.09	8.92	9.32	9.71	43.15
Depreciation - new	0.23	0.83	1.37	1.70	1.96	6.09
Depreciation - existing	4.27	3.45	3.24	2.99	2.89	16.84
TOTAL	**45.66**	**44.99**	**48.20**	**48.24**	**48.78**	**235.87**

2.6 Annual Price Change

The revenue required to fund the business requires an average annual real price increase of 13.6% for the 2008-2013 regulatory period.

Wannon Water has modelled the proposed prices for each separate water or sewerage system based on the principle that prices should be set to reflect the real costs. For water tariffs an average 8.5% real increase per annum is required for the 2008-13 regulatory period. This includes the major augmentation of the Hamilton supply.

However the sewerage component has a very different set of circumstances. Across all sewerage systems a 19.6% per annum increase is required. Some systems require substantially more to meet the costs of the provision of the sewerage service. This is generally due to one of two reasons, a) the past sewerage revenue received has been insufficient to meet the cost of providing the service, or b) significant infrastructure costs are required along with increased operating costs to meet Environmental Protection Authority required standards. Previously, in the majority of instances, sewerage costs have been cross subsidised from the water component.

As a social equity measure, the maximum annual price increase for any water or sewerage system will be capped at CPI plus 20 per cent. Any revenue shortfall resulting from applying this cap will be recovered from the wider customer base in part by setting a minimum annual price increase for any water system at CPI plus 10 per cent and CPI plus 5 per cent for sewerage systems.

The proposed prices for each water or sewerage system have been modelled to assess the impact of implementing the proposed expenditure program. The resulting prices for water and sewerage systems have been grouped into five broad price bands. For a complete discussion on pricing refer to Section 8 of this Water Plan.

2.7 Tariff Structures

This Water Plan establishes a uniform set of tariff pricing principles to be applied from 1 July 2008 to simplify and consolidate the very different pricing principles and tariff structures adopted by the three merged water authorities into a single consistent pricing structure.

Greater emphasis has been placed on water volume charges for residential customers, such that large water users will incur higher than average increases in water charges. This will be achieved by increasing the relative weighting given to the water volume tariff relative to the fixed water service charge. A three tier water volume charge will apply to all residential customers to send a strong pricing signal to use water efficiently. This pricing reform is consistent with the objective of achieving a demand reduction target per capita of 30 per cent as set out in Wannon Water's *Water Supply Demand Strategy*.

The water service charges for all customers are scaled based on the size of the connection to the water service.

It is proposed to control future price increases through what is known as a tariff basket. This sets a single price cap for the weighted average mix of services provided. This approach will provide Wannon Water with the flexibility it needs to adjust tariffs between customer groups to respond to anomalies that become evident from the implementation of the revised tariff structure. The extent of any change on process will be subject to rules and approval from the Essential Services Commission.

Trade waste charges have been restructured to place greater emphasis on "polluter pays" which will result in higher charges for those customers discharging high strength trade waste to the sewerage system. The trade waste charges also create incentives for cost effective pre-treatment of trade waste and salt reduction to create recycled water opportunities. This approach to setting trade waste charges will ensure that trade waste customers incur the real costs that their discharge makes on the sewerage system related to the primary cost drivers of volume and load strength of trade waste.

2.8 Customer and Regulator Consultation

This Water Plan has been subject to review by Wannon Water's Customer Engagement Committee, which endorsed the broad strategy on the priority and scale of the proposed works and their impact on future pricing of services. The Committee was also involved in assisting Wannon Water to set the service level targets for inclusion in the Customer Charter. This Charter is consistent with the service level commitments set out in this Water Plan.

Proposals for major projects and the wider *Water Supply Demand Strategy* have been subject to extensive engagement and consultation through specific issue committees and community workshops conducted across the service area.

The program of works and the priorities set result from continuing dialogue between Wannon Water and its main regulators, including the Environment Protection Authority Victoria (for environmental compliance) and the Department of Human Services (for drinking water quality).

This Water Plan is released for wide community, customer and stakeholder comment with an invitation to provide feedback to Wannon Water. All comments will be assessed and considered prior to the final Water Plan submission on 8 October, 2007.

3. OUTCOMES FOR FIRST REGULATORY PERIOD

3.1 Overview

Wannon Water has delivered against the commitments set out in the Water Plans from the three predecessor water authorities in the region. Wannon Water:

- Is delivering against a suite of consolidated Customer Service Standard systems in place to record our performance against targets;
- Has created a new business with a higher level of professional capacity and regulatory compliance to meet heightened customer and stakeholder expectation;
- Has made substantial progress in delivering the key projects nominated in the previous Water Plans;
- Implemented its Drought Response Plan and imposed water restrictions and delivered additional projects to secure emergency water supplies;
- Implemented additional projects identified in the due diligence assessment undertaken following the amalgamation; and
- Will complete the capital works by the end of the first Water Plan period with a total value in excess of the commitments set out in the Water Plans of the three predecessor water authorities.

Overall, customers in the region can be confident that the charges for their water services have been used wisely and properly to deliver high quality services and respond to an unprecedented drought. Wannon Water is not seeking to recover revenue lost due to the impact of water restrictions on the level of demand.

3.2 Service Standards and Other Outcomes

3.2.1 Developing Targets

Wannon Water inherited different targets for levels of service from each of the three predecessor water authorities and the interpretation of definitions differed between those businesses. For the first 18 months of the first regulatory period Wannon Water reported to the Essential Services Commission on performance by reference to those businesses to allow comparison between the commitments made and the level of service provided in practice.

In November, 2006 Wannon Water received approval from the Essential Services Commission for a consolidated suite of Service Standards incorporating the targets that Wannon Water commits to achieve for the benefit of all customers. The process of developing those targets has involved close consultation with our Customer Engagement Committee. Wannon Water believes that these targets represent a proper balance, delivering quality services that focus on the priorities for our customers at a value for money price. The standards are contained in our Customer Charter and are reproduced in

Table 3-1.

A vital part of the process has been to develop robust and reliable systems and processes to collect and report data on actual performance in meeting those targets. The recording systems previously in place within the predecessor water authorities could not produce reliable and authoritative information that could be compared with some of the targets set in the first Water Plan. The most recent Essential Services Commission Performance Report for the 2005-06 year records that Wannon Water was unable to provide reliable data for some of the indices.

Wannon Water is confident that it now has the systems in place to generate reliable data to report with confidence the actual performance of the organisation in meeting the targets for each level of service.

3.2.2 Reporting on Achievements for Service Delivery

This section sets out the performance of Wannon Water in meeting the agreed service delivery targets set out in the Customer Charter approved by the Essential Services Commission. Reporting against these targets is more meaningful than reporting against the targets set by each of the water authorities that merged to form Wannon Water. The predecessor authorities included a number of additional standards outside the core suite adopted by the Essential Services Commission. However, systems were not set-up to allow the authorities to measure their actual performance against those targets. It is not possible, therefore, to report on achievement against these legacy standards.

Table 3-1 records Wannon Water's performance for the 2005-06 and 2006-07 years against the targets in the Customer Charter. This table shows that all levels of service targets were achieved except for the following service levels where the drought related climatic conditions contributed to Wannon Water narrowly missing two targets for the accumulative performance to 30 June 2007:

- Unplanned water supply interruptions restored within five hours (per cent)
- Average time to attend sewer spills and blockages (minutes)

Wannon Water's performance regarding these two service levels was impacted by:

- Maintenance staff were deployed to maintain drought relief bores in the Southern Grampians catchment to ensure a supply of water to customers connected to the Hamilton water supply system; and
- The high number of sewer blockages resulted from tree roots seeking out water flowing in the sewers due to a lack of soil moisture. A root foaming program was implemented to reduce the number of blockages and will be largely self-funding from labour savings in the operations budget through reduced attendance at blockages.

In two areas improved systems are being implemented in the current price period to record and report actual performance regarding:

- The number of customers experiencing more than 5 unplanned water supply interruptions;
- The number of customers experiencing more than 3 sewer blockages.

Wannon Water will have the capability to report on these targets by June 2008 as an outcome of an upgrade of the geographic information system. The audit trail for calculating many of the service standard outcomes will also be improved with the implementation of a Mobile Information Management System project which will automate data input in the field at the point that the work is undertaken. The project also has the potential to deliver business efficiencies in maintaining compliance with the service levels set out in the Customer Charter.

Table 3-1: Performance Targets: Actual Service Delivery: 2005/06 and 2006/07

Service standard	*Target*	*2005-06 Actual*	*2006-07 Actual*	*Average*	
Water					
Unplanned water supply interruptions (per 100km)	10.00	7.83	10.44	9.13	✓
Average time taken to attend bursts and leaks (priority 1) (minutes)	35.00	11.25	17.35	15.06	✓
Average time taken to attend bursts and leaks (priority 2) (minutes)	60.00	56.21	29.10	45.60	✓
Average time taken to attend bursts and leaks (priority 3) (minutes)	240.00	50.16	168.00	113.63	✓
Unplanned water supply interruptions restored within 5 hours (%)	97.00	93.4	98.4	96.3	×
Planned water supply interruptions restored within 5 hours (%)	90.00	91.3	93.0	91.8	✓
Average unplanned customer minutes off water supply (minutes)	9.90	8.99	6.10	7.54	✓
Average planned customer minutes off water supply (minutes)	9.00	6.12	3.08	4.59	✓
Average frequency of unplanned water supply interruptions (number)	0.09	0.089	0.07	0.08	✓
Average frequency of planned water supply interruptions (number)	0.05	0.03	0.02	0.027	✓
Average duration of unplanned water supply interruptions (minutes)	108.00	100.57	87.29	94.69	✓
Average duration of planned water supply interruptions (minutes)	180.00	190.54	142.56	171.05	✓
Number of customers experiencing more than 5 unplanned water supply interruptions in the year (number)	0	n/a	n/a	n/a	
Unaccounted for water (per cent)	12.00	9.90	10.75	10.29	✓
Sewerage					
Sewerage blockages (per 100km)	38.30	40.44	23.47	31.90	✓
Average time to attend sewer spills and blockages (minutes)	30.00	31.96	27.59	30.32	×
Average time to rectify a sewer blockage (minutes)	90.00	83.01	89.25	85.35	✓
Spills contained within 5 hours (per cent)	98.00	98.4	100.0	99.2	✓
Customers receiving more than 3 sewer blockages in the year (number)	0	n/a	n/a	n/a	

The comparison of actual performance against the targets shows that there was an improvement in compliance from 2005/06 to 2006/07. Based on an average over the two years, there are two service standards that did not achieve the target, being:

- Unplanned water supply interruptions restored within 5 hours (%), and
- Average time to attend sewer spills and blockages (minutes).

In both instances, the actual result in 2006/07 was better than the target. This is due to improved internal feedback of actual monthly results to the operations staff enabling them to focus and prioritise on service areas where improvement is needed. It is anticipated that both targets will be achieved in 2007/08 enabling the three year average also to be achieved for the first regulatory period.

3.2.3 Performance for Customer Service

This section reports on Wannon Water's performance during 2005-06 in meeting the customer service standards in the Customer Charter.

Table 3-2: Customer Service Performance

Service standard	Target	2005/06 Actual	2006/07 Actual	Average	
Complaints to Ombudsman per 1,000 customers	0.60	0.31	0.15	0.23	✓
Telephone calls answered in 30 seconds (%)	98.9	99.76	99.92	99.83	✓

Wannon Water achieved both performance targets to 30 June 2007. It is anticipated that Wannon Water will continue to meet both targets over the second regulatory period.

During 2005-06, 12 complaints were handled by the Energy and Water Ombudsman Victoria (EWOV) and in 2006-07 the number of complaints handled by EWOV reduced to six.

Wannon Water publishes EWOV's details on all four quarterly bills, reminder and warning notices issued to customers and actively refers customers to EWOV where it is felt that the views of the 'independent umpire' will benefit of both parties.

In 2006 the Essential Services Commission engaged Customer Services Australia to benchmark the performance of all regional water utilities in Victoria regarding the quality of the customer service provided by their customer contact centres. Wannon Water received the highest rating of all regional water authorities. This benchmarking demonstrates the quality of our employees customer service culture.

3.3 Delivery of Key Capital Projects

3.3.1 Overview of Capital Projects

Wannon Water has made good progress in delivering the key projects set out in the Water Plans of the three predecessor water authorities. The capital works program was amended during the regulatory period to make provision for high priority projects associated with securing emergency water supplies for the Hamilton system due to the drought and management of risk following a due diligence review of the organisation following the merger of the predecessor authorities.

Following the merger in 2005, there was a necessary stock-take and revalidation of priorities. That process led to the temporary deferral of program implementation during 2005-06. However, since then Wannon Water has put systems in place to facilitate completion of its capital works program. Four main steps have been taken to promote enhanced implementation:

- The appointment in August 2006 of a specialist engineering consultancy to provide design services for a five year period, thus gaining efficiencies in the preparation of detailed designs for projects;
- Structured program planning has seen the design phase of projects being brought forward to ensure that projects will be ready to construct in the final year of the price period;
- Bundling of like projects into combined contracts – as with say water main replacements to minimise contract procurement overheads and delays; and
- Training of staff in project management to further increase efficiency in the completion of the capital works program.

Wannon Water is confident that it will deliver a substantial and appropriate program of capital projects by the end of the first price period.

3.3.2 Prioritising Capital Projects

Wannon Water has concentrated on delivering effective outcomes that represent good value for money. In implementing its capital works program Wannon Water has been careful to ensure that it focuses on the key priorities for the business and its customers. A number of factors have been significant in that process.

Wannon Water inherited the key capital projects that were nominated in the Water Plans of the three previous water authorities. As part of the amalgamation process those projects were subject to a rigorous process of reprioritisation to ensure that the integrated program across the whole organisation represented best value for money and concentrated on clear priorities. Further following amalgamation, the Board initiated a due diligence audit. This audit identified a range of urgent projects that had not been included in the Water Plans of the merged authorities.

Finally, new demands have been placed on the business since the original Water Plans were approved. These have prompted the need for new and additional expenditure – key examples are to respond to the drought and compliance with the new *Safe Drinking Water Regulations 2005.*

The following section reports on progress against the capital programs that were set out in the original Water Plans for the three previous water authorities. In the succeeding section the additional projects that will be undertaken are set out.

3.3.3 Glenelg Water Projects

There has been good progress in completing the capital works program, with $7.2 million of the program already completed (subject to year end adjustment). The remainder is programmed for completion by the end of the first price period.

Key items already completed include the upgrade of the Casterton water treatment plant to manage quality risk, and provision of effluent scrubbing at the Hamilton wastewater treatment plant (now known as the Hamilton water reclamation plant) to produce recycled water for a major industrial user.

The 30 km pipeline project to connect Coleraine to the Casterton water treatment plant was delayed due to significant cost escalation which triggered a re-visit of the concept design. Construction of the project will now commence in the 2007-08 financial year and is scheduled for completion by December 2008. The completion of the biosolids drying beds at Hamilton was also extended to ensure an optimal outcome.

Table 3-3: Glenelg Water Projects Progress report: July 2005 to 30 June 2007

Project	Project description	Current status/expected completion date
Casterton water treatment plant upgrade	Treatment plant upgrade to manage water quality risk.	Completed other than for the Defects Liability Period.
Tertiary water reclamation plant at Hamilton	Plant to supply recycled water to major user.	Completed other than for the Defects Liability Period.

Project	Project description	Current status/expected completion date
Hamilton water reclamation plant biosolids dewatering and handling system	Construction of additional sludge drying beds and installation of sludge thickener.	Completed other than for the Defects Liability Period. Drying beds to be designed in 2007-08 for completion in next Water Plan.
Water renewals / replacement	Replacement of water mains that have reached the end of their economic life.	1.74 km replaced in 2005-06. 0.67 km replaced in 2006-07. 3.23 km to be constructed in 2007-08.
Water augmentation for subdivisions.	Water reticulation extension in Hamilton.	Completed.
Sewer augmentation for subdivisions.	Sewer reticulation extension in Hamilton.	Completed.
Coleraine pipeline works Manage water quality risk.	Construction of approximately 30 km of pipeline and associated pump station.	Scheduled for construction in 2007-08 and completion by December 2008.

3.3.4 Portland Coast Water Projects

The priority of capital works projects of Portland Coast Water program was more affected by the need for program revalidation post amalgamation. As at 30 June, 2007 $8.6 million of capital works have been completed (subject to year end adjustment). Progress has been made on many key projects, with the new water supply scheme for Dartmoor already completed, the Portland water reclamation plant upgrade underway, and a major renewals/replacement program for both water and sewer infrastructure in-hand.

Three key projects have been deferred:

- Funding originally allocated for a water reuse scheme at Port Fairy was transferred to the higher priority new belt-press project at the Port Fairy water reclamation plant. The reuse project will be re-assessed as part of the business-wide *Recycled Water Strategy*;
- The concept design for the West Portland sewerage scheme, to provide sewerage services to this backlog area has been completed following community consultation. The statutory planning processes have deferred the completion to 2009; and
- The concept designs for the Dutton Way water supply and sewerage schemes to service 200 lots in a low lying area east of Portland close to the coast have been completed. Glenelg Shire requested that both schemes be deferred pending a review of the Planning Scheme overlay for the Dutton Way area as the current overlay prohibits further development in this area due to risks of inundation and the absence of infrastructure. Extensive planning and project evaluation will need to be undertaken to validate the most appropriate design options in liaison with the Shire Council.

Table 3-4: Portland Coast Water Projects: Progress report: July 2005 to 30 June 2007

Project	Project description	Current status/expected completion date
Dartmoor water supply scheme	Installation of reticulated water supply for the township of Dartmoor.	Completed.
Portland water reclamation plant upgrade	Removal of accumulated sludge and redesign of Portland water reclamation plant.	De-sludging works completed. Concept design for plant remediation due for completion in 2007.

Project	Project description	Current status/expected completion date
Water renewals / replacement	Renewal and replacement of water assets to ensure long term service delivery, based on condition and risk assessment procedures.	Funding provision was inadequate for full program. 0.54 km of main replaced in 2005-06. 0.18 km to be constructed in 2007-08.
Sewer renewals / replacement	Renewal and replacement of sewer assets to ensure long term service delivery, based on condition and risk assessment procedures.	0.4 km of ocean outfall replaced in 2005/06 with a further 0.5 km by end 2007/08. Sewer main program scheduled for completion by end 2007-08. Infiltration studies in Portland completed in 2005-06 and consultancy let for studies at Heywood and Port Fairy.
Water reuse: Port Fairy	Reuse scheme to supply golf-course, neighbouring farms and an industrial customer.	Deferred due to reprioritisation and allocation of funding to the Port Fairy water reclamation plant belt press project.
West Portland sewerage scheme	Expanding sewerage services to include the West Portland backlog area.	Concept design completed. Proceeding with detailed design and project scheduled for completion in 2009.
Dutton Way water and sewer schemes	Expanding water and sewer services to include approx 300 lots in the Dutton Way area.	Design options completed and will be subject to community consultation and statutory process once Glenelg Shire completes the review of the Planning Scheme Overlay for Dutton Way. Dutton Way sewerage scheme is now a Country Towns Water Supply and Sewerage Program project with a capped landowner contribution. Detailed design and all investigations will be completed by December 2008, subject to community and stakeholder consultation. If the projects proceed they will be constructed in 2011-12.

3.3.5 South West Water Projects

The South West Water capital works program contained the largest projects in the three previous Water Plans and many of these have been progressed or are on schedule for completion by the end of the first price period. As at 30 June, 2007 $20.5 million of capital works have been completed (subject to year end adjustment).

The one project that has been deferred indefinitely at this stage is the proposed Port Campbell to Timboon water supply main replacement where a reassessment of current consumption demand, as part of the *Water Supply Demand Strategy*, has reduced the forecast demand in future years.

Table 3-5: South West Water Projects: Progress: July 2005 to 30 June 2007

Project	Project description	Current status/expected completion date
Warrnambool water reclamation plant capacity upgrade	Upgrade of the water reclamation plant to cater for increased growth by the addition of a fifth treatment cell and associated works.	Concept design completed. Construction will commence in late 2007 for completion in 2008-09. The design will also reduce the volume of biosolids for transportation and risk of odour at the Camperdown biosolids treatment facility.
Warrnambool water reclamation plant outfall replacement	Replacement of the existing outfall sewer with a larger diameter sewer.	Completion due 2007-08. Tenders had to be re-advertised as the initial tender submissions were not acceptable.
Camperdown water reclamation plant biosolids facility	Convert biosolids storage and processing facilities to permanent facility including a biosolids drying pan.	Stage 1 works completed. Stage 2 due for completion in 2007-08.
Peterborough sewerage scheme	New town scheme: Provision of sewerage scheme, water reclamation plant and recycling infrastructure.	Project well advanced, treatment plant and rising main completed. Sewerage reticulation 80% completed and due for completion by November 2007. Water reuse irrigation works to be completed in 2007-08.
Port Campbell water reclamation plant and recycling works	Growth and water recycling. Additional winter storage capacity and expansion of the irrigation area.	Winter storage works completed. Design of reuse irrigation works has commenced and due for completion in 2008. Project delayed due to compulsory land acquisition process.
Dales Road water storage augmentation	Duplicate the existing Dales Road water storage to respond to growth.	Detailed design commenced and project scheduled for completion in 2007-08.
Water renewals / replacement	Compliance with service standards.	4.69 km replaced in 2005-06. 2.43 km replaced in 2006-07. 5.60 km to be constructed in 2007-08.
Sewer renewals / replacement	Compliance with service standards.	Sewer main replacement program to be completed in 2007-08.
Water Augmentation	Responding to growth.	1.28 km completed in 2006-07.
Sewer Augmentation	Responding to growth.	Three augmentation projects in Warrnambool to be completed in 2007-08.
Port Campbell to Timboon water supply main replacement	Upgrade the existing water main from Port Campbell to Timboon to respond to growth.	Project not required in this regulatory period and deferred due to reduced water supply demand.

3.3.6 Major Additional Projects

On top of the commitment to deliver the key capital projects in the three original Water Plans, Wannon Water has also had to prioritise additional projects in its capital program over the first price period to respond to a number of drivers including:

- New regulatory obligations: such as the need for a $0.624M Iron Sorption plant at Macarthur to achieve compliance with the *Safe Drinking Water Regulations 2005* water quality standard for arsenic;

- The drought: the Drought Response Plan was activated and additional groundwater bores have been sunk to maintain a water supply for Hamilton under stage 4 water restrictions, at a total cost of $0.8M, split evenly between capital and operating expenditure;
- Degraded assets: assets identified following the merger, as at extreme risk of failure will be replaced including Bald Hill Bores, Nos 1 & 2 and the roof of the Bald Hill Basin, at a combined cost of $3.29M;
- Asset Replacement: where a new biosolids belt press is to be installed in 2007-08 at the Port Fairy domestic water reclamation plant at a cost of $0.87M; and
- Responding to Major Customer Needs: a new industrial water reclamation plant to service a major industrial customer is under design with full cost recovery from that customer.

The details of these projects are included in the following sections.

3.4 Capital Expenditure Associated with the Delivery of Outcomes

3.4.1 Overall Capital Expenditure Program

The capital expenditure program approved by the Essential Services Commission for each of the three predecessor authorities is shown below in Table 3.6 (expressed in 1 January, 2007 dollars).

Table 3-6: Capital Expenditure Program in First Price Period ($M)

Authority	2005-06	2006-07	2007-08	Total
Glenelg	$4.0	$2.8	$2.8	$9.6
Portland Coast	$2.4	$2.1	$2.4	$6.9
South West	$14.6	$13.3	$12.1	$40.0
Total	**$21.0**	**$18.2**	**$17.3**	**$55.1**

There are three other components of Wannon Water's capital expenditure program beyond the approved capital expenditure programs of the three Water Plans. These are:

- The $4.6M upgrade of the Port Fairy Industrial water reclamation plant to solely service a major industrial customer. This project was deliberately excluded from Portland Coast Water's Water Plan as the project was funded externally by the major customer;
- Recent additions to the program to be funded by Government grants;
- An accelerated meter installation and replacement program consistent with actions set out in the *Water Supply Demand Strategy*;
- The installation of septage receival facilities at the Hamilton and Warrnambool water reclamation plants;
- Extra works in 2006-07, including consultancy and construction costs of emergency drought response bores and other works;
- Urgent works needing immediate construction, as identified in the various Improvement Plans which form the basis of the proposed capital works program; and
- Design costs associated with the major projects proposed to be delivered in the first year of the Water Plan.

The progress in completion of the forecast capital works program in the 2005-06 year was negatively impacted by:

- The need to implement systems and internal controls following the merger on 1 July, 2005;

- The delay in proceeding with projects pending completion of a post merger due diligence audit; and
- The delay in finalising funding arrangements for the Peterborough Sewerage Scheme project pending a determination by the Minister to include the scheme in the Country Towns Water Supply and Sewerage Program and subsequent consultation with the Essential Services Commission regarding allocation of scheme contributions to existing land owners.

A detailed review of the remaining projects in the program has been completed and Wannon Water forecasts the following capital expenditure for the first regulatory period.

Table 3-7: Projected Total Capital Expenditure - First Price Period (expressed in 1 January, 2007 $M)

Year	Basis	Total
2005-06	Actual	$17.70
2006-07	Actual/Projected	$16.14
2007-08	Projected	$36.20
Total Expenditure		**$70.04**

The total projected capital works expenditure for the first price period is forecast to be $70.04M. Design of the outstanding projects to be completed in 2007-08 is well advanced and Wannon Water has confidence that the total forecast capital expenditure will be competed within the first price period.

However, some of this expenditure will not carry through into the adjusted regulatory asset base (RAB) as capital contributions were received from the State Government or customers.

Table 3-8: Projected Contributions - First Price Period ($)

DESCRIPTION	2005/2006	2006/2007	2007/2008	Totals
Gifted Assets	$1,345,957	$1,800,000	$1,000,000	$4,145,957
Customer Cash Contributions	$1,383,407	$1,432,012	$400,000	$3,215,419
Customer Contribution PF Industrial WRP		$2,136,500	$2,500,000	$4,636,500
Government Grants				
- Peterborough Sewer Scheme	$900,000			$900,000
- Macarthur Water Improvement	$25,000	$115,000	$250,000	$390,000
- Dutton Way Water Scheme	$25,000			$25,000
- Dutton Way Sewer Scheme	$140,000			$140,000
- Dartmoor Water Scheme		$250,000		$250,000
- Hamilton Drought Relief		$105,455		$105,455
- Monivae Development		$110,401		$110,401
Totals	**$3,819,364**	**$5,949,368**	**$4,150,000**	**$13,918,732**

Table 3-9: Adjustment to RAB from First Price Period ($M)

Element	Value ($M)
Gross Expenditure	$70.04
Contributions	$13.9
Net Capex for RAB	$56.14

3.4.2 Capital Expenditure Adjustments

There have been a number of changes between the original capital expenditure plans of the three merged water authorities and the actual program that has been implemented in practice.

a) Savings: There have been savings on some projects, such as:

- $0.60M for the Casterton Water Treatment Plant upgrade;
- $0.90M on the capital cost of the Peterborough Sewerage Scheme; and
- $0.45M for the Portland SCADA installation.

b) Additional Costs: Some projects have required additional expenditure above their budgeted amount or have been brought into the program, including:

- $0.80M – Balmoral water treatment plant;
- $2.40M – Coleraine pipeline;
- $0.60M – Pre-treatment system for the Hamilton tertiary reclamation plant;
- $0.25M – Septage receival facilities at Hamilton and Warrnambool water reclamation plants;
- $0.47M – Bald Hill basin roof repairs;
- $1.27M – Bald Hill bore No.1 replacement;
- $1.47M – Bald Hill bore No.2 replacement (new project);
- $1.73M – West Portland Sewerage Scheme (to be funded by scheme contributions);
- $0.34M – Dartmoor water supply scheme;
- $0.22M – Reverse Osmosis water treatment plant at Portland (funded by major customer);
- $0.50M – Port Fairy domestic water reclamation plant biosolids belt press (new project);
- $0.74M – Camperdown industrial water reclamation plant upgrade (subject to Council contribution);
- $0.47M – Russell's Creek and North Dennington trunk sewer extensions;
- $0.69M – Warrnambool ocean outfall replacement;
- $0.77M – Accelerated water meter replacement program; and
- $1.56M – Warrnambool office building.

c) Deferral or Deletion: Some projects have been deleted or deferred to future years, including:

- $0.25M – Port Fairy re-use pipeline;
- $0.35M – Warrnambool water reclamation plant treatment tank mixing;
- $0.24M – Timboon transfer pump upgrade; and
- $0.58M – Timboon pipeline augmentation.

d) Carried Forward: Some projects have been identified as unlikely to be totally completed by 30 June 2008 and will carry-over expenditure into 2008-09. The major transfers to 2008-09 (the first year of the second regulatory period) include:

- $3.50M – Coleraine pipeline;
- $1.73M – West Portland Sewerage Scheme;
- $0.52M – Various telemetry projects;
- $0.48M – Dales Road water basin; Warrnambool
- $1.68M – Warrnambool water reclamation plant digester (ex 5th cell);
- $0.62M – Port Campbell water reclamation plant lagoon re-lining; and
- $0.34M – Cobden transfer main from water treatment plant.

Wannon Water believes the actual capital expenditure completed over the first price period will represent a well founded, cost effective and prioritised program that balances the commitment in the previous Water Plans with a realistic assessment of new and additional drivers.

Successful completion of the program, despite the disruption of the merger is a strong indication of the capability of the business in planning, designing and implementing capital programs that deliver value for money and ensure customer service and regulatory compliance.

3.5 The Impact of the Drought

The drought has had significant impacts on the community and Wannon Water, particularly as they apply to the security of supply for Hamilton.

Winter 2006 was the driest on record in Hamilton. Rainfall in the Hamilton area during August was 29 mm, compared with the historical monthly average of 79 mm. August 2006 was in the driest 5% of all years since records began in 1872. The poor rainfall followed a decade of dry years in Hamilton. Seven of the last 10 years have had below average rainfall, and the very low rainfall recorded in 2005 has only happened twice in the last 100 years.

As a result, storages are at their lowest for more than 10 years. On 10 April 2007, the Hamilton storage levels were only holding 16.6% of total capacity. Storage levels for the same time in 2006 were 46%. The Glenthompson system storage level was only 18% and Balmoral which is supplied with water from the Rocklands Reservoir was holding less than 2% of capacity.

In response to this severe decline in storage levels, Wannon Water implemented its emergency drought response plan. This required unbudgeted demand management related operational expenditure and capital infrastructure expenditure. The key element of demand management has been the application of Stage 4 Water Restrictions that have now been in force for the Hamilton, Balmoral and Glenthompson water systems since early December 2006.

The expenditure has centred on the construction and operation of drought relief bores in the Southern Grampians area to supplement the traditional surface stream diversions to the Hamilton storages. Two bores have been operating since March 2006 and a third bore was drilled and commissioned in January 2007. The test drilling for additional groundwater supplies continued and further bores were drilled but only one was successfully commissioned.

Wannon Water has not only been faced with additional costs it has also had to manage with lower revenues as the Stage 4 Water Restrictions have led to a drop in the level of water usage. The total cost of this has been:

Table 3-10: Cost Impacts of the Drought: First Price Period ($)

Expenditure	As at 31-3-07	Est. for 2006-07
Sinking Bores	254,757	400,000
Operation – Drought Response	211,740	282,320
Demand Management	87,465	116,620
Lost revenue due to water restrictions	369,764	493,019
Total	**923,726**	**1,291,959**

Wannon Water proposes to deal with these impacts through a number of different routes:

- Add the additional capital expenditure to the regulatory asset base that forms the starting point for the next Water Plan period;
- Anticipate that the increased operating expenditure will roll-forward as part of the higher level of costs that will form the baseline for the next regulatory period; and

- Forgo the reduced revenue in the short term, as the customer accounts will rise significantly to fund the new projects that will avoid the need for water restrictions in the future.

3.6 Changes in Legislative Obligations

Three changes have occurred in the regulatory framework within the first price period that has impacted on Wannon Water, beyond that anticipated when the first Water Plans and prices were determined:

- Introduction of tighter drinking water quality standards through the *Safe Drinking Water Regulations 2005*;
- Nomination of towns under the *Country Towns Water Supply and Sewerage Scheme Program*; and
- Introduction of new obligations on the organisation under the *Water (Governance) Act 2006* and revisions to the *Statement of Obligations*.

3.6.1 Safe Drinking Water Regulations 2005

The *Safe Drinking Water Regulations 2005* came into effect on 15 July 2005. The regulations establish standards for specified elements of drinking water and implements the provisions in Section 17 of the *Safe Drinking Water Act 2003* which requires a supplier of water to:

> *"ensure that all drinking water supplied by it to another person complies with the quality standards specified for drinking water in any regulations made for the purposes of this section".*

The regulations promulgate specific standards for certain substances. These standards did not apply at the time that the original Water Plans were approved.

The most significant effect of the new regulations for Wannon Water is to impose higher standards with regard to the levels of arsenic in drinking water, with a reduction in the allowable concentration from 50ug/ml to 7ug/ml. This change impacted on two water systems sourced from local groundwater:

- **Macarthur,** with a customer base of 150 properties, where the regulations triggered declaration of the water supply as 'regulated', i.e. as being unfit for human consumption or food preparation. Following a community consultation program in 2006 and ballot of customers, Wannon Water resolved to proceed with the construction of an additional treatment process to reduce the level of arsenic to meet the new guideline level of 7ug/ml. An innovative 'iron sorption' process was selected with construction scheduled for completion by March, 2008 at a capital cost of $0.624M, with annual operational costs of $40k commencing from January 2008;

- **Merino,** with a customer base of 170 properties, where the previous groundwater supply was decommissioned and a new pipeline was constructed from the Casterton water treatment plant at a cost of $0.9M. This project had already been included by Glenelg Water within its Water Plan submission.

The significance of this new obligation can be seen in the following table which calculates the unit cost per property of making the investment required to meet the new standard at Macarthur.

Table 3-11: Unit Cost of Improved Water Quality in Macarthur

Capital cost	$624,000
Operating Cost: Present value over 20 years	$490,142
Total cost over 20 years	$990,142
Properties	130
Unit cost: $/property	$8,570

This expenditure will not impact on customers during the first price period, but it is one of the reasons for the heightened level of expenditure over and above the forecast in the original Water Plans.

3.6.2 Country Towns Water Supply & Sewerage Scheme Program

Wannon Water is required under the *Statement of Obligations* to implement priority water supply and sewerage projects under the Country Towns Water Supply and Sewerage Scheme Program, as determined by the Minister for Water, Environment and Climate Change. A key element of this program is that the Minister may cap the contribution required from residential property owners for new sewerage schemes at $800 (or $80 a year for 20 years).

Wannon Water has two sewerage schemes (Peterborough and Dutton Way) that were planned for construction in the first price period on an assumption of full cost recovery from the beneficiary landowners of the scheme. The Minister however subsequently included both schemes within the Country Towns Water Supply and Sewerage Program and made a determination to cap residential property owner scheme contributions.

- **Peterborough**, where the project was originally conceived with each residential landowner contributing a capital scheme contribution of $9,500 per lot. Contributions to this scheme were capped at $800 per lot by the Minister and the State Government provided a funding grant of $900,000 resulting in a revenue shortfall of some $4.5M based on an estimated cost of $6.4M. However, it is expected that the total construction costs will be less which will also reduce the shortfall in funding.

- **Dutton Way sewerage scheme,** where concept design estimates indicate the project will cost $3.3M, at a unit cost of around $16,500 per property. Contributions from landowners have been capped at $800 by the Minister. With 200 properties this will involve a funding shortfall of $2.25M, assuming a grant of $900,000 is received from the State Government.

- **Macarthur water quality improvement** will be constructed in 2007-08. This project will receive funding grants of $390,000 resulting in a funding shortfall of $234,000.

- **Dartmoor water supply scheme** received a funding grant of $250,000. Further, Wannon Water honoured the previous commitment given by Portland Coast Water to the Dartmoor community to cap scheme contributions at $800 per household resulting in a funding shortfall of $613,570.

Wannon Water will respond to this changed policy framework by including the capital costs of the Peterborough scheme within the adjustments to the opening value of the regulatory asset base at the start of the next price period. This will provide the business with a return on that capital value. However, the business will carry the cash flow impacts of moving from an up-front customer contribution to a return on capital over the life of the asset.

3.6.3 New Obligations on the Board

New mandatory obligations that Wannon Water must meet are:-

- *The Water (Governance) Act 2006*; and
- Additions to the *Statement of Obligations.*

Section 54 of the new *Water (Governance) Act 2006* requires a number of changes to the governance regime for the organisation, with consequential changes to the *Water Act 1989* (listed in brackets below):

- It converts Wannon Water from an Authority to a Corporation (S85 of the amended Act). This imposes higher and more rigorous standards on the business and the Board, for example the duty to maintain a register of Board Members' interests (S115);
- The Chief Executive becomes a Director of the Board as Managing Director (S99);
- It imposes a wider duty to have regard to sustainable management principles (S93) in carrying out its functions including for example (d) the need for the conservation of biological diversity and ecological integrity; and
- It imposes an obligation to resource collaborative studies with large non-residential water customers to develop water conservation plans and to contribute to their implementation.

Wannon Water has received the *Statement of Obligations* from the Minister for Water, Environment and Climate Change adding additional obligations related to issues such as addressing risk management and taking action to implement sustainability principles. Meeting these new obligations will result in Wannon Water incurring costs over the remainder of the first price period, and will form part of the wider suite of obligations that determine the costs of the Wannon Water in the second price period. These costs cannot be easily broken out and represent part of the wider obligations to meet heightened compliance standards.

3.7 Creating a Robust, Effective Business

3.7.1 Meeting the Compliance Challenge

Wannon Water was established on 1 July 2005. It was formed from three, smaller regional water authorities:

- Glenelg Water – based in Hamilton;
- Portland Coast Water – based in Portland; and
- South West Water – based in Warrnambool.

Those three authorities had served their customers with distinction over the previous eleven years. However, it was recognised that it was difficult for the authorities to meet increasingly stringent standards and expectations regarding drinking water quality, sewage treatment and economic regulation. The small size of the three separate organisations made it uneconomic for each to employ the specialist staff or develop the systems needed to achieve appropriate levels of compliance.

Each of the former authorities was small enough to manage with a minimum of systems and procedures. Experienced staff had worked at each business for long enough to know about most of the assets and to have met most of the customers. That was appropriate for water businesses in the 1990s. It is not a rigorous enough approach to meet current expectations for customer service or regulatory compliance.

Merging the three authorities created a single combined entity that was large enough to meet those increasing demands in a cost effective way through a coordinated approach.

3.7.2 Establishing Robust Compliance

Wannon Water aims to meet best practice in all aspects of our performance:

- Responding to customer needs – to deliver the standard of service our customers expect and, when things go wrong, restoring supplies swiftly every time;
- Meeting the duties set out in the *Statement of Obligations* issued by the Minister for Water, Environment and Climate Change, implementing the spirit as well as the words of the obligations;
- Complying with licensing and legislative requirements – planning to exceed minimum compliance by seeking to identify the actions that can best deliver a whole of system approach - but to do so cost effectively;
- Managing our assets and business well to deliver best possible service at least long-term cost on behalf of current and future generations; and
- Establishing partnerships with key stakeholders in the community and government to play a leadership role in promoting sustainability and servicing growth in the region.

This requires robust quality systems and procedures to ensure that Wannon Water can deliver and demonstrate consistent high standards of service and compliance. Achieving this standard has involved a significant workload across the business involving the Board, senior managers and staff at all levels. It has required:

- A due diligence audit of current arrangements, to know what our current performance and starting position was;
- Planning, to prioritise moving from current performance to acceptable levels of compliance;
- Systems development, to establish the documented procedures and protocols to deliver the defined level of performance on a consistent basis;
- Training, to equip staff with the skills needed to implement the procedures;
- Equipment, to give staff the tools they needed to meet those standards; and
- Monitoring, review, evaluation and reporting to ensure good feedback about how well those new systems have worked in practice to drive continuous improvement.

Undertaking these actions required significant expenditure to establish the raised levels of compliance and meet current expectations in customer service delivery. The following examples give an insight into the changes involved.

a) Occupational Health and Safety

Wannon Water considers the safety and health of its workforce as a high priority. Our staff should be confident that they will go home safe at the end of each workday. It is also a legal obligation and subject to heightened expectations from WorkSafe Victoria.

In response, Wannon Water hired an OH&S specialist to make sure the organisation has a good understanding of what is required, and to help put procedures in place to make sure Wannon Water meets best practice. Wannon Water now has a *Road Map* for OH&S improvement and compliance across the business that involves developing systems, training staff and investing in new equipment. This program will build on the base established by the previous businesses, but will significantly improve the management framework and consistency of approach across our

service region. Importantly, Wannon Water expects to achieve at least peer benchmark performance for practical health and safety outcomes.

b) Asset Maintenance and Operation

Most of the assets in a water business are long lived. Many will carry on working year after year with little maintenance, until they break down and need to be replaced. That is generally a false economy. It means that equipment does not operate at design levels of performance and exposes the business to risks of catastrophic failure without warning. That undermines customer service.

It is more efficient in the longer term to maintain and repair or refurbish assets. That also ensures that the business is in control of its core assets, maintains service delivery, understands the potential risks of failure and can plan an optimal replacement schedule.

Wannon Water has had to move the business from the first culture to a professional, asset management approach that controls and actively manages the equipment that delivers its services. So for example, Wannon Water hired an engineering consultant to undertake an audit of all its electrical switchgear across the business. That audit identified that there were many sites where switchboards and other electrical equipment were dangerous and posed a risk to secure service delivery. The consultant also reported that levels of staffing across the business were inadequate to maintain treatment plants, mechanical and electrical and some reticulation assets.

Wannon Water has invested in systems, people and equipment to raise performance in maintaining assets at an acceptable level to ensure service delivery and regulatory compliance. That change has required sustained investment above the combined level of operating expenditure from the three previous businesses assumed in the original Water Plans, as demonstrated in Table 3-12.

Table 3-12 : Enhanced Operating Expenditure to Drive Compliance ($M)

Cost Category	2006-07
Glenelg Water	$4.19
Portland Coast Water	$4.83
South West Water	$15.56
Combined Operating expenditure	$24.58
Wannon Water expenditure	$26.86
Cost of heightened compliance	$2.28

Wannon Water is still in the process of establishing and bedding down these new systems and protocols. Training staff and implementing new procedures takes time and Wannon Water has developed a staged process to roll-out these new systems on a priority basis. It is not possible to introduce all new systems in one hit.

As a result, there will be a continuing program of improvement and implementation through the first price period. It is anticipated that the roll-out will have been completed and maturity of our arrangements by the end of the second price period.

3.7.3 Adjusting the Price Path

This Water Plan therefore:

- Proposes to adjust the value of the regulatory asset base to take account of the prudent, necessary and efficient capital expenditure that will have been undertaken by July 2008, to respond to the drought and current compliance priorities;
- Seeks recognition of the heightened level of operating expenditure needed during the first price period as a valid baseline for the second price period; however
- It does not seek to recoup under recovery of funds incurred during the first price period.

4. WATER SUPPLY STRATEGY

4.1 Water Supply Overview

One of the core challenges that Wannon Water faces is to ensure that customers have access to secure supplies of water at a reasonable price. This has been a major focus of our work since Wannon Water was formed. Its importance has been heightened and confirmed by the ongoing drought.

Wannon Water has developed a comprehensive *Water Supply Demand Strategy* to guide all future decisions in this area. The strategy was developed in line with the guidelines issued by the Department of Sustainability and Environment and incorporating contributions and feedback from the community through a series of public engagement workshops across the region and via the internet.

The lessons from the strategy feed into all parts of this Water Plan:

- Early investment has been required as part of implementing the Drought Response Plan to supplement water supplies for Hamilton. Section 3.3.6 records the additional expenditure required over the first three year price period;
- It forms a major part of the future plans for recycled water use and demand management that are key planks of our future strategy;
- It drives major expenditure for both capital and operating costs over the second price period; and
- It affects the future level of demand (section 7) that will determine the level at which tariffs are set (section 8).

The major outcome is the need to spend $30M ($28.7M in the 2008-13 regulatory price period) to achieve acceptable security of supply for the Hamilton water supply system.

4.2 Supply Security Modelling

The first challenge is to judge how much water for supply is likely to be available in the future given the impacts of climate change.

Projections of surface water runoff decline *(Jones and Durack 2005)* have changed long standing assumptions about the availability of historically reliable sources of water. Water supply decline means that a modestly growing or static community can be confronted with the need for supply augmentation, despite successful demand management, as long standing systems of supply move to lower yields.

While the work of Jones and Durack projects gradual and incremental decline in surface water supplies due to global warming across south eastern Australia, emerging experience points to the prospect that decline can be severe and sudden (this is known as stepped climate change). The drying of much of Victoria since 1997 may be the subject of stepped climate change or of a prolonged period of climate variability.

In either case the Department of Sustainability and Environment expects water corporations to make prudent assessments as to the starting point and trending of supply decline. Available surface water supplies have therefore been assessed using well established models[1] and yields predicted under two different scenarios:

[1] REALM and related system modelling tools.

- A medium climate change scenario, in line with recommendations from CSIRO and the Department of Sustainability and Environment; and
- A more severe step climate change, based on continuation of the weather conditions experienced over the last 10 years.

Following advice from the Department of Sustainability and Environment, Wannon Water has opted for the more severe impact as the basis for future supply planning.

Wannon Water will continue to monitor surface flows in practice using the existing array of meters that Wannon Water already has in place. Ground water supplies have been assessed against the permissible annual volume (PAV) for each groundwater management area (GMA). Further work will be needed within the water planning period on the sustainability of these resources.

Key findings arising from the development of the *Water Supply Demand Strategy* and reported in the Strategy (p43) focus on the probability that new water sources for the medium to long term for water systems other than the Hamilton system will be derived from groundwater. The Strategy clearly signals that:

- Knowledge of aquifer dynamics is lacking in southwest Victoria; and
- A scientific knowledge base relating to the recharge of the aquifer systems inclusive of associated land use protection, and the sustainable management of the aquifers of the region needs to be developed.

Wannon Water accordingly has made provision in this Water Plan for the commencement of a groundwater and aquifer research and investigation program. Early indications are that the responsible management agency, Southern Rural Water, strongly agrees with the above findings and positions (p88) and will be taking a leadership role in the design, implementation and funding of a comprehensive groundwater assets survey.

4.3 Augmentation Priorities

Comparing predicted demand with modelled supply availability has identified two supply systems, the Hamilton system and the Glenthompson system, where supply augmentation is needed as a priority. The larger Otway supply system network requires minor augmentation of the water supply. The remaining eleven supply systems do not require augmentation during the 2008-2013 pricing period.

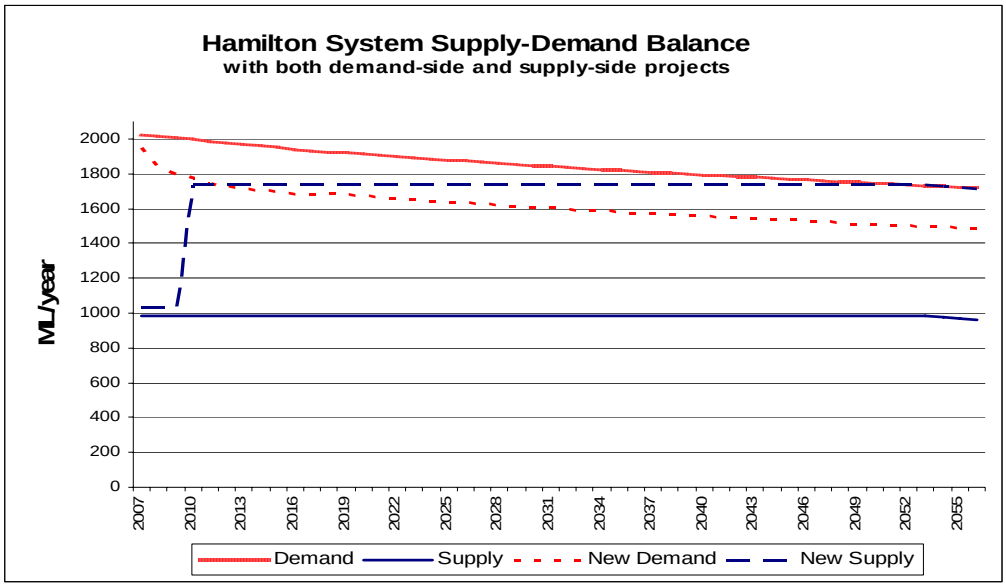
4.3.1 Hamilton Supply System

The Hamilton supply system serves Hamilton, Tarrington, Dunkeld and Cavendish. This is the most critically positioned system and requires immediate and significant action to restore system reliability and at the same time allow for compliance with licence conditions regarding environmental flow regimes in the southern Grampians catchment.[2]

Due to reductions in rainfall and catchment yield the Hamilton system will have a supply shortfall of 750 ML/yr by 2010, assuming a successful demand management strategy (Figure 4-1). The Hamilton system is currently subject to Stage 4 Water Restrictions. Water restrictions will need to remain in place until augmentation works are complete in 2010.

[2] *Water Supply Demand Strategy 2007-2055* (p75)

Figure 4-1: Hamilton System: Supply and Demand



This figure tells several important stories:

- Reduced rainfall means that existing stream diversions to storages now only deliver half of the traditional demand of the town and surrounding region;
- Effective demand management will reduce the size of the supply augmentation required. This will also provide a supply buffer should urban demand not decline as projected or should some future large customer growth need to be accommodated; and
- Augmentation will deliver a yield sufficient to meet future predicted urban demand. It will also allow Wannon Water to restore the passing flow regimes of natural system flows required under the Bulk Entitlement Licence.

Implementation Plan

The following augmentation works are required to restore the supply demand balance. This work is in addition to the drought response expenditure needed to maintain supply in the short-term, as set out in section 3.3.6.

Table 4-1: Supply Augmentation: Hamilton System

Option Description	Yield	Date yield required	Date to Commence Project Planning
Reducing evaporation from water basins	48 ML	2007	2007
Hamilton Grampians Inter-Connector Pipeline	700 ML	2010	2007

In the short-term, evaporation from storages will be reduced through the use of evaporation retardants.

The medium term supply augmentation investment is to take additional flows from the Moora Moora Reservoir or Rocklands Reservoir in the Grampians, via a new 44 km or 47 km pipeline to intersect with the Hamilton system (known as the Hamilton Grampians Inter-Connector Pipeline). Moora Moora and Rocklands Reservoirs currently form part of the suite of storages that are managed by GWMWater. An alternate option is to construct a pipeline of similar distance to connect the Hamilton storages to the Dilwyn aquifer.

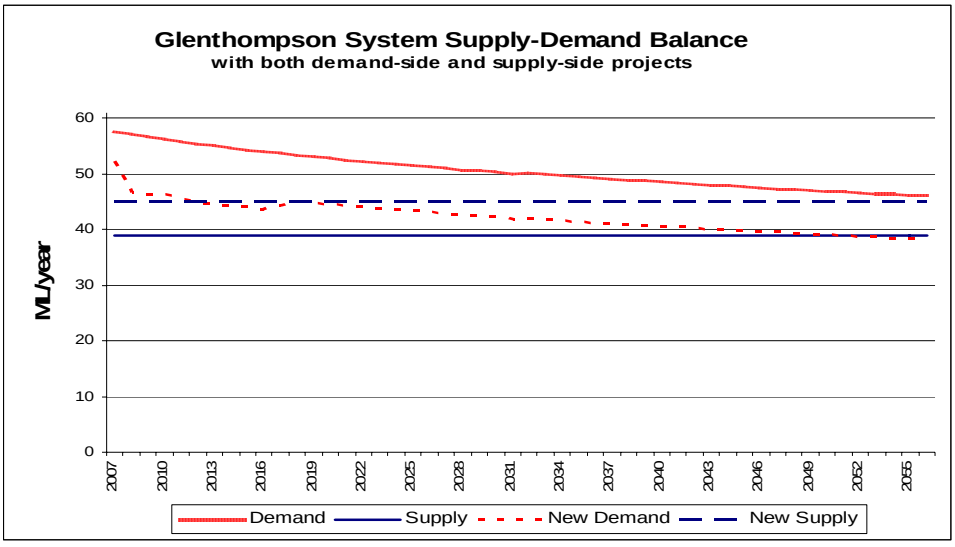
Which projects proceed will depend on discussions with a range of relevant stakeholders. The project will proceed in step with plans for restoring environmental flows in the Southern Grampians streams through the redesign of existing stream off-take structures to deliver required passing flows.

4.3.2 Glenthompson System

The Glenthompson system also demonstrates a shortfall in supply due to reduced supplies from existing storages. Effective demand management and reduction in evaporation from the storage using a retardant should ensure that the reliability of the system increases to an acceptable level, with target reliability met from 2010 onwards.

Beyond 2020, it is assumed that overall demand will fall due to a reduction of population over time.

Figure 4-2: Glenthompson System: Supply and Demand



Implementation Plan

To meet the supply demand gap, the following augmentation works are proposed. This involves the use of a surface coating for the storages to reduce evaporation.

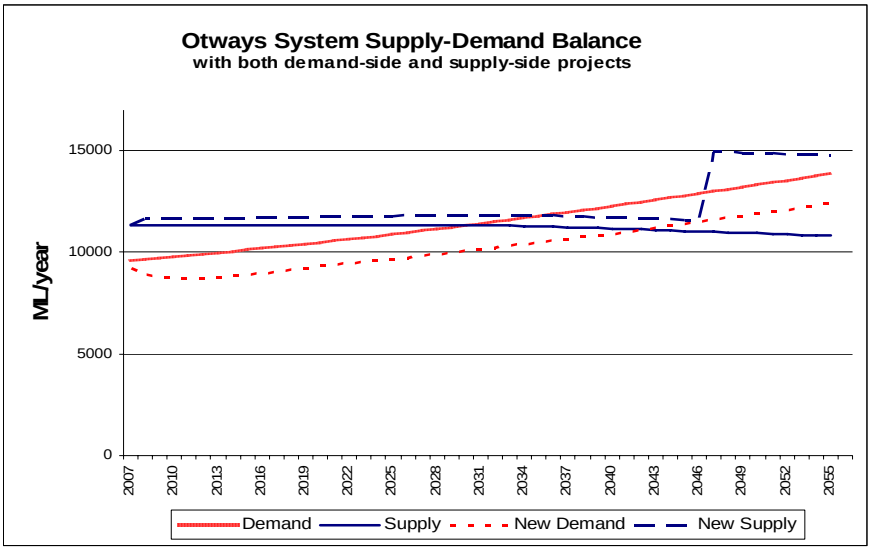
Table 4-2: Supply Augmentation: Glenthompson System

Option Description	Yield (ML)	Date yield required	Date to Commence Project Planning
Reducing evaporation from water basins	6	2007	2007

4.3.3 The Otway System

Current supply is forecast to be sufficient to meet future demand in the Otway system for the next thirty years (Figure 4-3). Major augmentation for the Otway system will not be required until 2047, when new bores will need to be sunk at Curdie Vale to restore the supply demand balance. Effective demand management will defer the need for major augmentation by 10 years.

Figure 4-3: Otway System: Supply and Demand



Implementation Plan

To bridge the projected supply demand gap, the following augmentation works are proposed:

Table 4-3: Supply Augmentation: Otway System

Option Description	Yield (ML)	Date yield required	Date to Commence Project Planning
Water harvesting	300	2043	2007
Additional bore at Albert Park	250	2045	2010
Curdie Vale bores	3,400	2047	2042

The major augmentation work is not required until the year 2047. However, the Water Plan proposes two investments for the 2008-2013 price period:

- An urban water harvesting demonstration project. This involves stormwater collection from roofs of new sub-divisions in Warrnambool – as part of our overall demand management strategy; and
- An additional bore to be constructed at Albert Park.

The proposed bore not only augments supply it also maintains the chemical composition of water supplied to urban and major food processing companies in the zone. The current supply is a 90:10 shandy of Otway sourced water with local shallow groundwater. Growth in this largest urban zone will require more water overall and so a need for more bore water to maintain the current quality parameters.

4.3.4 The Other Eleven Systems

Modelling of the fourteen systems through to 2055 indicates that only three systems have a supply deficit in 2055 following a successful demand reduction program. The needs of two of the systems are urgent and immediate (Hamilton, Glenthompson). The remaining eleven systems appear secure through to 2055 should the demand reduction program be successful and are certainly secure through to 2013 under any likely scenario of possible growth in demand or decline in supply.

Table 4-4: Supply Demand Balance: All Systems

Summary Table of Supply-Demand Balance for all Systems

Supply System	Current Status (2007) Supply	Total Demand	Supply less Demand	Adopted Growth (% p.a.) 2006-10	2011-15	2016-20	2021-25	2026-55	Future Status (2055) Supply	Total Demand	Supply less Demand
Otways System	11360	9600	1760	0.5%	0.6%	0.7%	0.7%	1.05%	10820	13874	-3054
Hamilton System	985	2020	-1035	-0.4%	-0.4%	-0.3%	-0.3%	-0.3%	970	1722	-752
Balmoral	60	80	-20	-1.1%	-0.9%	-0.8%	-0.8%	-0.9%	60	40	20
Glenthompson	39	58	-19	-0.6%	-0.5%	-0.4%	-0.4%	-0.3%	39	46	-7
Port Campbell System	1009	390	619	0.5%	0.5%	0.4%	0.3%	0.3%	1009	446	563
Casterton System	1000	560	440	-1.0%	-0.8%	-0.7%	-0.6%	-0.6%	1000	379	621
Caramut	50	47	3	-1.1%	-1.0%	-0.8%	-0.7%	-0.8%	50	19	31
Darlington	10	2	8	-1.1%	-1.1%	-1.0%	-1.1%	-1.8%	10	1	9
Dartmoor	170	16	154	-0.7%	-0.5%	-0.3%	-0.3%	-0.2%	170	10	160
Heywood	333	247	86	-0.4%	-0.3%	-0.2%	-0.2%	-0.1%	333	212	121
Macarthur	80	29	51	-2.3%	-1.8%	-1.7%	-1.7%	-1.6%	80	9	71
Penshurst	250	100	150	-1.2%	-1.1%	-1.0%	-1.1%	-0.9%	250	58	192
Port Fairy	1026	728	298	0.4%	0.5%	0.5%	0.4%	0.6%	1026	895	131
Portland	6222	2258	3964	-0.2%	0.0%	-0.1%	0.1%	0.0%	6222	2298	3924

Port Fairy, Portland, Otways and Hamilton include industries, and Glenthompson includes rural users, with different growth rates.

4.4 Expenditure for Supply Augmentation

The sections above identify the measures required to meet the supply augmentation needs of the region for the period of the next Water Plan. The most significant is the provision of additional supply to the Hamilton area.

Table 4-5: Expenditure for Security of Supply ($M)

Purpose	Works Involved	Cost
Hamilton system	Hamilton Grampians Inter-Connector Pipeline	$29.50
Otway system	New bore at Albert Park (Warrnambool)	$0.17
Total		$29.67

In the case of the Hamilton augmentation, a number of different options were considered and reduced to a short list of two options.

The Hamilton Grampians Inter-Connector Pipeline project schedule is:

	Completion By
Concept design of options	20 July 2007
Functional design	28 March 2008
VicRoads, DSE, Council & CMA approvals	26 May 2008
Business case submission to DSE	19 Aug 2008
Detailed design	17 Dec 2008
Tender for pipes & award contract	30 Jan 2009
Tender for construction & award contract	31 March 2009
Construction of project	25 June 2010

It is anticipated the augmentation option for the Hamilton system will be resolved by October 2007. Consequently Wannon Water expects to include final proposals for works and costs in response to the draft decision expected from the Essential Services Commission in March 2008. If however the information is not available at that time, and given the magnitude of the impact upon Wannon Water's customers, then Wannon Water would seek from the Essential Services Commission the opportunity to revisit the price determination once the security of supply solution for Hamilton is known. The State Government will provide a $10M funding grant to offset the cost for Hamilton and surrounding communities.

4.5 Recycled Water and Trade Waste Management

One of the best ways to optimise the effective security of existing water supplies is through the substitution of existing potable water use with recycled water. Wannon Water operates 17 water reclamation plants, twelve of which already achieve 100% re-use, while one achieves 50% re-use. The remaining four plants discharge via ocean outfalls.

The *Water Supply Demand Strategy* proposes a significant increase in the beneficial application of recycled water by 2015 not just in terms of larger volumes being achieved but also in moving reuse to higher value outcomes such as substitution for potable water. The intent is to lift the volume of application of recycled water by approximately 45% (from 24% to 35% of anticipated wastewater volumes). This approach also implements requirements under the State Environment Protection Policy *Waters of Victoria* and *the Statement of Obligations* to implement a comprehensive program to maximize the reuse of water and so conserve potable supplies.

Wannon Water has prepared a comprehensive *Recycled Water Strategy* that includes a reuse hierarchy to help prioritise consideration of new reuse projects. This reuse strategy includes consideration of potable, river and groundwater substitution, enhancing environmental flows, and new irrigation using recycled water to provide regional sustainable water cycle benefits. Results from the recent Customer Survey indicate that over 90% of our domestic and business customers believe that promoting the increased use of recycled water is an important issue.

Investigations into new reuse projects are currently being completed at Cobden, Hamilton and Warrnambool. Wannon Water has also entered an agreement with the proponent of a potential gas fired electricity power plant development that would achieve 100% reuse at Mortlake. Funding is included in the plan to deliver three new priority recycled water projects consistent with the recycled water target set out in the *Water Supply Demand Strategy.*

The trade waste pricing set out in this Water Plan will provide certainty for trade waste customers for the duration of the price period.

Wannon Water will commence the implementation of a new trade waste policy from 1 July, 2008, for the management of trade waste across our service area. The implementation of this policy will strongly support the water recycling target established in Wannon Water's *Water Supply Demand Strategy*.

The trade waste policy also builds on the principals established in the draft *Future Directions Statement* issued by the Department of Sustainability and Environment following a recent state-wide review of trade waste.

The major trade waste customers of Wannon Water are also major economic drivers of the region, and Wannon Water acknowledges them as important stakeholders for the sustainability of the southwest of Victoria.

This new approach to trade waste pricing will make allowance for the migration over time of all major trade waste customers to new trade waste agreements. The new agreements will replace the various existing agreements, as they expire, including various trade waste pricing inherited from the Authorities that merged to form Wannon Water.

Generic trade waste agreements and minor trade waste charges will be introduced on 1 July, 2008 for all minor trade waste customers.

The trade waste charges set out in this plan are based on the “polluter pays” principle and aim to recover:

- The true costs associated with the collection, treatment and disposal of trade waste from each of the sewerage systems operated by Wannon Water ; and
- Send an incentive price signal for major trade waste customers to consider investment options for the pre-treatment of higher strength trade waste and salt reduction in order to promote more recycled water opportunities.

5. LISTENING TO OUR CUSTOMERS

5.1 Customer Consultation Overview

Customer consultation and engagement is at the core of Wannon Water's business development strategy. It informs all aspects of this Water Plan. This approach also implements Section 10 of *the Statement of Obligations* on Customer and Community Engagement.

10.1 The Authority must develop and implement open and transparent processes to engage its customers and the community in its planning processes to ensure, among other matters, that the services it provides reflect the needs and expectations of customers.

Wannon Water faces challenges in consulting with its customer base. Unlike the large urban retail water companies which have a relatively uniform customer base, Wannon Water services a large number of smaller population communities spread over a large geographic area. Customers often have interests that focus on local issues rather than region wide initiatives, so for instance water customers in Hamilton are concerned about security of water supply and have little interest in groundwater servicing Portland and other communities (and vice versa).

In developing our consultation and engagement strategy, therefore, Wannon Water has adopted a flexible approach to the mechanisms it uses:

- Annual customer satisfaction survey;
- Regular consultation with the Customer Engagement Committee;
- Specific issue consultation, by convening local Community Consultative Committees and representative groups;
- Project implementation, via Project Monitoring Committees;
- One-on-One consultation with major customers; and
- Online internet consultation.

Each is discussed further below.

5.2 Consulting on this Water Plan

This Water Plan has been subject to review and consultation through our Customer Engagement Committee, which endorsed the broad strategy on the priority and scale of the proposed works and their impact on future bills. The Committee was also involved in assisting Wannon Water to decide on the customer service targets to include in the Customer Charter that form the basis for the performance commitments set out in this Water Plan. The pricing principles adopted for the water and sewerage tariff structures were determined with significant input from the Customer Engagement Committee and were widely advertised in local newspapers and radio media as being available for public review and feedback to Wannon Water. A number of submissions were received and were assessed and were helpful in determining the final form of the water and sewer pricing structures.

Proposals for individual projects and the wider *Water Supply Demand Strategy* have been subject to extensive engagement and consultation through specific issue committees (as listed further below).

This Water Plan will be released for wide community, customer and stakeholder comment with an invitation to provide feedback to Wannon Water and the Plan will be available online at the Wannon Water public website from 31 July, 2007. All comments received will be assessed and considered prior to the finalisation of the second Water Plan submission the Essential Services Commission on 8 October, 2007.

5.3 Customer Satisfaction Survey

Surveys of customers are conducted annually by an independent market research company. The results for the past two years indicate a high level of customer satisfaction with Wannon Water's performance. The annual customer survey conducted in June 2007 yielded the following results for residential and business customers.

Residential customers:

- 94% of residential customers surveyed were extremely satisfied or satisfied overall with the quality of water and sewerage services.
- Overall Wannon Water's strengths were seen as predominately in the areas of managing sewerage services and customer service.
- Areas identified for improvement included the management of water resources for the future and working to protect and improve the regions biodiversity.

Business customers:

- 94% of business customers surveyed were extremely satisfied or satisfied overall with the quality of water and sewerage services.
- Overall Wannon Water's strengths were seen as predominately in the areas of sewerage services and customer service.
- Areas identified for improvement were the management of water resources for the future and working to protect and improve the regions biodiversity.

Improvements in customer satisfaction since the 2006 customer survey were:

- Keeping customers informed about relevant issues;
- Management of the water supply;
- Collecting & treating sewage in a responsible and environmentally friendly manner;
- More customers having direct contact with Wannon Water; and
- More customers using sewerage services.

The annual customer surveys have demonstrated a continued high level of customer satisfaction with Wannon Water's performance in the delivery of services (2007 – 94% and 2006 – 92%). Wannon Water considers this to be an excellent outcome given the adverse impacts of the drought on water availability and water quality due to the need to introduce emergency groundwater supplies to the Hamilton system.

The 2007 customer survey results also indicate that:

- More than 90% of business and residential customers consider promoting the increased use of recycled water as extremely important or important, but there is a need for more active promotion of this aspect of our business;
- More than 95% of customers consider working to protect and improve the biodiversity of the region as extremely important or important;

- There is strong support (85% or more of customers) for the purchase of “green power”, or investment in carbon offset projects such as tree planting, and investment in new equipment or procedures to reduce energy use, as part of Wannon Water’s strategy to reduce greenhouse impacts caused by it’s operations;
- More than 90% of business and residential customers consider promoting the increased use of recycled water as extremely important or important, but there is a need for more active promotion of this aspect of our business;
- More than 95% of customers consider working to protect and improve the biodiversity of the region as extremely important or important, but there is a gap in knowledge about Wannon Water’s actions and outcomes in this area; and
- There was strong support (85% or more of customers) for the purchase of “green power”, investment in carbon sequestration projects such as tree planting, and investment in new equipment or procedures to reduce energy use, as part of Wannon Water’s strategy to reduce greenhouse impacts of it’s operations.

5.4 Customer Engagement Committee

Wannon Water formed a Customer Engagement Committee following invitations for expressions of interest from customers. The Committee first met in November 2005 and has met quarterly thereafter. The Committee consists of 13 members drawn from across our service area and is supported by Wannon Water executive management. Committee members were selected following an expression of interest process and were drawn from the residential, small business, major customer and rural customer segments to reflect Wannon Water’s customer base.

Regular agenda items include: monitoring key performance indicators, overview of project specific consultative committees, and customer complaints analysis.

Strategic issues on which Wannon Water has engaged with the Committee include:

- Development of the Water Plan Submission including setting tariffs, capital works program and the priorities for the next price period;
- Permanent Water Savings Measures implementation plan;
- Customer Charter development;
- Customer hardship policy development;
- Customer complaints policy development;
- Uniform Water Restrictions development;
- Review of Branxholme water quality consultation plan;
- Review of Macarthur water quality consultation plan;
- Water pricing structure development;
- Sewerage pricing structure development;
- Water Supply and Demand Strategy including social sustainability assessment of options and consultation and engagement plan; and
- Guaranteed Service Level scheme development for the Water Plan

The operation of the Customer Engagement Committee has been highly successful and has contributed significantly to the development and implementation of key customer related policies and plans.

5.5 Specific Issue Consultation

In preparation for this Water Plan Wannon Water undertook significant consultation. The listing below identifies the breadth of that exercise:

- **Water Supply Demand Strategy**
  Public meetings were convened for the development of a regional *Water Supply Demand Strategy*. Public engagement sessions were held in the major centres of Warrnambool, Portland, and Hamilton. Formal public submissions were also invited via public advertisement and the internet.

- **Port Fairy: Water Quality**
  The existing Port Fairy water supply is sourced from a geothermal aquifer and meets the health standards of the *Safe Drinking Water Regulations 2005.* However, the water contains mineral salts above the taste threshold. Port Fairy customers were consulted regarding their willingness to pay for improved taste. The consultation process involved the mailing of an information pack and ballot paper to all customers. The result of the ballot was that 80.5% of customers were not willing to pay to reduce the mineral salt content to below the taste threshold.

- **Macarthur: Water Quality**
  Meetings were convened with the Macarthur community to address water quality concerns associated with levels of arsenic in the groundwater supply that exceeded the levels set by the *Safe Drinking Water Regulations 2005.* Following engagement with the Macarthur community, a Macarthur Water Quality Consultative Committee was established consisting of nominated customers to assist Wannon Water with the selection of the customers preferred option for the upgrade of the water supply. The consultation process included the mailing of an information pack and ballot to all customers. The result of the ballot was that 91.5% of customers preferred an iron sorption solution to reduce the level of arsenic to below the standards specified by the *Safe Drinking Water Regulations 2005*. This Committee has now been converted to a Project Monitoring Committee to oversee the implementation of the preferred option.

- **West Portland: Backlog Sewerage Scheme**
  A concept design for the West Portland sewerage scheme has been completed and presented to landowners within the proposed scheme. The Glenelg Shire Council is undertaking the community consultation processes in partnership with Wannon Water for this scheme and the Dutton Way water and sewerage schemes.

- **Dutton Way: Water And Sewerage Schemes**
  Options for the Dutton Way water supply and sewerage schemes have been prepared in consultation with Glenelg Shire, the Department of Sustainability and Environment, other stakeholders and landowners within the potential schemes. Formal consultation will be undertaken once Glenelg Shire has clarified the planning overlay for the area.

- **Branxholme: Water Scheme**
  Public meetings were held in Branxholme to determine the level of community support for a non potable water supply scheme. Branxholme currently has no water supply and is reliant on rainwater tanks to meet individual residential and commercial property water needs. The result of the consultation identified a preference for the community not to proceed with a reticulated water supply scheme due to the high cost.

5.6 Project Committees

Where capital expenditure projects involve a long lead-in time Wannon Water generally establishes a local Project Committee with representatives from local customers to help engage the community in the roll-out of the program. Recent examples are:

- Port Fairy Consultative Committee implemented to oversee the option selection and resolution of the augmentation of the Port Fairy water reclamation plant.
- Macarthur Water Quality Project Monitoring Committee – established to oversee the implementation of the preferred option for Macarthur's water quality improvement project.
- Peterborough Sewerage Scheme Project Monitoring Committee – implemented to oversee the development of the Peterborough sewerage scheme and is currently providing community feedback during the construction phase of the project.

5.7 Major Customers

Wannon Water services 21 major customers who represent a significant percentage of demand and revenue, particularly at the local supply level. Approximately 25% of Wannon Water's overall potable water demand is due to those customers, and a majority of them also have significant Trade Waste discharges to the sewerage system. For example, more than 35% of the total volume of sewage treated in Warrnambool is attributable to major customers. It is essential that those customers are fully engaged in Wannon Water's planning processes, as changes in their future demand for services will have major impacts on the need for investment in infrastructure.

Wannon Water has established a new post of General Manager, Innovation and Sustainability, one of whose main responsibilities is to build effective engagement and dialogue with major customers. Regular consultation has been established with major customers particularly in the areas of:

- Forward infrastructure requirements;
- Water efficiency opportunities;
- Assistance with applications for funding;
- Quality of services; and
- Trade Waste policy.

The partnerships and outcomes that have been achieved already demonstrate the regional benefits that can be obtained from this investment, and an ongoing Major Customer program is included in this Water Plan.

5.8 Online Internet Consultation

Wannon Water also used its website as a facility for consultation on a range of issues. The process has sought on-line feedback from customers and other stakeholders, for example on the water and sewerage pricing discussion papers released with media advertisements in 2006 inviting customers to log onto the public website and provide feedback on the discussion papers.

5.9 Implications of Customer Feedback

The strongly expressed priority of customers from all of our consultation is the importance of water security and water conservation. Customers need confidence that Wannon Water will continue to invest to provide secure future water supplies while at the same time they expect us to demonstrate leadership in promoting water conservation, leakage control and demand management.

The other clear message from the consultation is that customers expect Wannon Water to strike an appropriate balance between cost and quality of service. Faced with a choice between the status quo (with a reasonable standard of service at a reasonable price), and an opportunity to obtain a superior standard at a higher price, the large majority of customers voted for the status quo. This was evident from recent ballots for an upgrade of the Port Fairy and Macarthur water treatment plants to improve the aesthetic quality of the groundwater supply where customers clearly choose to retain the existing balance between cost and quality.

Finally, the consensus from surveys is that our customers believe that Wannon Water is doing a good job and that the current levels of service are meeting customer expectations. Expenditure is proposed at the level necessary to maintain the current service standards and level of satisfaction. However, Wannon Water is not proposing any significant additional expenditure to increase the overall level of customer service within this Water Plan.

6. OBLIGATIONS AND OUTCOMES

This section is the heart of the Water Plan. The section:

- Affirms the obligations that are the drivers for the Water Plan;
- Outlines the projects and expenditure that Wannon Water proposes to undertake to meet those obligations; and
- Identifies the outcomes that Wannon Water proposes to achieve over the life of the Water Plan through its customer service performance targets.

The section is split into a number of main sub-sections:

- Statement of Obligations;
- Water Security of Supply and Conservation: this addresses the core issue for water customers in the region;
- Environmental Obligations: this focuses on those areas where the Environment Protection Authority acts as the licensing authority, eg wastewater handling, treatment and disposal;
- Water Quality Obligations: this focuses on those areas where the Department of Human Services acts as the regulator of drinking water quality;
- Customer Service Standards; and
- Other Obligations.

6.1 Consultation on Water Plan - Obligations

In drafting this Water Plan, Wannon Water consulted widely with the full range of regulatory bodies and outside agencies with responsibility for policy and compliance issues relevant to the performance of the organisation.

The Environmental Protection Authority and the Department of Human Services were approached by Wannon Water to seek clarity on the obligations that would apply during the second price period. Formal responses were received from both agencies setting out in general terms the obligations that would need to be met during the price period.

Once an initial draft of the submission had been developed, a copy of the draft was delivered to each regulatory body which summarised the obligations that had been included in the Water Plan with a record of the proposed outcomes to be delivered by Wannon Water. An interim response has been received from the Environment Protection Authority southwest regional office. The comments were generally supportive of the proposed approach. In response, Wannon Water has provided the Environment Protection Authority with more detailed information on the points raised including projected costs. This information is included in this draft submission.

Formal comments will be sought from the Environment Protection Authority and the Department of Human Services in response to the publication of this draft Water Plan and feedback included in the final submission to the Essential Services Commission in October 2007.

New obligations and business as usual

Most of the obligations Wannon Water face involve a ratcheting up of existing compliance standards rather than the introduction of new requirements. There is part of a heightened regulatory and community expectation about the standard of compliance that we need to demonstrate. So for example, under Environment Protection Authority *publication 1069* Wannon Water is required to:

- Develop and implement a consultation program to inform the community on treated effluent mixing zones and ensure that adequate controls are in place to prevent inappropriate uses within mixing zones;
- Prepare a sewerage system management plan, and undertake an audit of that plan to identify and manage environmental risks;
- Develop and implement plans for the management and handling of continuously produced sludge; and
- Develop and implement plans for 100% recycling of biosolids.

Strictly these are not new legal obligations. They are merely more detailed and specific criteria to demonstrate compliance with existing legislation. Wannon Water believes it will fully meet these expectations. However, it is important to recognise that this continuous enhanced compliance comes at a cost and makes it difficult to implement productivity gains year on year.

6.2 Statement of Obligations

Wannon Water operates under a *Statement of Obligations* from the Minister for Water, Environment and Climate Change.

The *Statement of Obligations* sets out the full range of areas and activities which the Minister has determined it is the responsibility of Wannon Water and its Board to deliver. However, these obligations are generally expressed at a generic level, and as outcomes to be achieved rather than activities that must be undertaken. They therefore, underpin everything that the Water Plan sets out to achieve.

A summary of the key sections of the *Statement of Obligations* is provided below, with Wannon Water's responses for this Water Plan. The analysis is focused on those obligations that will impose major costs on Wannon Water in the next price period. Where the obligations relate to major functional areas (such as environmental performance) then the issue is dealt with under the relevant heading later in the section.

Table 6-1: Statement of Obligations Coverage in Water Plan

Section	Subject	Section of Water Plan
Section 10	Customer and Community Engagement	5
Section 12	Responding to Incidents and Emergencies	6.9.3
Section 14	Dam Safety	6.9.2
Section 15	Conserving and Recycling Water	6.3.2
Section 16	Water Supply Demand Strategy	4
Section 19	Sewerage Services to Un-sewered Urban Areas	6.5
Section 21	Trade Waste	6.5.4

Section 23: Research and Knowledge

The Authority must:
a) identify the Authority's research needs;
b) prioritise the research needs identified; and
c) identify how the Authority proposes to meet its research needs.

Wannon Water has developed a comprehensive *Innovation Strategy* which includes research needs. This strategy provides the organisational capacity to deliver improved business outcomes derived from this program.

Identified projects to be undertaken during the Water Plan include:

- Reshaping rural and regional urban customer attitudes to water saving and recycling across southwest Victoria in partnership with the Victorian Water Trust, Deakin University and the Alcoa Foundation;
- Completion of a collaborative project investigating the influence of hormones on sewer treatment plants with industry peers and Department of Primary Industries;
- New investigations into priority flora and fauna species occurring on Wannon Water's land base;
- A series of collaborative research projects identified in the *Innovation Strategy*, and including investigations into the sustainability of the Dilwyn Aquifer highlighted in the *Water Supply Demand Strategy*;
- Membership in Water Quality Research Australia, a collaborative research centre of national application with a focus on drinking water quality, recycled water and relevant areas of wastewater management ; and
- Associate membership of the Water Services Association of Australia who commission a range of research projects of high priority to the Australian water industry.

The annual review process for the *Innovation Strategy* includes processes to identify emerging research needs and to initiate projects to meet these needs during the Water Plan period. The following programs are proposed within the Water Plan period.

Table 6-2: Research and Knowledge Program

Description	Purpose	Works Involved	Cost
Implement Research and Development program identified in Innovation Strategy	Statement of Obligations 23 - Authority must identify how it will meet its research needs	Funding for R&D projects targeted to business needs and identified in updates of Innovation Strategy, to be undertaken by relevant providers (eg Universities, WQRA), preferably in partnership with peers to maximise investment outcomes.	$500,000

Section 24: Sustainable Management

24.1 The Authority must:
a) in performing its functions, exercising its powers and carrying out its duties, apply the Sustainable Management Principles', and
b) demonstrate in its Water Plan how the Authority proposed to apply those principles.

24.2 In applying the Sustainable Management Principles the Authority must develop and implement programs for assessing, monitoring and continuously improving the Authority's sustainability performance, including:
a) responding to climate change;
b) maintaining and restoring natural assets;
c) using resources more efficiently; and
d) managing everyday environmental impacts;
and must include those programs in its Water Plan.

Wannon Water's *Innovation Strategy* has identified a series of priority goals and objectives for continually improving our business performance including natural resource management actions on our extensive land base. Feedback from customers demonstrates strong support for projects that will help achieve our regional biodiversity obligations (refer section 5.3).

Table 6-3: Sustainable Management Program

Description	Purpose	Works Involved	Cost
Maintaining and Restoring our Land	Statement of Obligations 24 (Sustainable Management)	A program of on-ground land management works to maintain and restore priority sites (up to 25ha), including integration of CMA and DSE objectives. Includes Portland Heathland Management Plan. Requires ongoing monitoring of outcomes.	$220,750
Implementation of Sustainability Assessment and Reporting Framework	Statement of Obligations 24, 25 (Sustainability Systems)	Implement new systems for monitoring and reporting of criteria in Sustainability Assessment and Reporting Framework. Potential for Certification of system, and routine reporting costs.	$165,000
		Total	$385,750

6.3 Security of Supply and Water Conservation

6.3.1 Augmenting Security of Supply

Security of future water supplies is the top priority for our customers and implements fundamental obligations on Wannon Water under the *Water Act 1989* and *Statement of Obligations*. Those obligations combine requirements to ensure continued reliable supply with duties to promote conservation and demand management.

The basis for future action and expenditure is Wannon Water's *Water Supply Demand Strategy 2007-2055.* This provides a comprehensive review of future demand and supply options underpinned by rigorous scientific modelling to identify the optimal strategy to support these two objectives.

Section 4 sets out a summary of the Strategy and the expenditure proposed.

6.3.2 Water Conservation and Resource Efficiency

Obligations to be met

Section 15 of the *Statement of Obligations* requires a comprehensive program of water conservation and recycling.

Clause 40 of the State Environmental Protections Policy (SEPP) *(Waters of Victoria) 2003* requires Wannon Water to work with communities and businesses to implement water saving practices (particularly for new developments) and to maximize wastewater reuse in order to conserve potable water. The SEPP further requires Wannon Water to:

- Recycle sewage and biosolids; and
- Deliver water to customers in an efficient manner.

Water conservation is also enforced under Section 1I, 'Principle of Wastes Hierarchy' of the *Environment Protection Act, 1970*. Environment Protection Authority *publication 1069* also obliges Wannon Water to have regard to efficient use of other resources such as energy and chemicals.

Outcomes to be delivered

Wannon Water is committed to its environmental obligation of conserving water and using resources efficiently. This is set out in detail in Wannon Water's *Water Supply Demand Strategy* and *Recycled Water Strategy*. The following program of expenditure is proposed within the Water Plan price period. Other expenditure exists to meet growth in the region.

Table 6-4: Expenditure required for Recycled Water

Description	Purpose	Works Involved	Cost
Establishment of expanded reclaimed water infrastructure with focus on Warrnambool, Hamilton and Cobden	Statement of Obligations 15. Consistent with White Paper. To implement elements of the Recycled Water Strategy which enable further fit-for-purpose treatment and distribution to customers	Construction of new infrastructure to provide fit-for-purpose recycled water for expanded customer base	$1,525,000

6.4 Environmental Obligations

Wannon Water is committed to managing its business to ensure compliance with all legal and licensing obligations, meet best practice in system management and minimise any impacts on the environment.

Wannon Water is determined to be a leader in environmental management in the region.

That means looking at everything Wannon Water does with the intention to do it better and with less impact. It also means thinking about our actions within a wider context so that consideration is given to achieving the best outcome at a system level. The following sections cover five core areas and include the environmental obligations imposed on Wannon Water through the *Statement of Obligations:*

- Wastewater Management;
- Greenhouse Gas Emissions;

- Trade Waste Management;
- Catchment, Waterway and Groundwater Management; and
- Monitoring, Auditing and Reporting.

Obligations to be met

The main legislative framework for Wannon Water's performance in this area is the *Environment Protection Act 1970* and associated *State Environmental Protections Policies* (known as SEPPs).

The agency with whom Wannon Water works most closely on these issues is the Environment Protection Authority Victoria. In developing this Water Plan submission, Wannon Water has made particular reference to the Environment Protection Authority *publication 1069 "Principles to Establish EPA Environmental Obligations for Water Businesses for the 2008 – 2013 Pricing Determination"*.

The publication was developed to provide clarity to the Victorian water businesses regarding the environmental requirements that the water industry is obliged to address over the next price period.

The obligations also include Section 25 of the *Statement of Obligations* on *Environmental Management Systems.*

The Authority must develop and implement an Environmental Management System which;
a) must be in accordance with the following standards from the Standards Australia AS/NZSISO 14000 Series of Environmental Management Systems Standards: (i) AS/NZS ISO 14001: Environmental Management Systems Requirements with Guidance for Use; and; (ii) AS/NZS ISO 14004: Environmental Management Systems General Guidelines on Principles, Systems and Support Techniques; but
b) need not be accredited under those standards.

During the Water Plan period, Wannon Water commits to implementing internationally recognised and industry relevant sustainability monitoring and reporting frameworks, such as the Global Reporting Initiative and Corporate Responsibility Index.

To facilitate an appropriate level of environmental performance under these Sustainability Frameworks, Wannon Water's management systems will be upgraded to include the elements of ISO14000 and ISO14004, and additional operations and maintenance procedures, monitoring and research will be implemented to ensure the systems deliver real on-ground outcomes. Funding has been included in the Water Plan to develop an Environmental Management System consistent with those standards.

Wannon Water maintains an integrated management systems approach, ensuring that daily activities are constantly considering all relevant aspects and impacts across the whole of the triple bottom line. Wannon Water conducts its business activities with consideration given to long term sustainable solutions. Treatment and reuse processes are conducted in accordance with chemical and energy minimisation without being to the detriment of the final product. As such processes are currently monitored and optimised. These are continuing processes and will carry on into the next regulatory period.

In partnership with the Environment Protection Authority, Wannon Water has initiated the use of Life Cycle Assessment methodologies to evaluate alternative environmental outcomes for major infrastructure projects. This methodology will be extended to the design and implementation of a

major upgrade to the Portland water reclamation plant, scheduled for 2010. This project will include communication and consultation with customers and other stakeholders regarding the environmental and economic impacts of the project, so that a sustainable solution is achieved.

6.5 Wastewater Management

Wannon Water is the service provider for the collection and treatment of the region's wastewater. This is a vital function to promote public health and protect the quality of our rivers and streams. There are five major parts to this exercise:

- Managing the Sewerage System: to prevent spills and blockages;
- Sewage Treatment and Disposal: treating the wastewater in our Water Reclamation Plants and reusing or discharging of the waste stream;
- Trade Waste Management: managing the composition and treatment of waste streams received from non-residential customers;
- Sludge and Biosolids Management: managing the solid wastes generated by reuse as a soil conditioner; and
- Management of Odour: minimising our impacts on our neighbours.

6.5.1 Wastewater Management Obligations

There is a comprehensive legislative and licensing regime that sets compliance standards for these activities, implemented in partnership with Environment Protection Authority Victoria. Core obligations include:

- *Environment Protection Act 1970*: eg. Section 20 requires the organisation's water reclamation plants to be licensed;
- Environment Protection Authority Publication 473, *Managing Sewage Discharges to Inland Waters* sets standards for discharge controls;
- SEPP *(Waters of Victoria) 2003*:
  - o Clauses 27 to 30 make reference to the need to implement the waste hierarchy in the management of wastewater systems;
  - o Clause 33 requires the development of sewerage management plans in conjunction with the municipal council and EPA;
  - o Clause 35 requires sewerage systems to avoid losses of wastewater through overflows, leakages and collapses;
- SEPP *(Air Quality Management)*: Clause 18 requires continuous improvement in odour management for existing and proposed schemes; and
- Environment Protection Authority *Publication 1069* specifies the particular activities required to meet compliance during the 2008-2013 price period.

In implementing these obligations Wannon Water will be guided by the principles of the waste hierarchy as set out in Section 1I of the *Environment Protection Act 1970* and Clauses 27 to 30 of the SEPP *(Waters of Victoria)*. The hierarchy prioritises in order: avoidance, re-use, recycling, recovery of energy, treatment, containment and then disposal.

6.5.2 Sewerage Management

Wannon Water operates the sewerage system to minimise risks of blockages and spills. This protects the environment and ensures that the relevant levels of service targets set out in the Customer Charter are achieved.

Obligations to be met

Clause 35 of the SEPP *(Waters of Victoria) 2003* requires us to avoid losses of wastewater through overflows, leakages and collapses. In particular, systems need to contain flows associated with a 1-in-5 year rainfall event. Environment Protection Authority *publication 1069* also requires Wannon Water to prepare sewerage system management plans that describe:

- Current design and management standards for the installation or replacement of sewerage systems;
- An investigation program to identify existing infrastructure that does not comply with the minimum design criteria;
- A program to monitor and provide reporting systems to the Environment Protection Authority of sewage spills from the system; and
- A work program to rehabilitate systems that fail the minimum criteria, with prioritisation based on the potential environmental impacts and practical rehabilitation measures available.

Outcomes to be delivered

Wannon Water's sewer replacement/rehabilitation works program is based on the condition and criticality of sewer mains, including environmental impact considerations. Wannon Water will complete a sewer condition assessment, hydraulic capacity and infiltration study for each of the sewerage systems by June 2008. This will provide the basis for a prioritised program of relining and replacement. Current experience suggests the high priorities are:

- Port Fairy and Heywood sewerage systems to reduce infiltration; and
- Warrnambool sewerage system, where significant sewer upgrades are required to meet current and future demands.

Wannon Water currently has a Sewage Spills Response Plan which has been endorsed by the Environment Protection Authority. This will continually be reviewed through the regulatory period.

Wannon Water's performance will also be further enhanced through the commissioning of a Mobile Information Management System which will provide field based employees with online access to information systems in vehicles. This will enable faster response to service faults and incidents that occur as staff will have on-line access to up-to-date information on all assets and direct two way online contact with the customer call centre.

6.5.3 Wastewater Treatment and Disposal

Obligations to be met

Section 20 of the *Environment Protection Act 1970* requires Wannon Water's water reclamation plants to be licensed. Wannon Water is obliged to comply with all requirements of each licence. Water reclamation plants not achieving 100% compliance must have a detailed activity plan to achieve full compliance within the 2008 – 2013 regulatory period.

Obligations are articulated in the 1995 Environment Protection Authority Publication 473 *Managing Sewage Discharges to Inland Waters and* Clause 30 of the SEPP *(Waters of Victoria) 2003:*

- Upgrade treatment plants to meet minimum standards for discharge to waterways;

- Mixing zones associated with sewage discharge to be identified and progressively reduced; and
- Ecological risk assessments to be conducted on the impacts of discharges to water bodies in consultation with waterway managers, coastal plans and the Environment Protection Authority.

Outcomes to be delivered

Major capital upgrades are to be carried out on the Portland, Port Fairy, Warrnambool, Hamilton and Dunkeld water reclamation plants to ensure they become fully compliant with the Environment Protection Authority discharge licences. The following is the planned schedule of works:

- Port Fairy domestic water reclamation plant ($0.797M) and Warrnambool water reclamation plant ($2.176M),upgrades to be undertaken in 2008-09;
- Hamilton water reclamation plant: an upgrade of the biosolids handling facility ($0.8M) by 2008-09;
- Dunkeld water reclamation plant: the organic capacity ($0.125M) to be increased in 2009-10;
- Port Campbell water reclamation plant: re-lining of lagoons ($0.682M) in 2010 to 2012 to prevent groundwater contamination; and
- Portland water reclamation plant: major upgrade ($5.657M) to achieve licence compliance in 2012/2013.

Ocean outfall monitoring will be carried out at Portland, Port Fairy and Warrnambool to determine mixing zones at these ocean outfall sites. The following table represents the current agreed ocean outfall monitoring program with the Environment Protection Authority:

	2006-07			2007-08			2008-09			2009-10			2010-11			2011-12			2012-13		
	BS	T	MZ	BS	T	MZ	BS	T	MZ	BS	T	MZ	BS	T	MZ	BS	T	MZ	BS	T	MZ
W'bool							✓	✓	✓					✓		✓					
Portland					✓		✓							✓		✓		✓			
Pt Fairy	✓				✓	✓	✓							✓		✓					✓
Cost																					

BS = Biological Survey
T = Toxicity Sampling
MZ = Mixing Zone Study

6.5.4 Trade Waste Management

Obligations to be met

The Environment Protection Authority does not have a direct regulatory role in trade waste management. However, Wannon Water must comply with a number of obligations that mandate a robust trade waste management strategy. These include obligations to encourage waste minimisation and dealing with waste parameters that impact on the beneficial uses of effluent in the receiving environment.

Section 21 of the *Statement of Obligations* also imposes duties in this regard.

21.1 The Authority must develop policies and practices to manage trade waste:
a) to protect its sewerage systems, including treatment works and processes, and the health and safety of the public and of people working in or operating those systems', and
b) to minimise environmental impacts consistent with any licence issued under the Environment Protection Act 1970., and
c) improve the quality of trade waste entering its sewerage systems in order to maximise opportunities for the reuse of wastewater and biosolids.

21.2 In developing trade waste management policies and practices, the Authority should be guided by the waste management hierarchy principle set out in section 1I of the Environment Protection Act1970.

21.3 The Authority must develop and implement systems for managing compliance with trade waste agreements between the Authority and customers.

Wannon Water has a trade waste policy that complies with the above requirements. The policy was approved by the Board in January 2007. Key elements of the policy include objectives to:

- Protect the environment;
- Protect the health and safety of employees and the public;
- Maximise opportunities for re-use of reclaimed water and biosolids;
- Recover costs associated with providing trade waste services;
- Encourage waste minimisation, cleaner production and pre-treatment of higher strength wastes; and
- Promote compliance with agreements, permits and the Trade Waste By-Law.

Outcomes to be delivered

Wannon Water is committed to the implementation of a new Trade Waste management system, in which customers are required through the Trade Waste Management Plan to reduce both volume and contaminant loads which are discharged to sewer.

Wannon Water has established a Major Customer liaison program to establish a partnership approach with our largest water users and trade waste customers. Implementation of our new Trade Waste management system will include ongoing dialogue with this customer base, and the potential for sustainability covenants incorporating shared benefits will be actively explored in association with the Environment Protection Authority. There will be an increased emphasis on the potential for beneficial reuse, consistent with our *Recycled Water Strategy.*

Wannon Water has revisited its trade waste charges (refer comments section 4.5) to place greater emphasis on polluter pays and create a pricing outcome that delivers incentives for pre-treatment of higher strength wastes before disposal to the sewerage system. This will also create the opportunity for water recycling consistent with objectives set out in Wannon Water's Water Supply and Demand Strategy.

6.5.5 Sludge and Biosolids Management

Obligations to be met

The paper *Moving towards Sustainable Biosolids Management – A Cooperative Venture (2002)*[3] sets out an agreed program to identify risks associated with biosolids and to develop plans for its sustainable management. Environment Protection Authority *publication 1069* also requires Wannon Water to:

- Develop and implement plans for the management and handling of continuously produced sludge; and
- Develop and implement plans for 100% biosolids recycling.

Outcomes to be delivered

A comprehensive biosolids management study is to be undertaken to provide Wannon Water with an agreed program for biosolids management. This will be coupled with new regional biosolids treatment facilities to be developed at the Hamilton water reclamation plant site by 2008-2009 and at the Portland water reclamation plant site to coincide with the upgrade of the plant.

Wannon Water will be working with regulators and communities over the regulatory period to establish a Biosolids Management System. The system will address issues including:

- Management procedures for the removal, collection, treatment and application of biosolids for individual systems;
- Recurrent surveys of lagoons with project dates for desludging; and
- Promotion of biosolids and identification of potential third party users.

6.5.6 Management of Odour

Obligations to be met

Clause 18 of the SEPP *(Air Quality Management)* requires continuous improvement in odour management for existing and proposed schemes.

Outcomes to be delivered

Wannon Water is committed to continuous improvement in odour management. A number of major capital works have been identified to reduce potential odour issues as follows:

- The development of the biosolids drying facilities at the Portland and Hamilton water reclamation plants will be designed to minimise any odour generation. The works at Portland will coincide with the overall water reclamation plant upgrade to commence in 2010-2011;
- The primary lagoon at the Hamilton water reclamation plant will be desludged in 2007-2008, reducing the potential for odour production from the lagoon; and
- An aerated digester will be constructed at the Warrnambool water reclamation plant to reduce the volatile content of the biosolids therefore significantly reducing the odour generated when the biosolids are transferred to the Camperdown Biosolids Facility. The project will commence in 2008-2009.

[3] The cooperative group had representatives from: EPA, DSE, Victorian water businesses and the Victorian Water Industry Association.

6.5.7 Expenditure Program for Wastewater Management

The following chart confirms the major expenditure proposed for the management of wastewater across Wannon Water over the next price period.

Table 6-5 : Expenditure on Wastewater Management

Location	Activity	Date	Cost ($M)
Sewage Treatment and Disposal			
Portland	Upgrades for licence compliance	2012-2013	$5.76
Port Fairy	Upgrades for licence compliance	2008-2009	$0.85
Warrnambool	Upgrades for licence compliance	2008-2009 & 2012-2013	$2.93
Hamilton	Biosolids handling upgrade	2008-2009	$0.80
Port Campbell	New Winter Storage and reuse area	2008-2009	$0.53
Cobden	Refurbishment of irrigation system	2010-2011	$0.08
Sludge and Biosolids Management			
	Biosolids Management System		$0.06
Total			**$11.01**

6.6 Greenhouse Gas Emissions and Energy Efficiency

Obligations to be met

Clause 33 of the SEPP *(Air Quality Management) 2001* requires Wannon Water to assess greenhouse gas emissions to the atmosphere from licensed premises and develop an action plan to mitigate any impacts.

In addition, Clause 24.2 of the *Statement of Obligations* requires Wannon Water to plan to respond to climate change:

> *24.2 In applying the Sustainable Management Principles the Authority must develop and implement programs for assessing, monitoring and continuously improving the Authority's sustainability performance, including:*
> *e) responding to climate change;*

Outcomes to be delivered

Wannon Water has developed a Strategic Plan for reducing greenhouse gas emissions with guidance from the *Greenhouse Emissions Reduction Framework*. These actions will be integrated with our natural resource management activities that aim to sustain and enhance biodiversity in and above ground.

Wannon Water has an active greenhouse management program, and will continue to implement the actions developed by the Industry Energy Management Working Group. Priorities include:

- Construction of a new office facility in Warrnambool to integrate best-practice energy and water management principles to achieve a 5 star rating for the building;
- An organization-wide energy management program developed in partnership with Sustainability Victoria to be implemented and actioned through our asset replacement program and targeted plant upgrades. Further research and investigations into opportunities for energy generation through technologies such as mini-hydro or wind power will also be undertaken;

- A dual approach to be taken to achieving a minimum 10% reduction in our current greenhouse emissions, based on a progressive increase in our use of “green” energy coupled with the establishment of offsets; and
- A new vehicle policy to reduce fleet emissions of 10% by 2013. This will be achieved through a combination of vehicle selection, driver training and the use of alternative communications technology to reduce road travel.

Major water supply augmentation projects identified in our *Water Supply Demand Strategy* have been assessed for the scale and equivalent cost of greenhouse emissions. Solutions to achieve greenhouse-neutrality will be incorporated into the design process for these projects, and our staff will utilise Life Cycle Assessment and Ecological Footprint methodologies as standard tools by 2010.

Major expenditure for the Water Plan will include:

- A dual approach to reducing the greenhouse impact of our base energy requirements through green energy purchase and establishment of offsets.

The following programs of expenditure are proposed within the Water Plan period:

Table 6-6: Climate Change Impacts ($)

Description	Purpose	Works Involved	Cost
Establishment of Greenhouse offsets	Statement of Obligations 24.2 - responding to climate change, managing our everyday environmental impacts	Investment in Greenhouse Gas Emission Offset project to achieve a 5% reduction in Wannon Water greenhouse gas emissions.	$560,000
Utilisation of Renewable Energy	Statement of Obligations 24.2 - responding to climate change, managing our everyday environmental impacts	Investment in renewable energy to achieve up to 5% reduction in Wannon Water greenhouse gas emissions. 1% per annum increases for 5 years.	$300,000
		Total	$860,000

6.7 Catchment, Waterway and Groundwater Management

Wannon Water recognises that its area of influence extends beyond extracting water for supply and managing wastewater discharge points. Wannon Water is actively involved with local partnership projects for waterway and terrestrial environments.

Wannon Water maintains an active monitoring and management program to minimise the environmental risks and impacts of our activities on aquatic ecosystems, including aquifers, surface and coastal waters.

Ongoing funding of these programs during the Water Plan period includes:

- Ocean monitoring programs associated with three treated water discharge points at Warrnambool, Portland and Port Fairy, and
- Maintenance of routine Environment Protection Authority compliance sampling programs.

Wannon Water's *Recycled Water Strategy* includes a hierarchy to prioritise reuse projects. This hierarchy targets potable, river and groundwater substitution and enhancing environmental flows, to provide regional sustainable water cycle benefits. Funding is included in this Water Plan to deliver three priority recycled water project consistent with this objective.

The establishment of on-ground management and restoration works for Wannon Water's natural assets during the Water Plan period will include investigations in partnership with the Environment Protection Authority and the Glenelg Hopkins Catchment Management Authority into the potential for the use of recycled water use for the reinstatement of wetlands at Bald Hill in Portland, and an appropriate allocation of funds for ongoing monitoring of our success in achieving specific aquatic targets.

Future research proposed under our *Innovation Strategy* includes the monitoring and evaluation of environmental conditions for priority sewerage schemes, such as assessing the beneficial impact on the Curdie's Inlet from implementation of the Peterborough Sewerage Scheme.

The following programs of expenditure are proposed within the Water Plan period:

Table 6-7: Natural Asset Protection

Description	Purpose	Works Involved	Cost
Maintaining and Restoring our Land	Statement of Obligations 24.2, 27, 28 - maintaining and restoring our natural assets. Anticipated Corporate Sustainability principals.	Ongoing monitoring programs to determine outcomes of program of on-ground land management works to maintain and restore priority sites.	$45,000

6.7.1 Managing Environmental Flows

Obligations to be met

The SEPP *(Waters of Victoria) 2003* is the key reference document for policy obligations in this area:

- Clause 41 requires that adequate environmental flows be provided to waterways, wetlands, lakes and estuaries. Bulk Entitlements secured by Wannon Water are to incorporate provisions for passing flows for environmental purposes;
- Clause 42 requires that the release of the flows from water storages minimise any impacts on down stream beneficial uses; and
- Clause 43 requires that works on or adjacent to surface waters need to be managed to minimise environmental risks and to protect other beneficial uses.

In this area Wannon Water is also subject to duties imposed through the *Statement of Obligations* in Section 27 River and Aquifer Health and Section 28 Monitoring River Health.

Outcomes to be delivered: Environmental Flows

An independent audit will be completed on compliance with the provision of environmental flows to establish a baseline reference point for future action.

The Water Plan includes major augmentation of Hamilton's water supply from the Southern Grampians. This project is also expected deliver improved compliance for environmental flow regimes for the Southern Grampians surface water systems, through remedial works on weir

off-takes. Wannon Water will seek an application to vary environmental flows to meet both potable and environmental outcomes.

In addition, remedial works at the Konongwootong Reservoir (north of Coleraine) are planned for the regulatory price period, where the design of the works will include liaison with the Glenelg Hopkins Catchment Management Authority to mitigate any risks to fish movement and downstream water quality.

Wannon Water's *Recycled Water Strategy* includes a hierarchy to prioritise various reuse projects. This hierarchy targets potable, river and groundwater substitution and enhancing environmental flows, to provide regional sustainable water cycle benefits. Funding is included in the plan to deliver three priority recycled water projects consistent with this objective.

Outcomes to be delivered: Discharges

Wannon Water endeavours to minimise unlicensed wastewater discharges to surface waters and meet licence requirements. The following works have been identified to minimise the risk of unlicensed discharges:

- Infiltration investigations into the Heywood sewerage system and relining of sewers ($0.13M);
- Replacement of manhole covers in Cobden and Camperdown sewerage systems to minimise infiltration ($0.1M);
- Review of the winter storage requirements at the Casterton water reclamation plant by 2009-2010 ($0.05M);
- New Winter Storage and reuse area to be developed for the Port Campbell water reclamation plant in 2008-2009 ($0.57M);
- New winter storage for the Hamilton water reclamation plant ($0.04M). The project will be initiated in 2009-2010 with construction taking place in the third Water Plan;
- Refurbishment of the irrigation system at the Cobden water reclamation plant to allow additional land to be irrigated by 2010-2011 ($0.231M); and
- Investigations into potential potable substitution using recycled water.

6.7.2 Groundwater Management & Protection

Obligations to be met

- Clause 45 of the SEPP *(Waters of Victoria) 2003* requires the protection of groundwater quality from the impact of the organisation's operations; and
- Clause 21 of the SEPP *(Groundwaters of Victoria) 2002* requires that all practicable measures be undertaken to prevent pollution of the groundwater.

Outcomes to be delivered: Groundwater Management

An assessment was undertaken in 2006-07 of the risk of contamination of the Port Campbell Limestone formation in Warrnambool. This identified a number of specific risks that will be addressed over the Water Plan period, in consultation with Warrnambool City Council. These measures are intended to protect the quality and quantity of the local groundwater which is used to supplement the urban water supply for Warrnambool, Koroit and Allansford.

Wannon Water will continue to undertake comprehensive ground water monitoring and analysis to ensure there is no pollution of the ground water resulting from either sewerage treatment or irrigation with recycled water. All new treatment and storage lagoons will be lined in accordance to the Environment Protection Authority guidelines ensuring that no leakage will occur.

Ongoing monitoring of the sustainability of our reuse systems will be undertaken in line with our *Recycled Water Strategy* and the expectations of the Environment Protection Authority and our communities.

6.7.3 Monitoring, Auditing and Reporting

Finally, there are obligations on Wannon Water to monitor and audit how well it is complying with the above obligations. The actual outcomes will be reported to the Board, stakeholders and regulators.

Obligations to be met

Environment Protection Authority licences for water reclamation plants have requirements for monitoring of effluent quality, receiving waters and groundwater. They also require annual reporting of licence performance against requirements.

Clause 29 of the SEPP *(Waters of Victoria) 2003* requires that Wannon Water have a monitoring program for receiving waters and to develop environment improvement plans for sites discharging to surface waters. More explicitly, Environment Protection Authority *publication 1069* requires water reclamation plants with surface water discharge to have agreed monitoring programs to assess:

- That the discharge does not display acute lethality at the point of discharge or cause chronic impacts outside any declared mixing zone;
- The impact of the discharge on beneficial uses of the waterway and the size of the mixing zone for the discharge; and
- The management of activities that may be necessary to protect beneficial uses of the relevant waterway. Wannon Water is also required to undertake an assessment of the risks posed to the environment and the users of the environment relating to any discharge.

Environment Protection Authority *publication 1069* also flags an expanded reporting program for the future although the focus will be on achieving efficiencies in reporting that offset these increased demands on water businesses.

Outcomes to be delivered: Water Reclamation Plants

Wannon Water will continue to monitor all discharges to the environment to ensure they comply with the Environment Protection Authority licences to discharge. In addition, Wannon Water will deliver a comprehensive sampling regime of groundwater, soils and surface waters to enable the determination of the impact, if any, on the receiving environment. Stream monitoring is to be conducted on the Unnamed Creek at Simpson to identify the impacts on the receiving environment.

Ongoing funding of these programs during the Water Plan period includes ocean monitoring programs associated with our three treated water discharge points at Warrnambool, Portland and Port Fairy, and the maintenance of our routine Environment Protection Authority compliance sampling programs.

Routine reporting of relevant water quality and quantity data managed by Wannon Water will be made available through the public website, and linkages provided to other agencies who manage related aquatic information sets.

6.8 Water Quality Obligations

Wannon Water is committed to delivering high quality drinking water that meets all legal standards and in line with customers' expectations.

6.8.1 Water Quality Obligations

The primary reference on drinking water quality is the *Safe Drinking Water Act 2003*. The application of the Act was extended through the *Safe Drinking Water Regulations 2005* which came into effect on 15 July 2005.

The regulations establish standards for specified elements in drinking water. This implements the provisions in Section 17 of the *Safe Drinking Water Act 2003* which requires a supplier of water to: *ensure that all drinking water supplied by it to another person complies with the quality standards specified for drinking water in any regulations made for the purposes of this section.*

6.8.2 Risk Management Plans & Audit

Obligations to be met

Part 2 of the *Safe Drinking Water Act 2003* requires Wannon Water to prepare, implement and review risk management plans relating to the supply of drinking water and regulated water to the public. The Act and the associated Regulations have impacted on Wannon Water through increased demands for operational monitoring and control activities in addition to capital works to meet new water quality standards and mitigate risks.

Sections 10 - 16 of the *Safe Drinking Water Act 2003* require Wannon Water's Risk Management Plan to be audited by an approved auditor to determine whether Wannon Water's Risk Management Plans comply with the obligations as specified above.

Outcomes to be delivered

Drinking Water Risk Management Plans have been developed for the water supply systems of Wannon Water.

Wannon Water is committed to validating and verifying such plans through:

- Hazard Analysis Critical Control Point (HACCP) certification;
- Internal audits of the Risk Management Plans at an appropriate frequency;
- Review and update of the Risk Management Plans at an appropriate frequency and when changes occur to the system; and
- Consolidation of the Risk Management Plans into a Drinking Water Risk Management System as one of the major elements of the proposed Integrated Management System.

Wannon Water's Risk Management has been developed on the principles of HACCP. Wannon Water has made the decision to have this system externally certified. This process allows for both internal and external auditing. Funds to undertake take such audits have been allowed for in the operational budget.

6.8.3 Water Quality Standards

Obligations to be met

Section 17 of the *Safe Drinking Water Act 2003* requires Wannon Water to comply with the quality standards specified in the Regulations. Such standards now exist for E. coli, turbidity, aluminium (acid soluble), halo-acetic acids and trihalomethanes.

In addition, under Section 10 of the Regulations, Wannon Water must ensure that the water supplied does not contain an algal toxin, pathogen, or any substance or chemical in such amounts that may pose a risk to human health.

Wannon Water is obliged to collect and test water samples at appropriate frequencies.

Outcomes to be delivered

Wannon Water's water supply systems incorporate adequate processes to comply with these water quality standards.

Wannon Water has an undertaking with the Department of Human Services to construct the Casterton to Coleraine pipeline and associated works by 30 June 2009. This project is included in the capital works program at an estimated cost of $5.7M of which $1.7M will be incurred in the 2008-13 price period.

6.8.4 Water Quality Monitoring and Reporting

Customers need to have confidence that their drinking water meets quality guidelines.

Obligations to be met

- Section 23 of the *Safe Drinking Water Act 2003* requires Wannon Water to make available to the public the results from any monitoring program relating to drinking water.
- Section 26 of the Act requires Wannon Water to make an annual report available to the Secretary of the Department of Sustainability and Environment and the public relating to the quality of the drinking water it has supplied.

Outcomes to be delivered

During the 2005-2008 regulatory period Wannon Water devised a new water quality monitoring regime to meet its obligations. The monitoring program validates any concern raised within the Risk Management Plan and adheres to the mandatory water quality monitoring requirements. This has lead to significant growth in the amount of water quality parameters measured coupled with an increased frequency.

Wannon Water currently makes water quality information available through a range of channels; namely, annual reports, monthly reports and on request. Wannon Water publishes a comprehensive water quality report on its public website which provides customers with ready access to water quality results.

6.9 Other Obligations

Wannon Water faces a range of other obligations that drive the need for expenditure over the Water Plan period.

6.9.1 OH&S Obligations

Employees of Wannon Water face many potential hazards at work both large and small. Wannon Water is obliged under the *Occupational; Health and Safety Act 2004* to ensure the health and safety at work of its employees. The controls required to address compliance are, in most cases, non-prescriptive. That is, Wannon Water must employ control measures which meet the regulations within the practicability of managing its responsibilities for water delivery and wastewater removal. Annex B provides a list of the legislation relevant to Wannon Water.

A significant program of investment in occupational health and safety improvements is included in the Water Plan. This includes capital expenditure on facilities, chemical management, access and manual handling upgrades, totalling approximately $1.1M. This program has been developed using a risk based approach, and will assist Wannon Water to move to full compliance with the Occupational Health and Safety Regulations during the regulatory period.

Table 6-8: Major Capital Expenditure Programs Required for compliance with Occupational Health and Safety Regulation

Description	Works Involved	Cost
Facilities Access	Confined space improvements, various upgrades and installations of ladders, railing, and guards.	$425,000
Chemical Management	Upgrade and new facilities for chlorine, ammonia and other chemical handling activities at various treatment plants.	$285,000
New Facilities	New depot facilities in Hamilton for Operational staff.	$275,000
Manual Handling	Cranes and lifting gear for pump stations.	$90,000

6.9.2 Dam Safety Obligations

Section 14 of *the Statement of Obligations* imposes duties on Wannon Water regarding Dam Safety.

14.1 The Authority must develop and implement processes to identify, assess, manage, prioritise improvements to, and periodically review the safety of, dams operated by the Authority.

The above obligation to maintain and operate all dams in a responsible manner for the safety of the community is due to the risks associated with the large volume of water in storage. Relevant programs have been established to ensure compliance with the nationally recognised *Australian National Committee on Large Dams (ANCOLD) Guidelines 2003*.

The following activities have been included in this Water Plan period to maintain compliance with the ANCOLD guidelines:

- Develop and update annually a risk based categorisation of all “referable” dams to be known as the “Hazard Category”;
- Annual Inspections of all “referable” dams;
- Maintain all “referable” dams;
- Daily/Weekly Visual Inspections to be carried out on all “referable” dams;
- Update Operational & Maintenance Manuals on a regular basis; and
- Active representation on the Victorian Water Industry’s Dams Working Group.

The key projects that have been identified within the Dam Safety Emergency Management Improvement Plan for the Water Plan period are:

Table 6-9: Expenditure required for Dam Safety

Description	Works Involved	Cost
Konongwootong Reservoir - Provide stabilising berm and filters, to ensure the stability of the reservoir embankment	Embankment is in poor condition, cracks have appeared on the crest. Seepage has been identified on the toe of the dam. A major upgrade is required.	$500,000
Hamilton No 1 - Sleeve outlet pipe, to ensure stability of dam wall	Provisional depending on the condition investigation of the outlet pipe. Slip lining the existing pipe with a new pipe.	$100,000
Hartwichs Reservoir - Sleeve outlet pipe, to ensure stability of dam wall	Provisional depending on the condition investigation of the outlet pipe. Slip lining the existing pipe with a new pipe.	$100,000
Konongwootong Reservoir- Sleeve outlet pipe, to ensure stability of dam wall	Provisional depending on the condition investigation of the outlet pipe. Slip lining the existing pipe with a new pipe.	$100,000
Hartwichs Reservoir - Strengthen outlet tower bridge, to improve operational safety	Replace outlet tower bridge as it is in poor condition.	$40,000
17 further minor projects	Various works at average of $8,800.	$149,500
	Total	**$989,500**

6.9.3 Incidents, Emergencies and Terrorism

Section 12 of *the Statement of Obligations* imposes duties on Wannon Water to have systems in place to respond to incidents and emergencies. This includes security risks from terrorism.

Section 12: Responding to Incidents and Emergencies
The Authority must include in any plan, system or process to manage its risks, measures to deal with emergencies and incidents, including measures to deal with:
a) the disruption of services; and
b) incidents resulting in waste discharges to the environment; and
c) a dam failure; and
d) potential security risks, including but not limited to terrorist attacks.

Under Section 25 of the *Terrorism (Community Protection) Act 2003*, operators of essential services infrastructure can be required to develop a risk management plan. This duty has not yet been extended to water utilities, but it is prudent to think that water utilities will be mandated in the next revision, which will fall during the 2008-2013 Water Plan period. In any event, the duty merely reinforces the existing obligations under *the Statement of Obligations*.

Wannon Water has therefore developed an emergency management plan that is also compliant with the *Anti-Terrorism (Community Protection) Act 2003*. The plan has been developed to identify key risks areas, and then devise protocols for effective response and recovery from emergencies. A Business Continuity Plan has also been developed for the key technology platforms. Capital expenditure has been included in the Water Plan to upgrade the Disaster Recovery facility from a 'cold site' to a site that is capable of restoring technology services within 2 hours.

Tasks to be completed to meet Wannon Water's Obligations include:

- Annual Inter-Agency Emergency Management training exercises;
- Continual Development of Contingency Plans as new risks are identified via the enterprise risk framework;
- Regular review and update of existing Contingency Plans not longer than annually;
- Active representation on the Divisional Emergency Planning Committee within the Wannon Water Boundaries; and
- Active representation on the Security Continuity Network via the Department of Sustainability and Environment (DSE).

The following key expenditure programs are proposed within the Water Plan period:

Table 6-10: Expenditure required for Emergency Management

Description	Purpose	Works Involved	Water Plan Total
Provision of Generator facilities to power various Plant/Facilities	Ensure continuity of services	Generator sets for various Locations including, Fairy St Office, Digby Rd PS, Percy St PS, North & South Otway PS, Pt Campbell, Casterton WTP and Tullich Bores.	$400,000
Disaster recovery and business continuity of technology services	Resumption of IT services	Implementation of backup IT hardware at the disaster recovery room located at the Warrnambool WTP, in event of losing the server room at the Fairy St office.	$252,000
		Total	$652,000

6.9.4 Electrical Systems

Wannon Water has an obligation to maintain and operate all electrical systems in a responsible manner for the safety of the community and staff.

Electrical safety at work is subject to the *Electrical Safety Act 1998* and the *Electrical System Obligations (AS/NZS 3000:2000)*. There is a wide range of other relevant Australian standards as well as Industry Standards and Codes of Practice (see Annex C).

Most compliance drivers for electrical system standards predate the first pricing round. However, compliance with electrical system standards was not the subject of serious assessment by the preceding authorities that now constitute Wannon Water.

This area represents a good example of the up-grading in assets and skills that is required if Wannon Water is to demonstrate robust continuing compliance.

A strategic program will be implemented to meet Wannon Water's Obligations. This will comprise five core elements:

- Risk assessment and audit of equipment and locations. This has largely been completed;
- Staged program for asset up-grades;
- Introduction of appropriate preventive maintenance;
- Staff training; and
- Audit.

Outcomes to be achieved in the regulatory period

Indicative projects that have been identified within the Electrical Improvement Plan that relate to the second price period are listed below:

Table 6-11: Expenditure required for Electrical Systems and Safety ($)

Description / Location	Project Purpose	Extent of Project	Cost
Wyatt Street Pump station	Upgrade dated technology, OH&S.	Replace switch board and controls and consolidate.	**$216,395**
Port Campbell and Timboon pump stations	OH&S, wiring rules, and increased reliability.	Replace existing aged and dilapidated switch board.	**$201,500**
All pump stations which do not have plug connection points available to cater for generator point connection	Environment issues helping to reduce the number and quantity of any potential spills.	All pump stations to be fitted with generator connection plug.	**$177,375**
All zones/locations/assets where a UPS (Uninterruptible Power Supply) exists	To support all critical local hardware that is supplied by the UPS to facilitate alarming and some control and to monitor the asset in the event of power failure.	Maintain all UPSs.	**$65,000**
Further 30 sites	To ensure electrical continuity and safety.	Various works mainly upgraded Switch Boards.	**$1,459,521**
		Total	**$2,119,790**

6.9.5 Fluoridation Obligations

Under the *Health (Fluoridation) Act 1973* the Department of Human Services can require the installation of fluoride additive systems at water treatment plants. Under this Act, the capital installation costs are met by the Department of Human Services. However, the fluoridation program requires that a water corporation provide for the operational costs of the fluoridation program. This includes the provision of prudent and efficient expenditure in the operation of fluoridation facilities (maintenance, consumables and testing costs).

The Department of Human Services issued an undertaking to Wannon Water in July 2007 to proceed with fluoridation of the water supplies to Allansford, Koroit and Warrnambool. Budget provision has been made for the operating costs of this fluoridation of water supply from 1 July 2008.

Community consultation by the Department of Human Services regarding the potential fluoridation of the Dunkeld, Hamilton and Tarrington water supplies is expected to be undertaken in the 2007-08 financial year.

Subject to the outcome of this consultation Wannon Water has included provision for the operating cost of fluoridation of the Dunkeld, Hamilton and Tarrington water supplies from 1 July 2009.

Table 6-12: Expenditure required for Fluoridation ($)

Water Treatment Plant	Date	Annual Opex
Warrnambool	2008	$35,000
Hamilton	2009	$15,000
	Total	$47,000

6.10 Customer Service and Service Standards

There are two important elements to customer service for Wannon Water that will drive expenditure during the second Water Plan period:

- Extending water, sewerage and other services to new customers; and
- Maintaining current levels of service.

6.10.1 Extending Services

Wannon Water is committed to providing services to new customers to meet demand and in line with obligations in Clause 19 of the *Statement of Obligations* and in the SEPP *(Waters of Victoria) 2003.*

Statement of Obligations: Clause 19
19.1 The Authority must participate with municipal councils in the development of Domestic Wastewater Management Plans.

19.2 If reticulated sewerage services:
a) have been identified in a Domestic wastewater management plan as the preferred option for improved domestic wastewater management; or
b) have been nominated by the Minister in any Government program,

the Authority must develop [and implement] a sewerage management plan in conjunction with the Environment Protection Authority and relevant municipal council, and in consultation with the local community.

Clause 33 of the SEPP *(Waters of Victoria) 2003* requires Wannon Water to develop sewerage management plans in conjunction with the relevant municipal council and the Environment Protection Authority, where they are identified in a municipal Domestic Wastewater Management Plan.

Wannon Water is currently working on three sewerage service projects to implement these requirements, namely:

1. Glenelg Shire Council requirement for backlog sewerage services located in West Portland;
2. Glenelg Shire Council for new town sewerage services to Dutton Way; and
3. Moyne Shire Council for new town sewerage services in Peterborough.

Both of the Dutton Way and Peterborough new town sewerage schemes are subject to an $800 cap for customer contributions under the Country Towns Water Supply and Sewerage Program. Implementing these schemes will involve a significant shortfall in contributions and so a need for higher general sewerage charges. Total unfunded costs of $6.7M are identified for the Water Plan period, less any savings in the construction costs against the estimated costs.

The *Municipal Wastewater Management Plans* produced by three of the five local councils in Wannon Water's service area have not identified the need for any new sewerage schemes. Moyne and Corangamite Shire council's are yet to complete their Wastewater Management Plan.

For future price periods Wannon Water will continue to work with local councils to identify what areas (near serviced towns) are appropriate to be provided with sewerage services and what areas are appropriate to have on-site treatment facilities. Life Cycle Analysis principles will be

applied during design to assess alternate environmental outcomes. Wannon Water's *Innovation Strategy* will continue to keep us at the forefront of technology in this area.

In addition, Wannon Water will work with local councils and the Department of Human Services to identify circumstances where a new public water supply schemes justified due to risks from alternative supplies. In this Water Plan one such scheme has been identified at Dutton Way outside Portland.

Table 6-13: Expenditure required for Asset Extension ($M)

Location	Activity	Cost
Dutton Way	New sewerage service	$3.30
Dutton Way	New water supply	$2.05
West Portland	Backlog sewerage services	$1.73
Total		**$7.08**

6.10.2 Customer Service Standards

The analysis of the customer consultation identified in Section 5.1, confirmed that 94% of customers are satisfied or highly satisfied with Wannon Water's current levels of service. In addition, local consultation on specific projects revealed that customers did not want to pay for a premium service.

This Water Plan is therefore based on the presumption that there is no demand for additional expenditure to enhance the general level of customer service currently provided and as set out in the targets in Wannon Water's Customer Charter (Table 6-14).

Table 6-14: Performance Targets: Service Delivery

Service standard	***Target***
Water	
Unplanned water supply interruptions (per 100km)	10.00
Average time taken to attend bursts and leaks (priority 1) (minutes)	35.00
Average time taken to attend bursts and leaks (priority 2) (minutes)	60.00
Average time taken to attend bursts and leaks (priority 3) (minutes)	240.00
Unplanned water supply interruptions restored within 5 hours (per cent)	97.00
Planned water supply interruptions restored within 5 hours (per cent)	90.00
Average unplanned customer minutes off water supply (minutes)	9.90
Average planned customer minutes off water supply (minutes)	9.00
Average frequency of unplanned water supply interruptions (number)	0.09
Average frequency of planned water supply interruptions (number)	0.05
Average duration of unplanned water supply interruptions (minutes)	108.00
Average duration of planned water supply interruptions (minutes)	180.00
Number of customers experiencing more than 5 unplanned water supply interruptions in the year (number)	0
Unaccounted for water (per cent)	12.00
Sewerage	
Sewerage blockages (per 100km)	38.30
Average time to attend sewer spills and blockages (minutes)	30.00
Average time to rectify a sewer blockage (minutes)	90.00
Spills contained within 5 hours (per cent)	98.00
Customer Services	
Complaints to Ombudsman per 1000 customers (number)	0.60
Telephone calls answered in 30 seconds (per cent)	98.9

6.10.3 Reporting on Service Targets

Enhancement of the Geographic Information Systems (GIS) ($0.020M) to improve asset management will also enable Wannon Water to identify and respond to those customers who experience multiple supply interruptions or spillages; ($0.020M) and Wannon Water will install a Computer Aided Dispatch system.

Wannon Water will also install a Mobile Information Management System ($0.863M) which amongst other things will incorporate a computer aided dispatch system resulting in improved customer service and operational efficiencies. These efficiencies will include improved data collection, asset management, occupational health and safety and an improved audit trail for performance reporting. Additional efficiencies will also be realized in the form of reduced overtime, efficient use of vehicles and reduced communications costs. It is anticipated that savings in the next price period will be modest at $0.167M during the set phase, but the full advantage will be delivered in the subsequent pricing period.

6.10.4 Maintaining Service Delivery

An important part of maintaining effective service delivery is to implement a rolling program to repair and replace water mains and sewers as they become worn-out or over-loaded.

The Water Plan contains a major program of works to implement this strategy with a total value of $5.68M over the five years to 30 June 2013. Key investments include:

Table 6-15: Expenditure required for Asset Replacement ($M)

Location	Project	Cost
Camperdown	Rural Water Main Replacements	1.67
Camperdown	Urban Water Main Replacements	1.51
Cobden	Water Main Replacements	0.91
Port Fairy	Sewer Main Replacement/Refurbishment	0.89
Mortlake	Water Main Replacements	0.70
	Total	**5.68**

6.10.5 Guaranteed Service Levels

From 1 July 2008 Wannon Water will introduce Guaranteed Service Levels for two key service standards.

Wannon Water considers Guaranteed Service Levels to be an incentive to improve key aspects of service rather than merely compensation for customers impacted by failure to achieve the nominated level of service.

A Guaranteed Service Level scheme has to be easily recorded and meaningful to customers. The Guaranteed Service Level's proposed are:

Table 6-16 : Guaranteed Service Level Payments

	Guaranteed Service Level	Payment
A	More than 5 water unplanned interruptions in a rolling 12 month period.	$50
B	Sewerage Spills on private property not contained within 5 hours of notification	$500

The selection of the Guaranteed Service Levels and amount to be credited to the customer's next Wannon Water bill were subject to consultation with the Customer Engagement Committee and were deemed appropriate.

Analysis of past performance suggests that it is unlikely that Wannon Water will incur a significant number of Guaranteed Service Level payments each year. It is also envisaged that establishing the Guaranteed Service Levels will act as an incentive to drive down the number of events and payments over the five year period.

Table 6-17 : Guaranteed Service Levels: Forecast Number and Value of Payments ($)

		2008/09		2009/10		2010/11		2011/12		2012/13	
GSL	**Payment**	No	$	No	$	No	$	No	$	No	$
A	$50	20	$1,000	15	$750	12	$600	10	$500	10	$500
B	$500	12	$6,000	12	$6,000	8	$4,000	8	$4,000	5	$2,500
Value	Total		$7,000		$6,750		$4,600		$4,500		$3,000

The enhancement of the Geographic Information System is expected to cost $20,000 to enable properties with more than 5 water supply interruptions in a 12 month period to be readily identified.

6.11 Revenue Requirement Overview

The revenue required to deliver the commitments and proposed expenditure in the previous sections is calculated from three key elements:

- **Operating Expenditure:** this is recovered in the year in which it is incurred. It represents 72.0% of the total revenue requirement;
- **Return on Capital:** this provides a commercial return on the value of the capital invested in the business. This value comprises an opening regulatory asset base (RAB) up-dated by the addition of new validated capital expenditure less depreciation, contributions and disposals; and
- **Regulatory Depreciation:** this provides a return of the value of the capital invested in the business over the life of the asset.

Taking these factors together generates an overall revenue requirement of $235.87M for the five years of the second price period.

Table 6-18: Total Revenue Requirement – Water Plan ($M)

	2008-09	2009-10	2010-11	2011-12	2012-13	Totals
Operating Expenditure	34.06	32.62	34.67	34.22	34.23	169.79
Return on Assets	7.11	8.09	8.92	9.32	9.71	43.15
Depreciation - new	0.23	0.83	1.37	1.70	1.96	6.09
Depreciation - existing	4.27	3.45	3.24	2.99	2.89	16.84
TOTAL	**45.66**	**44.99**	**48.20**	**48.24**	**48.78**	**235.87**

These elements are reviewed in more detail below.

6.12 Operating Expenditure

6.12.1 Overview of Operating Expenditure

The following table confirms the schedule of operating expenditure proposed over the life of the Water Plan.

Comparative figures are provided for the earlier price period. These indicate the increase in the level of operating expenditure required to meet the higher level of service and compliance that is now the minimum baseline for water corporations. They also reflect the process of establishing Wannon Water as a credible new business taking over the responsibility of service delivery from the three smaller predecessor authorities.

Table 6-19: Operating Expenditure proposed over Water Plan ($M)

2005-6	2006-7	2007-8	2008-9	2009-10	2010-11	2011-12	2012-13
25.23	25.91	27.70	34.06	32.62	34.67	34.22	34.23

The raised expenditure over the full period and in particular in 2010-11 reflects a number of projects coming on line:

- Planned commissioning of the new water supply augmentation for the Hamilton system;
- Implementation of additional capacity at both the Warrnambool and Port Fairy water reclamation plants;
- Introduction of the new Hamilton biosolids facility; and
- De-sludging of lagoons at the Hamilton water reclamation plant.

6.12.2 Justification of Forecast Expenditure Levels

Wannon Water is still a relatively new organisation formed from the three predecessor authorities. The following table reproduces the data from Section 3 that outlined the enhanced cost incurred in 2006-07 in creating an entity that meets current regulatory and customer expectations.

Table 6-20 : Enhanced Operating Expenditure to drive Compliance ($M)

Cost Category	2006/07
Glenelg Water	4.19
Portland Coast Water	4.83
South West Water	15.56
Combined Operating expenditure	24.58
Wannon Water expenditure	26.86
Cost of heightened compliance	2.28

This higher cost involved in delivering higher standards will need to be maintained through the second price period as the new cost of business as usual. However, Wannon Water is still in the formative stages of developing systems and procedures to ensure consistent robust compliance with regulatory obligations and high standards of customer service. Costs will increase over the next three to four years as those systems are implemented.

The amalgamation and restructure of the business also identified that some areas of the business did not have adequate resources to meet appropriate compliance and asset maintenance practices. In response engineering consultants were commissioned to review the

adequacy of human resources of water and sewerage treatment and systems operations field staff and vehicles.

The largest deficit of resources identified was in the treatment systems of the former Glenelg Water and Portland Coast Water. Resources have therefore been increased (in 2007-08 by $485,000) to ensure that planned maintenance of treatment plants is undertaken in accordance with asset management requirements and to address mandatory OH&S compliance issues. This level of cost is ongoing throughout the next price period and has been included in the business as usual segment.

A deficit of resources was also identified in the systems operations and maintenance, particularly in the north west of the service area, where there was a general deficit of resources to carry out planned maintenance. It is proposed to free up operations staff for this work by contracting out the meter reading that is currently undertaken in-house. Some additional resources amounting to $113,500 has been included in 2007-08 for this and the ongoing cost has been included in the business as operational expenditure for the next price period. In addition $130,000 has been allowed in 2007-08 for contract meter reading.

Finally, there is also a significant backlog of work required that involves raised levels of operating expenditure – the main example being the de-sludging of water reclamation plants which is required to maintain EPA licence compliance as well as reduced odour and to enable the beneficial re-use of biosolids. The de-sludging of the lagoons at the:

- Hamilton water reclamation plant ($1,006,875) has been allowed for in 2008-09; and
- Casterton water reclamation plant ($375,000) has been allowed for in 2010-11.

6.12.3 Productivity Improvement

The roll-out of SCADA and the Mobile Information Management System coupled with mechanical services monitoring system will occur over the price period. These systems will yield productivity benefits both in terms of unit costs and in terms of the level of service provided to customers.

The first year of full implementation is likely to result in higher initial resource requirements due to software implementation, staff training and change management. Year five is likely to see the commencement of the benefits with full benefits being realised in the Water Plan post 2013.

6.13 Capital Expenditure

6.13.1 Capital Investment Planning & Validation

Wannon Water has a well structured and disciplined process in place to develop its capital expenditure program. This involves a number of key steps:

- Confirmation of legal and regulatory obligations;
- Assessment of current performance and compliance;
- Confirmation of non-compliance and need for action;
- Evaluation of alternative strategies for action;
- Assessment of cost and practicality considerations;
- Collation and review of full capital expenditure program with indication of operating cost implications;
- Risk assessment and ranking to prioritise the program;
- Assessment of scheduling of activity and expenditure; and

- Senior executive team input and critique to validate the selection of the final program to match obligations and delivery requirements.

6.13.2 Key Capital Projects for the Water Plan

Table 6-23 sets out the 20 top key projects that will be delivered during the Water Plan period. The program is front-loaded to respond to a number of early priorities, in particular the augmentation of Hamilton's water supply. Stripping out this one project reveals a program at a relatively steady state between $13M and $18M/year. The lower level currently proposed for the final year leaves the ability to respond to new demands that arise over the period.

Table 6-21: Expenditure Schedule for Capital Works Program ($M)

2008-09	2009-10	2010-11	2011-12	2012-13	Total
31.72	32.52	13.51	16.37	10.62	104.74

6.13.3 Key Drivers for the Water Plan

In developing the forward capital works program Wannon Water has reviewed the main drivers for expenditure. These are:

Table 6-22: Key Drivers for Water Plan ($M)

Primary Driver	Total	% of Total
Asset replacement or refurbishment	$25.52	24%
Corporate services	$0.84	1%
Efficiency improvement	$13.89	13%
Growth	$10.44	10%
Level of service	$29.01	28%
New systems	$5.35	5%
OH&S risk reduction (other than above)	$1.10	1%
Regulatory compliance	$18.59	18%
Total	**$104.74**	

Table 6-23: Top Twenty Capital Projects for Wannon Water for the 2nd Price Period

Project and reason	Cost of project	Project driver
Hamilton Water Supply Augmentation To provide additional supply to the Hamilton water system. The need for this was identified in the Water Supply Demand Strategy.	$28.70M (Total of $29,5M, but $0.8M will be spent in current plan to design the works)	• Level of service • Growth
Construct Warrnambool Office Building To provide a single office in Warrnambool which will provide efficient workplaces and facilities for staff currently located in four offices.	$7.33M	• Efficiency improvement • OHS risk reduction
Portland Water Reclamation Plant Upgrade The existing plant, based on reed bed technology, had an inadequate design and was poorly constructed which has led to ongoing Environment Protection Authority licence compliance failures requiring an extensive rebuild.	$5.66M (Total of $6,051,000 as $394,000 will be spent in current plan)	• Asset replacement or refurbishment
Coleraine Pipeline Works The existing water supply to Coleraine from Konongwootong Reservoir poses an unacceptable risk under the requirements of the *Safe Drinking Water Act*. An alternative supply for the Casterton Water Supply System has been proposed which is the subject of an undertaking with the Department of Human Services.	$4.00M (Total of $5.7M as $1.7M will be spent in current plan)	• Regulatory Compliance
Dutton Way Sewerage Scheme To provide sewerage services to Dutton Way, which is a priority project under the Country Towns Water Supply and Sewerage Program. The Glenelg Shire and the Environment Protection Authority have concerns with the discharge of raw septic tank effluent in this area.	$3.30M (Total of $3.430M as $130k will be spent in current plan)	• New Systems
Hamilton Water Reclamation Plant Biosolids Upgrade The Hamilton plant has not consistently met Environment Protection Authority licence compliance with regard to odour emanating from the plant. The construction of sludge handling facilities is required.	$0.80M (Total of $1.6M as $0.8M will be spent in current plan)	• Regulatory Compliance
Warrnambool Water Reclamation Plant Capacity Upgrade This project is required to meet growth in sewerage demand and to lessen the risk of odour complaints from the sludge handling facility located at Camperdown.	$2.93M (Total of $4.526M as $1.600M will be spent in current plan)	• Growth • An efficiency improvement will also be gained as the process will result in less sludge produced which will need to be transported from Warrnambool to Camperdown.

Project and reason	Cost of project	Project driver
Dutton Way Water Scheme The Glenelg Shire has requested that water services be provided to Dutton Way due to concerns regarding polluted groundwater being used for drinking water. This project will only proceed if landowners support the funding of the Scheme.	$2.05M (Total of $2,180,000 as $130,000 will be spent in current plan)	• New Systems
Camperdown Rural Water Main Replacements The Asset Management System has identified water mains that have a high burst frequency that require replacing.	$1.67M	• Asset replacement or refurbishment • Level of service is improved as customers will experience fewer outages caused by water bursts.
Provision of Recycled Water Infrastructure to Increase Recycling Throughout Wannon Water The Statement of Obligations and the White Paper *Our Water our Future* requires Wannon Water to implement elements of the Recycled Water Strategy which will enable further fit-for-purpose treatment of the recycled water and distribution to customers. Targets are established within the Water Supply Demand Strategy.	$1.53M	• Regulatory Compliance. Wannon Water is required to set and achieve recycling targets in its Water Supply Demand Strategy. • New Systems are required to deliver recycled water.
Camperdown Urban Water Main Replacements The Asset Management System has identified water mains that have a high burst frequency that require replacing.	$1.51M	• Asset replacement or refurbishment • Level of service is improved as customers will experience fewer outages caused by water bursts.
West Portland Sewerage Scheme Provide sewerage services to properties located in the West Portland growth area. The Glenelg Shire and the Environment Protection Authority have concerns with the discharge of raw septic tank effluent in this area.	$1.73M (Total of $1.907M as $180k will be spent in current plan)	• Growth • New systems
SCADA at Various Sites Throughout Wannon Water To provide security and efficiency of operation at various sites throughout Wannon Water.	$2.78M	• Efficiency improvement

Project and reason	Cost of project	Project driver
Port Fairy Water Reclamation Plant Domestic Stream Upgrade The existing domestic stream is unable to handle peak hydraulic and organic loads during the holiday season which leads to non compliance with the Environment Protection Authority licence. The effluent disinfection UV system is not working reliably.	$0.85M (Total of $1.018M as $165k will be spent in current plan to design the works)	• Regulatory Compliance
Wangoom Road, Warrnambool Sewerage Scheme To provide Sewer services to properties within the Wangoom Road growth area of Warrnambool.	$1.15M	• Growth
Mobile Information Management System To deliver increased efficiencies in office-to-field-to-office data collection, transfer, processing and KPI/Asset condition reporting. The ability to capture new data has not previously been accessible.	$0.92M	• Efficiency improvements will be gained within the Operations Department field staff workforce. • The level of service will also be enhanced. • Corporate Services
Cobden Water Main Replacements The Asset Management System has identified water mains that have a high burst frequency that require replacing.	$0.91M	• Asset replacement or refurbishment • Level of service is improved as customers will experience fewer outages caused by water bursts.
Port Fairy Sewer Main Replacement/Refurbishment The Asset Management System has identified sewer mains that are structurally unsound or have a high incidence of blockages and/or overflows that require replacing.	$0.89M	• Asset replacement or refurbishment • Level of service is improved as customers will experience fewer instances of sewage spills and sewer blocks.
Mortlake Water Main Replacements The Asset Management System has identified water mains that have a high burst frequency that require replacing.	$0.70M	• Asset replacement or refurbishment • Level of service is improved as customers will experience fewer outages caused by water bursts.
Port Campbell Water Reclamation Plant Relining Lagoons The Environment Protection Authority has raised concerns with the protection of groundwater at this site from contamination by leaking effluent from the lagoons and winter storage.	$0.68M	• Regulatory Compliance

The table below indicates the timing of the works and expenditure against each of the top twenty identified projects over the life of the Water Plan.

Table 6-24: Expenditure Profile for Top Twenty Projects

Project	2008/09	2009/10	2010/11	2011/12	2012/13
Hamilton Water Supply Augmentation	$10M	$18.7M			
Construct Warrnambool Office Building	$3.7M	$3.629M			
Portland Water Reclamation Plant Upgrade			$0.4M	$1.969M	$3.288M
Coleraine Pipeline Works	$4M				
Dutton Way Sewerage Scheme			$0.25M	$3.05 M	
Hamilton Water Reclamation Plant Biosolids Upgrade	$0.8M				
Warrnambool Water Reclamation Plant Capacity Upgrade	$2.176M			$0.05M	$0.7M
Dutton Way Water Scheme			$0.15M	$1.9M	
Camperdown Rural Water Main Replacements			$0.476M	$0.306M	$0.891M
Provision of Reclaimed Water Infrastructure	$0.05M	$0.075M	$0.7M	$0.7M	
Camperdown Urban Water Main Replacements		$0.131M	$0.812M	$0.428M	$0.135M
West Portland Sewerage Scheme	$1.727M				
SCADA at Various Sites Throughout Wannon Water	$0.34M	$2.489M	$0.15M	$1.751M	
Port Fairy Water Reclamation Plant Domestic Stream Upgrade	$0.797M				$0.056M
Wangoom Road, Warrnambool Sewerage Scheme		$0.031M	$1.118M		
Mobile Information Management System		$0.313M	$0.55M		
Cobden Water Main Replacements			$0.229M	$0.105M	$0.578M
Port Fairy Sewer Main Replacement/Refurbishment	$0.175M	$0.18M	$0.18M	$0.171M	$0.18M
Mortlake Water Main Replacements			$0.341M	$0.35M	$0.012M
Port Campbell Water Reclamation Plant Relining Lagoons			$0.411M	$0.271M	

6.14 Financing Capital Investments

The Regulatory Asset Base (RAB) generates one important part of our required revenue as it drives both the return on capital and regulatory depreciation. There are two stages to the process of up-dating the RAB for the purposes of this Water Plan:

- Firstly, up-dating the RAB across the first price period; and
- Second rolling-forward the RAB for the second price period.

6.14.1 Updating the RAB

The initial value of the RAB was set by the Minister for Water as at 1 July 2004. This needs to be up-dated to take account of the efficient and prudent capital expenditure that Wannon Water has incurred between the date the RAB was set and the end of the first price period. That process involves the following steps:

a) Establish Total Capital Expenditure Over First Price Period

The first step is to confirm the total of the actual and projected capital expenditure for the first price period. The following table confirms actual expenditure for all 2005-06 and 2006-07. Forecast projections are provided for the remainder of 2006-07 and for the last year of the first price period.

Table 6-25: Projected Total Capital Expenditure - First Price Period (expressed in 1 January 2007 $M)

	2005-06	2006-07	2007-08	Total
Expenditure	$17.70	$16.14	$36.20	**$70.04**

The total projected capital works expenditure for the first price period is forecast to be $70.04M. Design of the outstanding projects to be completed in 2007-08 is well advanced and Wannon Water has confidence that the total forecast capital expenditure will be competed within the first price period.

b) Confirm Contributions Over First Price Period

However, some of this expenditure will not carry through into the adjusted regulatory asset base (RAB) as capital contributions were received from the State Government and customers.

Table 6-26: Projected Contributions - First Price Period ($)

DESCRIPTION	2005-2006	2006-2007	2007-2008	Totals
Gifted Assets	$1,345,957	$1,800,000	$1,000,000	$4,145,957
Customer Cash Contributions	$1,383,407	$1,432,012	$400,000	$3,215,419
Customer Contribution PF Industrial WRP		$2,136,500	$2,500,000	$4,636,500
Government Grants				
- Peterborough Sewer Scheme	$900,000			$900,000
- Macarthur Water Improvement	$25,000	$115,000	$250,000	$390,000
- Dutton Way Water Scheme	$25,000			$25,000
- Dutton Way Sewer Scheme	$140,000			$140,000
- Dartmoor Water Scheme		$250,000		$250,000
- Hamilton Drought Relief		$105,455		$105,455
- Monivae Development		$110,401		$110,401
Totals	$3,819,364	$5,949,368	$4,150,000	$13,918,732

c) Derive Updated RAB

The final stage is to net off contributions and other receipts from the new capital expenditure.

Table 6-27: Updating the RAB ($M)

	2005-06	2006-07	2007-08
Opening Asset Base	85.60	97.26	105.29
plus capital expenditure	17.70	16.14	36.20
less customer contributions	1.45	3.57	2.90
Less government contributions	1.09	0.58	0.25
less regulatory depreciation	2.84	3.26	3.59
less disposals	0.67	0.70	0.80
Closing Asset Base	97.26	105.29	133.96

In this exercise Wannon Water has treated the additional expenditure actually incurred in response to the drought as efficient and prudent expenditure and therefore rolled forward into the RAB. In this initial draft of the Water Plan Wannon Water have:

- Two years of actual data;
- One year of nearly complete data for 2006-07, where we have good projections on total spend; and
- One year of forecasts.

In the final submission Wannon Water will be able to confirm the actual spend for 2006-07.

6.14.2 Rolling Forward the RAB

The next stage of the process is to calculate the forecast value for the RAB through to the end of the second pricing period. There are a number of key aspects of that exercise that need to be determined:

- Customer and Government contributions;
- Disposals of assets; and
- Regulatory depreciation on both new and existing assets.

Taking these elements together Wannon Water has calculated that the RAB for the business will grow from a figure of $133.96M at the beginning of the second price period to a figure of $192.75M in June 2013.

Table 6-28: Rolled Forward RAB ($M)

	2008-09	2009-10	2010-11	2011-12	2012-13
Opening Asset Base	133.96	145.00	172.15	177.47	188.11
plus capital expenditure	31.72	32.52	13.51	16.37	10.62
less customer contributions	5.70	0.40	0.37	0.64	0.58
less government contributions	9.86	-	-	-	-
less regulatory depreciation	4.49	4.28	4.61	4.69	4.84
less disposals	0.62	0.69	3.20	0.41	0.55
Closing Asset Base	**145.00**	**172.15**	**177.47**	**188.11**	**192.75**

6.15 Other Factors

6.15.1 Weighted Average Cost of Capital (WACC)

Wannon Water proposes to adopt the recommendation of the Essential Services Commission on the appropriate weighted average cost of capital (WACC) to determine the return on capital. This is currently set at 5.1% real.

6.15.2 Taxation Liability

Wannon Water will not be liable for taxation within the Water Plan period.

6.16 Total Revenue Requirement

Taking all these factors together generates an overall revenue requirement of $235.87M for the five years of the second price period.

Table 6-29: Total Revenue Requirement – Water Plan ($M)

	2008-09	2009-10	2010-11	2011-12	2012-13	Totals
Operating Expenditure	34.06	32.62	34.67	34.22	34.23	169.79
Return on Assets	7.11	8.09	8.92	9.32	9.71	43.15
Depreciation - new	0.23	0.83	1.37	1.70	1.96	6.09
Depreciation - existing	4.27	3.45	3.24	2.99	2.89	16.84
TOTAL	**45.66**	**44.99**	**48.20**	**48.24**	**48.78**	**235.87**

7. DEMAND

7.1 Introduction

This chapter sets out an estimation of the probable demand for the services that Wannon Water will provide to its customers over the next price period. This is an important judgment as it is one of the key factors in determining the size of the charges that customers will face. It also affects the financial position of the business.

Assuming that the drought will break and water consumptions returns closer to historic levels then this would mean higher levels of demand and so lower unit costs for water. However, if demand is lower than forecasted because water restrictions and the drought continues, then Wannon Water will not recover sufficient revenue to cover its reasonable costs. On the other hand if a more conservative position on the levels of future demand is assumed then the charges will be higher and there is the potential that Wannon Water might recover more than is required.

The best available estimates of future demand were made during the development of Wannon Water's *Water Supply Demand Strategy* (June 2007). Wannon Water has made a significant investment in time, energy and money in this Strategy, which includes capital investment to reduce demand in order to ensure the future security of water supply. The predicted outcomes reflect the collective wisdom of consultants, staff and Wannon Water's wider community. The Water Plan revenue requirement mirrors the capital investment required to ensure the future security of water supply as detailed in the *Water Supply Demand Strategy*. It is therefore prudent that the demand forecasts used also align with demand predictions made in the *Water Supply Demand Strategy*.

7.2 The End Use Demand Model

The demand predictions made in the *Water Supply Demand Strategy* are made using an end-use demand model developed by MWH specifically for this work (MWH June 20007, *Wannon Water Water Supply Demand Strategy 50 year demand forecast*). This end-use demand model:

- Climate-corrects current demand (using the last 5 years of consumption history) to generate the starting point from which projections are made;
- Uses current (2006) information on the number of residential, non-residential, rural, and major industry connections for each of the towns/customer zones served;
- Uses forecasts of household and population growth derived from historic trends and *Victoria in Future (2004)*;
- Projects a baseline forecast to 2055, which incorporates both reductions in per capita consumption due to increased uptake of water efficient appliances and increased discretionary use over the 50 year planning horizon. The most probable industry demand (assuming no water conservation actions) has also been incorporated into the baseline;and
- Projects a forecast of "managed demand" to 2055 which incorporates an adopted package of demand reduction measures. It is this forecast which is presented here as the most likely set of demands across Wannon Water's towns in the period 2007-2013.

7.3 Customer Numbers and Population Trends

7.3.1 Modelling Projections

Population and household changes for the Wannon Water region through the second price period are based on projections from the Department of Sustainability and Environment publication *Victoria in Future (2004)*. The picture is one of slow or steady growth in coastal regions of the southwest, with population decline projected for inland areas. The *Victoria in Future* population and household projections are for 11 statistical local areas (SLAs) in southwest Victoria. Historic trends for household growth in towns within these SLAs from both census data and council records was used to disaggregate the *Victoria in Future* household projection into a change in residential connections per year in the parts of each town serviced by Wannon Water.

Changes in residential water use are linked to total population numbers and changes in household composition (i.e. the number of people per house). So water demand may remain at the same level even when total population declines, if those people are spread over a larger number of houses.

Overall growth or decline in water demand has been calculated from the population and household projections. The projected consumer demand from Wannon Water's 36 towns and communities has been consolidated into the projected demand for the 14 water supply systems.

Table 7-1 Projected Changes in Regional Population and Household Size (No.)

	Population					Household Size				
System	**2006**	**2010**	**2015**	**2020**	**2055**	**2006**	**2010**	**2015**	**2020**	**2055**
Otway System	42,382	43,710	45,434	47,108	60,222	2.47	2.39	2.31	2.23	1.94
Hamilton	9,983	9,848	9,642	9,425	7,930	2.43	2.35	2.27	2.20	1.98
Balmoral	198	191	183	174	116	2.30	2.23	2.15	2.08	1.65
Caramut	100	96	92	88	60	2.20	2.13	2.05	1.98	1.81
Casterton	2,907	2,804	2,681	2,563	1,873	2.26	2.20	2.12	2.04	1.68
Darlington	20	19	18	17	7	2.20	2.13	2.05	1.98	1.81
Dartmoor	248	239	232	225	197	2.30	2.23	2.14	2.07	1.83
Glenthompson	134	125	114	105	60	1.86	1.81	1.74	1.69	1.49
Heywood	1,282	1,269	1,249	1,230	1,110	2.37	2.30	2.22	2.14	1.95
Macarthur	303	270	239	213	90	2.67	2.55	2.45	2.37	1.96
Penshurst	490	466	437	410	262	2.41	2.34	2.26	2.19	2.02
Port Fairy	2,714	2,823	2,947	3,056	3,652	2.12	2.06	1.99	1.93	1.86
Portland	10,132	10,114	10,163	10,072	9,428	2.28	2.21	2.14	2.06	1.86
Pt Campbell	1,387	1,448	1,520	1,574	1,702	1.98	1.92	1.85	1.80	1.68
TOTAL	**72,282**	**73,424**	**74,952**	**76,259**	**86,708**					

7.3.2 Account Growth by Customer Category and Region

The following tables confirm the customer base as at June 2008 and the changes predicted in the number of accounts over the price period for the key supply systems, taking account of the projections on population and household size.

Table 7-2: Account Growth - Hamilton System (No.)

Account Category	2008	2009	2010	2011	2012	2013
Residential Base	4,836					
New Residential Infill		5	4	5	3	3
New Residential Greenfield		15	14	14	12	10
Non Residential Base	834					
Non Residential Change		-3	-3	-3	-3	-3

Nearly all of the residential growth will occur in Hamilton. Population decline in Cavendish can be expected with modest growth in population and dwellings at Dunkeld and Tarrington.

Table 7-3: Account Growth - Otway System (No.)

Account Category	2008	2009	2010	2011	2012	2013
Residential Base	19,167					
New Residential Infill		31	32	31	31	33
New Residential Greenfield		296	293	286	284	286
Non Residential Base	1,919					
Non Residential Change		15	16	14	13	11

About 80% of the projected building activity will occur in Warrnambool with strong activity also at Allansford and Koroit. Modest growth in dwellings will take place at Terang and Timboon.

Table 7-4: Account Growth - Other Systems (No.)

Account Category	2008	2009	2010	2011	2012	2013
Residential Base	10,419					
New Residential Infill		57	58	58	56	51
New Residential Greenfield		0	0	0	0	0
Non Residential Base	1,436					
Non Residential Change		-1	-1	-1	-1	-1

The infill estimates include some Greenfield activity because modest new subdivision activity will occur at Portland and Port Fairy (the two largest towns in this group). Very little new building will occur at Coleraine and Casterton. Activity will be concentrated along the coast at Portland, Port Fairy, and Port Campbell and at Peterborough (following the completion of the Peterborough Sewerage Scheme). About 40% of the new accounts will be at Portland, and about 40% will be at Port Fairy, with the balance distributed between Port Campbell and Peterborough.

Table 7-5: Total New Accounts: Residential and Non-Residential (No.)

System	2009	2010	2011	2012	2013
Hamilton	20	19	19	15	13
Otways	327	325	317	315	319
Other	57	58	58	56	51
Total	424	402	394	386	383

The number of major customers is expected to remain static through the price period. The number of rural customers is expected to remain static in the Hamilton and Other systems. For the Otways system a provision for 0.8% growth in rural customer numbers per year has been made.

7.4 Demand Management & Water Efficiency

7.4.1 Demand Management Strategy

The second major factor that drives overall demand is the level of demand per customer. That level of consumption is driven by a number of factors including house size, climate, price and demand management programs implemented by the corporation.

A program for demand management and water supply efficiency has been mapped out and costed as part of our *Water Supply Demand Strategy*. Wannon Water has nominated a goal of a 30% reduction in per capita water use by 2015 (from a base year of 1997).

Table 7-6: Water Efficiency Target: Average per capita water use

Year	Usage level (litres/person/day)
1997	757
2006	611
2015	530

Wannon Water will implement a range of cost effective demand reduction measures during the Water Plan period and beyond to achieve these demand reduction targets. The measures include:

- Inclining block water tariffs for residential customers;
- Sustainable water use plans for municipalities;
- Community education regarding demand reduction;
- Major customer water saving initiatives;
- Permanent low level restrictions on water use;
- Rural customer demand management;
- Leakage detection and reduction in reticulation networks;
- General indoor retrofit of homes;
- Metering of all properties in Hamilton and Coleraine;
- Installation of water efficient shower heads;
- Water harvesting from roofs in new subdivisions in Warrnambool; and
- Reducing evaporation from open water storages.

Supporting the implementation of these initiatives will be a collaborative research project involving Deakin University, Wannon Water and the Alcoa Foundation investigating barriers to adoption of water conservation among our regional and rural customer base. This is an innovative and original research initiative for the regional water sector.

7.4.2 Baseline for Demand Projections

This plan takes the consumption patterns for 2005-06 as the baseline starting point for the forecast of future demand. 2005-06 was the first year that Wannon Water collected data as a coordinated entity. In that year Wannon Water delivered 14,480ML to customers. Key features of 2005-06 were:

- Climatic conditions were at the drier end of the last ten years of weather outcomes in the Southwest;

- The position across the different systems showed considerable variation:
    - For the Otway system, total demand had shown a consistent decline every year over the previous five years;
    - For Hamilton, drier weather had stimulated increased demand to the highest level on record; and
    - Portland consumption was 15% higher than for the previous three years;
- Customers were starting to engage in water saving programs on the back of heightened interest in the metropolitan market, but no serious restrictions were yet in place and no State mandated Permanent Water Savings Program; and
- Patterns of water use by major customers were steady.

Specific demand management programs have then been developed for each customer group.

7.4.3 Urban Residential Water Use

Average residential demand depends on a number of factors:

- Number of people per household – there is a basic level of water usage per household;
- Size of properties – smaller houses and units have smaller gardens and use less water per capita;
- Climate – the drier weather over the last five years has seen higher demand in Hamilton as people use more water on their gardens;
- Price – higher charges and stepped tariffs create incentives to save water; and
- Demand management programs – these combined with publicity and education can reduce water consumption levels.

For all urban supply systems a demand reduction program has been developed to achieve the nominated targets of per capita water consumption. The program describes and costs the demand management program elements and calculates the specific contribution of each element to the nominated target. Primary initiatives for residential customers include Permanent Water Saving Measures, the inclining-block tariff and community education. Specific demand projections have been developed for the major urban centres:

Hamilton: Severe water restrictions have been imposed on the four towns in the Hamilton Water System. Stage 4 restrictions mean that all outside watering is banned. No garden watering is allowed at any time, by any means. Vehicles have to be cleaned using a bucket filled from a tap and only windows, mirrors and lights may be cleaned.

These restrictions have had a dramatic effect on demand in the system. Consumption during the summer months of 2007 was 105ML/month which is only marginally above traditional winter consumption rates of 102ML/month, and far short of the normal summer consumption of 250ML/month.

It is forecast that a significant percentage of these savings in per capita consumption will be retained in the longer-term, even when restrictions are lifted in 2010 following supply augmentation. That dampened demand will be reinforced by the introduction of stepped tariffs in this new price period.

Glenthompson: Severe water restrictions are also in place in the much smaller Glenthompson system. Remedial action should restore the supply demand balance from 2008-09. However restrictions are likely to remain in place pending reservoir replenishment.

Otways: Smaller percentage reductions are also evident from the impact of the Permanent Water Savings Measures across the larger Otways System introduced in July 2006. The results to-date indicate a 4% reduction in annual residential water use across both Warrnambool and Camperdown. This outcome exceeds modelling projections as well as exceeding notional estimates of a 2% saving at this stage in the demand management program.

Portland: The Portland customer base has generally been less receptive to water savings measures. It is too early to pick a trend response to the introduction of Permanent Water Savings Measures but experience from elsewhere suggests it is reasonable to expect a 2% decline in demand from July 2008.

7.4.4 Major Customers

Wannon Water has 22 Major Customers that use more than 40ML per annum with total consumption of 3,103ML in 2006-2007. This constitutes 22.7% of total regional water consumption. Wannon Water has concluded a demand assessment program with these customers to understand their future investment decisions and learn of projected changes in water use or trade waste generation. Three significant proposals were revealed:

- Installation of a reverse osmosis treatment plant is being considered in consultation with a major customer to enable increased on-site recycling of water to reduce current potable supply for a major part of its business demand. This would involve a reduction in overall demand in Portland of 150ML/year from July 2008;
- Greater use of recycled water with substitution of 80ML/year in Hamilton by July 2008 is under review for a major customer;
- A major Warrnambool customer aims to achieve 90% substitution of potable supply from late in 2008 following a decision to develop a geothermal groundwater bore as its main source of water supply. This will reduce demand in Warrnambool by 270ML/year.

The combination of these three proposals by themselves generates water savings of 500ML/year. A second phase of dialogue with major customers is planned for 2008 focussed on the 39 customers who use 10-40ML/year.

Wannon Water will also continue to work with local councils across the region to help facilitate the implementation of actions developed under the *Sustainable Water Use Plans* prepared by local government, which aim to achieve an average 11% reduction in water use by 2012.

7.4.5 Rural Customers

Currently Wannon Water services 1,814 rural customers. Some of these customers receive an untreated water supply by agreement. Total demand is around 2,400ML/year, representing some 18% of total supply. No growth in accounts is projected for this customer category. A freeze on accepting new rural customers will remain in place pending demonstrated system efficiencies by the existing rural customer base.

The rural customer base is expected to maintain current water consumption levels with a number of divergent drivers balancing themselves out (that is, growth in the milk food sector will be off-set by de-stocking in drier grazing country and moves to greater on farm water use efficiency following pressures from pricing changes).

7.4.6 Water Efficiency Targets Summary

Achieving the water efficiency targets set out in the *Water Supply Demand Strategy* will involve a structured program involving all customer segments and the more effective management of water supply systems with an overall annual saving in demand target of 2,000ML by 2015:

Table 7-7: Summary of Main Actions for Water Efficiency by 2015

Customer Group	Major Action	Saving (ML Total)	Saving (litres/person/day)
Residential	10% reduction / 1.25% per year	680	24.8
Local Government	Sustainable Water Use Plans	83	3.1
Major Customers	Current Initiatives	150	5.7
Major Customers	New Initiatives	641	14.3
Rural Customers	Demand Management	100	3.8
Supply System	Efficiency Program	356	13.5
Total		2,010	65.20

The effects of these actions have been incorporated into the end use demand model to project demand over the new price period. The savings are highest in the early years of implementation, and vary by supply system. The management program is expected to reduce the overall annual consumption across the region as follows, in the period between 2005-06 and 2008:

- Hamilton System 180ML
- Otways System 860ML
- Other System 370ML
- **Total 1,410ML**

This means that overall annual demand across the region is expected to fall from the level of 14,480ML in 2005-06, to a starting point for the new price period of 13,070ML. Overall demand should continue to fall gradually over the price period.

7.5 Total Billable Demand

The end use demand model has used the above data on customer types, account growth, and demand management to construct the following projections for total billable water demand over the five years of the Water Plan.

The table takes each of the major customer groups in turn and shows projections for total water demand for each of the years.

Table 7-8: Total Billable Water Demand (ML)

Residential	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Hamilton ML	1093	1075	1061	1049	1038	1029
Av. kL/consumption/year	*225*	*220*	*217*	*213*	*211*	*208*
Otways ML	3327	3258	3206	3159	3116	3087
Av. kL/consumption/year	*171*	*164*	*159*	*154*	*150*	*146*
Other ML	2003	1979	1963	1949	1937	1933
Av. kL/consumption/year	*191*	*188*	*185*	*183*	*181*	*179*
Total ML	**6424**	**6311**	**6230**	**6157**	**6091**	**6049**

Non-Residential	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Hamilton ML	468	460	453	446	439	433
Av. kL/consumption/year	*562*	*555*	*547*	*541*	*535*	*529*
Otways ML	944	939	934	931	929	927
Av. kL/consumption/year	*488*	*482*	*476*	*471*	*466*	*461*
Other ML	934	922	911	902	894	886
Av. kL/consumption/year	*651*	*643*	*636*	*630*	*624*	*618*
Total ML	**2345**	**2321**	**2298**	**2279**	**2262**	**2246**

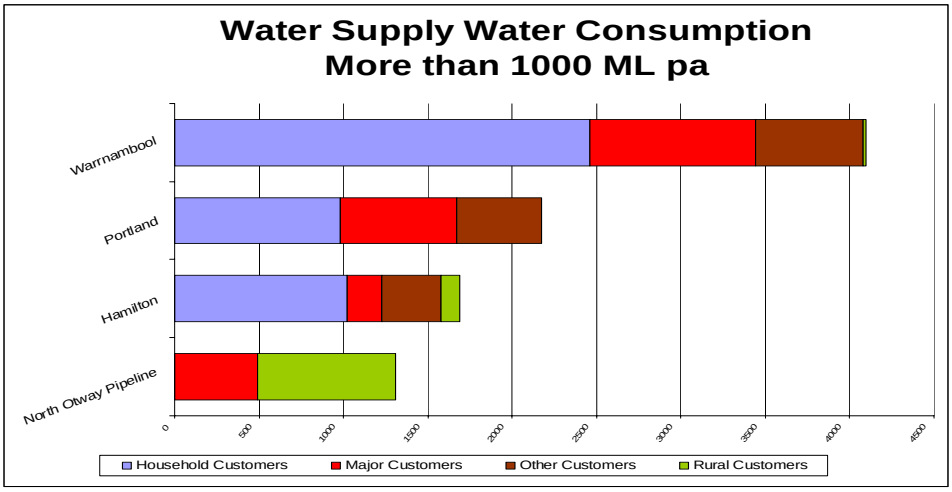
Rural	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Hamilton ML	0	0	0	0	0	0
Av. kL/consumption/year	*0*	*0*	*0*	*0*	*0*	*0*
Otways ML	1837	1807	1824	1841	1858	1877
Av. kL/consumption/year	*1416*	*1382*	*1384*	*1387*	*1389*	*1392*
Other ML	123	120	120	120	120	120
Av. kL/consumption/year	*1014*	*989*	*989*	*990*	*991*	*991*
Total ML	**1959**	**1926**	**1943**	**1961**	**1978**	**1997**

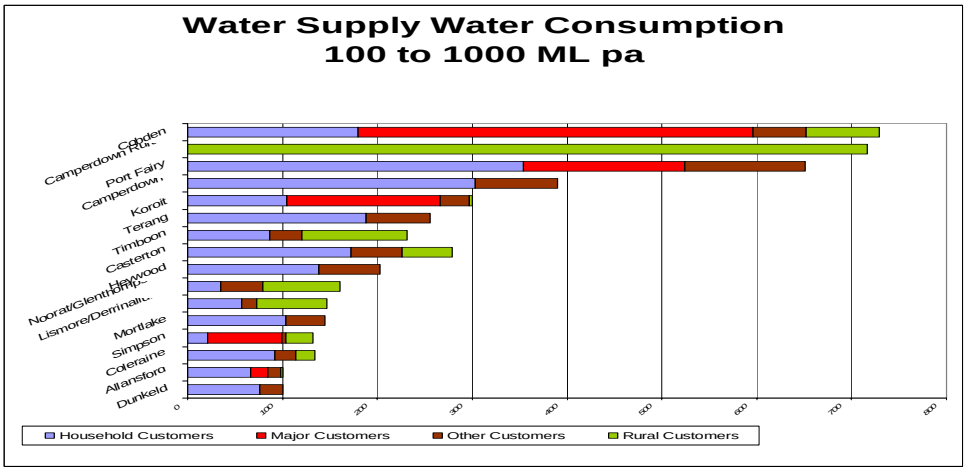
Major	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Hamilton ML	113	117	121	121	121	121
Av. kL/consumption/year	*56549*	*58489*	*60429*	*60471*	*60514*	*60556*
Otways ML	1608	1659	1710	1720	1731	1741
Av. kL/consumption/year	*94606*	*97609*	*100603*	*101193*	*101800*	*102422*
Other ML	620	637	654	655	655	656
Av. kL/consumption/year	*310207*	*318629*	*327050*	*327285*	*327520*	*327755*
Total ML	**2342**	**2414**	**2485**	**2496**	**2507**	**2518**

Total Billable use	**13070**	**12972**	**12957**	**12893**	**12838**	**12809**
change		*-0.75%*	*-0.12%*	*-0.50%*	*-0.42%*	*-0.23%*

7.6 Major Customer Water Forecasts

The charts below show consumption across the major urban centres and customer zones for 2005-2006. Four categories of customer type are shown. For most towns residential consumption is clearly the dominant category of water use. In 2005-2006 residential customers used 6,786 ML or 42% of all water usage.





The charts emphasise that large customer consumption is an important water use issue for Wannon Water. The charts demonstrate that a new major customer, a growing major customer or a departing major customer will have a big impact on the water use profile of some centres. Wannon Water has, as part of this Water Plan, carried out a round of discussions with all major customers to identify patterns of growth, potential new demand and opportunities for water use efficiency. Major customers are aware that water pricing and trade waste pricing directly impacts on business operating costs and that there is a strong business case for water use efficiencies.

Looking at customer type indicates the importance of the current suite of major customers to the southwest.

Table 7-9: Large Customer by Industry Sector

Type of Industry	Number Of Customers	Consumption 2005/2006
Milk/Food Processing	8	2,013 ML
Metal Refinement	1	615 ML
Pharmaceutical Products	1	170 ML
Fibre Processing	1	157 ML
Health Services	2	103 ML
Port Facility	1	75 ML

7.6.1 Multi-Site Water Users

Apart from the above single site customers there are multi-site water users such as local government and schools. The five councils of the region collectively use about 740 ML of water each year. Just over 600 ML of this water is supplied by Wannon Water. Water is used for open space maintenance, three saleyards, swimming pools, road construction and for a myriad of other social and community purposes. Warrnambool City Council has a licence for shallow aquifer access. Groundwater is reticulated by the council contributing to the greening of a significant portion of the public open space assets of Warrnambool. Southern Grampians Shire uses an historic municipal reservoir for the maintenance of the Hamilton Botanic Gardens and several popular playing fields. It will be vital for these municipal systems to be managed in a sustainable way because, should these systems fail, it is unlikely that Wannon Water would be able to step in as the default supplier.

Wannon Water has been very pleased to be able to play a support role over the past year in a project which has resulted in the five councils of the southwest committing to develop Sustainable Water Use Plans. Targeted water use efficiencies totalling 60 ML (10% of currently supplied water) has been nominated. Wannon Water will be working with the five councils as the plans move to implementation.

The education facilities of the southwest are another generic multi-site large user of water. Wannon Water will engage with the schools of the region in the development of a best practice campus template so that, over time, each school can move through a menu of actions and investment to achieve new standards of water use efficiency. The students of today are the first generation of Australians who will experience the impacts of climate change for the whole of their lives.

In 2007, Wannon Water will explore with the schools the ways in which the student bodies and Wannon Water can add value to the way in which the challenges of the future can be best engaged with, understood and responded to for the southwest.

Table 7-10: Significant Water Users by Type

Significant User Type	No of Customers	Consumption 2005/6(ML)	% of Total Wannon Water Consumption
Major Customer >40 ML/year	14	3,133	19.5
Large Customer 10-40 ML/year	39	634	3.9
Local Government (multi site)	5	600	3.7
TOTALS	**58**	**4,367**	**27.1**

In 2005 the councils of the region, with support from the Department of Sustainability and Environment, published the 'Great South Coast - Investment and Development Snapshot' listing likely or probable major investments to occur over the next five years. Wannon Water has not, within this Water Plan, built in assumptions about the timing of the investments or even the final form they might take. However the scale of the investments, the total reliance in some instances on large volumes of water and associated linkages with labour force housing growth means that Wannon Water will be closely involved with some project proponents as their projects move forward.

Wannon Water will be seeking closer involvement with Regional Development Victoria during 2007 so as to better understand the potential for impacts tied to the contingencies of water supply, wastewater generation and recycled water opportunities associated with facilitating a range of nationally important new investments.

7.7 Trade Waste

Trade Waste Customers are the economic drivers of the region, and Wannon Water acknowledges them as important to the sustainability of the Southwest of Victoria.

The annual volume treated in Wannon Water's water reclamation plants in 2005-06 was 8,950ML and in 2006-07 was 7,938ML. Trade waste represented approximately 20% of the total sewerage system flow. The fall reflects the impact of the droughts, and with the removal of restrictions the annual treated volume is expected to return to a similar position. The trade waste volume is expected to remain steady throughout the pricing period.

Trade waste prices for the second price period seek to send signals as to the real costs of treatment and to promote reduction in strength in line with our *Recycled Water Strategy*. Those prices are cost reflective for the key drivers of volume, BoD, suspended solids and ammonia. Wannon Water expects those signals to drive a reduction in the strength of the load received even if the total volume remains constant over the pricing period. This will lead to a reduction in revenue.

8. PRICES

8.1 Allocation of Increases to Communities and Customers

The revenue requirement is driven by Wannon Water's need to ensure security of future water supplies for its customers and to comply with environmental and other technical regulators' requirements for water and sewerage systems, whilst maintaining existing levels service to customers. These issues have been addressed throughout this Water Plan. The outcome is that Wannon Water requires revenue of $235.87M (expressed in 1 January 2007 dollars) over the five year period commencing 1 July 2008 to achieve these goals.

This section of the Water Plan describes how this revenue requirement has been allocated to the various communities that make up the customers of Wannon Water.

8.2 Price Cross Subsidies

Wannon Water has considered the implications of raising this amount of revenue at length. The following cross subsidies have been applied in setting the allocation method for prices.

a) As Wannon Water is an amalgam of three smaller water authorities and while there is a recognition that each system serving communities in southwest Victoria is at a different stage in respect to the quality of assets, maintenance and security of water supply, it has been determined that larger communities should fund their local water and sewerage systems.

b) It is also recognised that sufficient revenue could not be raised in some smaller communities without those communities incurring a major price shock in order to fund their local water and/or sewerage systems. Consequently a social equity cap of a maximum price increase of 20% per annum has been applied for the typical customer consuming 200 kL of water per annum. Any revenue shortfall will be funded by introducing a minimum price increase of 5% for water and 10% for sewerage for other systems thereby creating some pricing cross subsidisation from the broader customer base of Wannon Water.

8.3 Modelling Approach

The Essential Services Commission provided a modelling tool to estimate the impact of works and operating expenses on prices. Wannon Water has utilised this model to determine the estimated required revenue and price increases for each community or system (water supply and sewerage) based on the revenue requirement to fund the services over the five year price period from 2008-09 to 2012-13. This model takes into account future operating and capital costs, as well as the current investment in the systems. It also takes into account whether a particular water or sewerage system is currently paying its way or being cross subsidized.

Whilst some price increases may appear significant in percentage terms, the actual dollar value of the increases may be quite small. This is a function of the quantum of existing tariffs that apply. For example if the tariff is low, say a $100 dollars and there is a requirement for a further $100 per property, then this is expressed as a 100% increase. However, if the existing tariff was $400, and there is the same $100 need, then the increase is 25%. This mathematical concept should be borne in mind when comparing percentage price changes.

The proposed price increases are due to several factors which may apply to one or more communities:-

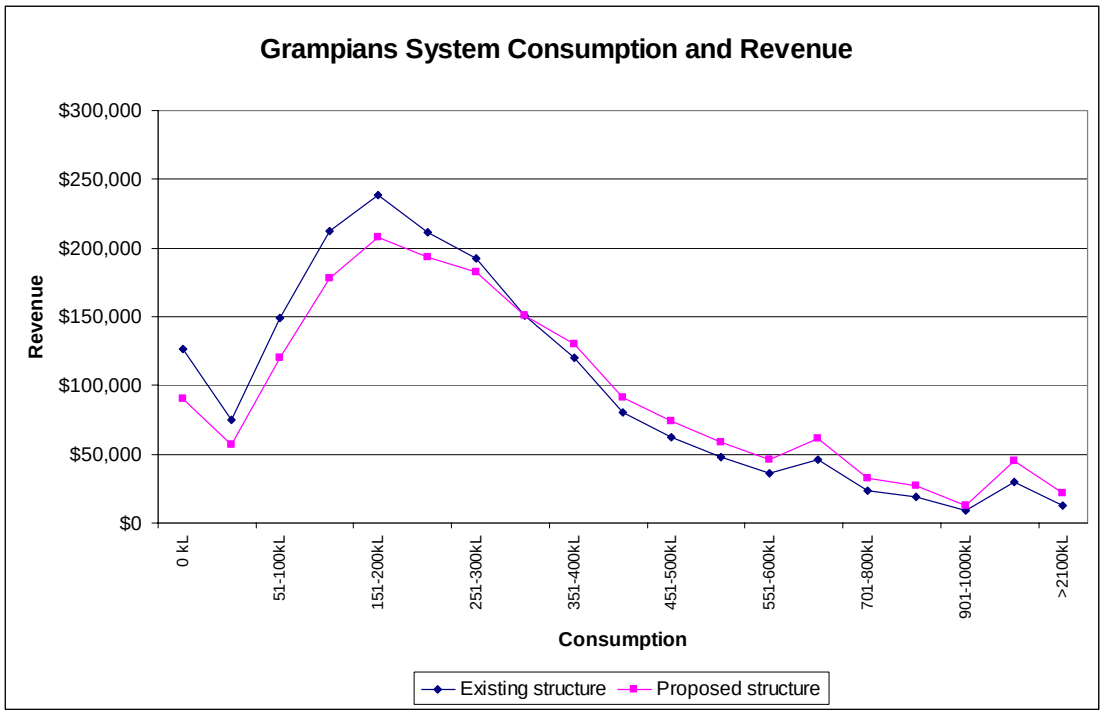
a) the community is on a low base price currently, and the required costs to provide the current service is significant, (eg Port Fairy sewerage); or
b) the system requires significant works in the future (eg Hamilton water supply)

8.4 Water Pricing Concept of Revenue Neutrality

To raise the required water revenue, Wannon Water proposes to reduce the water service charge as a component of the customer total bill and increase the water volume tariff component of the bill. Customers will be given more control over the size of their water bill based on their water consumption.

The graph below demonstrates the effect on revenue of moving from a service charge which reflects 48% of the total water bill for the typical residential customers in Hamilton to one where the service charge represents 30% for the typical customers consuming 200kL per annum. (For a description of the proposed tariffs refer to a latter part of this section)

Table 8-1: Comparison of Revenue Raised from Existing Water Tariff Structure and the Proposed Water Tariff Structure

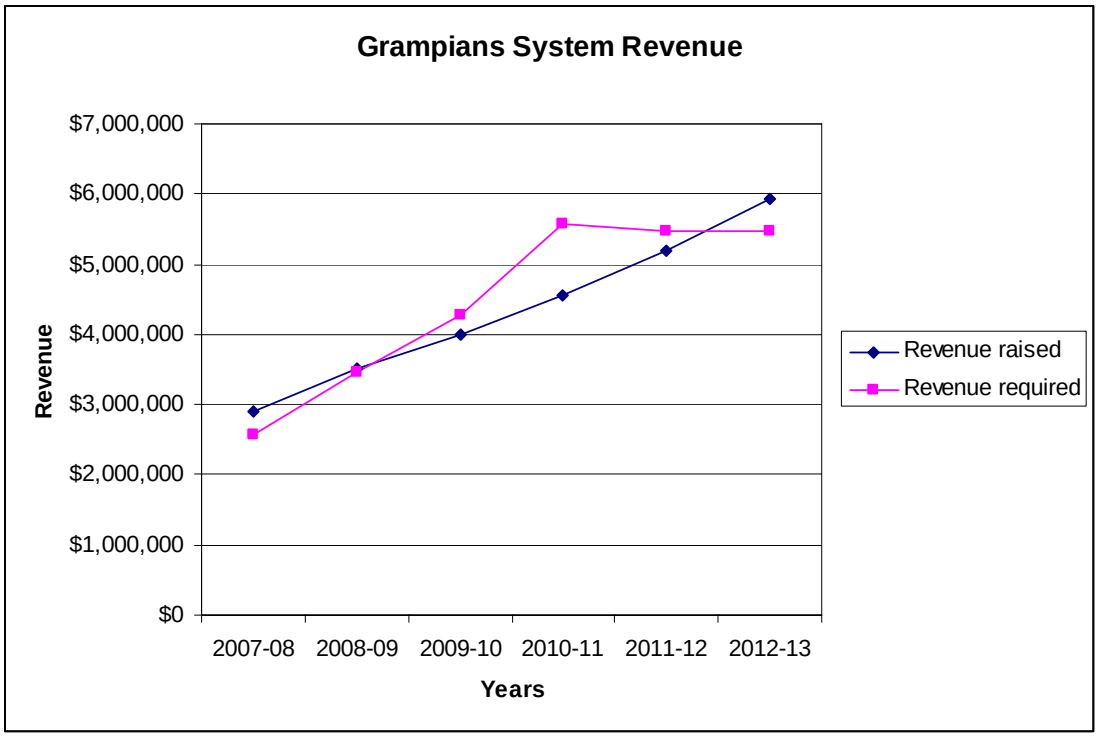


In the above example – whilst the same total revenue is raised for the system, in either model, in the proposed tariff system less revenue is raised from low water users than otherwise would be the case and more is raised from customers consuming more than 275 kL of water per annum. The revenue emphasis is placed on the high user consumption residential customers consistent with the demand management targets set out in Wannon Water's *Water Supply and Demand Strategy*.

For most water systems there is a significant revenue increase required over the regulatory period. In order to address both this revenue requirement and to reduce the see saw effect of subsequent price determinations by the Essential Services Commission Wannon Water

proposes in some instances increases in water revenue by 20% in 2008-09 and proposes smaller increases over the remaining four years to smooth the price increases required.

For the Grampians system this amounts to a further 15% per annum due to the Hamilton Grampians Inter-Connector Pipeline required to ensure a future security of supply. This is reflected in the graph below.



8.5 Water Service Fee and Volume Fee Relationship

Some communities which have:

- Traditionally relied upon rainwater tanks for a large component of their household usage; or
- Alternatively mostly comprise of holiday homes;

have different water usage patterns. In holiday resort towns in order to address the equity issue of permanent residents versus part time residents – it is proposed that the average householder should pay 50% of their total water tariff through the water service charge. In this way part time residents will make a reasonable contribution to the provision of the service. Similarly, in communities which have traditionally relied upon rainwater tanks for their household use, and where the provision of a reticulated system has been to give security of supply and provide for fire fighting purposes, – a 50% fixed service for the average household has been determined as appropriate given that the customers are paying for the availability of the service rather than the use of the service.

These communities are: - Casterton, Coleraine, Dartmoor, Darlington (Non Potable supply), Macarthur, Peterborough, Port Campbell, Sandford and Timboon.

Timboon whilst not strictly fitting the pattern of either a “tank user” town nor being a holiday town is supplied by the same system as Peterborough and Port Campbell, and given the need for an equitable distribution of revenue required, it has been determined that all three communities should pay water tariffs on the same basis. Cavendish, which is a “tank user” town, has not been included above as it is likely to be a beneficiary of the proposed supply augmentation for the Hamilton region and consequently should continue pay on the same basis as customers in Dunkeld, Hamilton and Tarrington.

8.6 Proposed Water Tariffs

Annex D provides the proposed schedule of charges for Wannon Water’s water supply and sewerage systems.

The following tables provide an example of the 30% service fee and 70% volume fee based on a typical 200 kL residential customer only – where the use is less, the service fee forms a higher proportion of the bill and the converse is also true – as the use increases above 200 kL per annum, the volume fee provides more than 70% of the total bill. The same rationale also applies to those tables referenced as 50% service fee, 50% volume fee.

Given there has been significant change in the tariff structure, different increases and decreases apply to different tariff components. The following tables are indicative only and show one size of service (20mm connection) and the middle tier of the residential volume tariff. These increases and decreases would apply to the typical customer within that community or system.

The following tables proposed water tariffs:-

Group 1: Service fee 30% - Volume 70% - Initial reduction of 60.3% on average on the service fee and 41.16% increase on average on the volume fee with a subsequent increase 10% on both components.

	Current tariff	2007-08	Proposed Tariff	2008-09
	Fixed service Fee* (1)	Volumetric Fee* (2)	Fixed service Fee*(3)	Volumetric Fee*(4)
Portland	191.23	0.7559	79.4165	1.0694
Port Fairy	221.44	0.7559	79.4165	1.0694
Heywood	187.46	0.7559	79.4165	1.0694

Notes * (1) – this is the fixed fee per annum applicable to a 20 &25 mm service
* (2) – this is the usage charge for 45-90 kL per quarter in the existing tariff
* (3) – this is proposed fixed fee p.a. applicable to a 20 mm service only
* (4) – this is proposed middle tier charge for 40 -75 kL of water per quarter

For Group 1 the proposed three tier water volume tariff per quarter for residential customers in the first year of the price period is:

0 – 40 kL - $0.8911 per kL,
40 to 75 kL- $1.0694 per kL; and
More than 75 kL - $1.6041 per kL.

Group 2: Service fee 30% - Volume 70% (except Darlington) - Initial reduction of 51.5% on service fee and 44% increase on average on the volume fee with a subsequent increase 10% on both components.

	Current tariff	2007-08	Proposed Tariff	2008-09
	Fixed service Fee* (1)	Volumetric Fee* (2)	Fixed service Fee*(3)	Volumetric Fee*(4)
Allansford	193.60	0.7168	93.8809	1.2642
Camperdown Urban	193.60	0.8602	93.8809	1.2642
Cobden	193.60	0.8602	93.8809	1.2642
Koroit	193.60	1.0038	93.8809	1.2642
Lismore/Derrinallum	193.60	1.0038	93.8809	1.2642
Mortlake	193.60	1.0038	93.8809	1.2642
Simpson	193.60	0.8602	93.8809	1.2642
Noorat/Glenormiston	193.60	0.8602	93.8809	1.2642
Terang	193.60	0.8602	93.8809	1.2642
Warrnambool	193.60	0.7168	93.8809	1.2642
Darlington	193.60	0.2758	93.8809	0.3462*(5)

Notes * (1) – this is the fixed fee per annum applicable to a 20 mm service
* (2) – this is the usage charge for 75 kL per quarter in the existing tariff
* (3) – this is proposed fixed fee p.a. applicable to a 20 mm service only
* (4) – this is proposed middle tier charge for 41-74 kL of water per quarter
* (5) – this is for a non potable supply and is for all usage

For Group 2 the proposed three tier water volume tariff per quarter for residential customers in the first year of the price period is:

0 – 40 kL - $1.0535 per kL,
40 to 75 kL - $1.2642; per kL, and
More than 75 kL - $1.8963 per kL.

Group 3: Service fee 30% - Volume 70% - Initial reduction of 38% on service fee and 45% increase on the volume fee with a subsequent increase 15% on both components.

	Current tariff	2007-08	Proposed Tariff	2008-09
	Fixed service Fee* (1)	Volumetric Fee* (2)	Fixed service Fee*(3)	Volumetric Fee*(4)
Cavendish	186.38	1.0674	115.4747	1.5549
Dunkeld	186.38	1.0674	115.4747	1.5549
Glenthompson	186.38	1.0674	115.4747	1.5549
Hamilton	186.38	1.0674	115.4747	1.5549
Penshurst	186.38	1.0674	115.4747	1.5549
Tarrington	186.38	1.0674	115.4747	1.5549
Balmoral	186.38	1.0674	115.4747	1.5549
Caramut	193.60	1.0038	115.4747	1.5549

Notes * (1) – this is the fixed fee per annum applicable to a 20 and 25 mm service
* (2) – this is the usage charge for all usage in the existing tariff
* (3) – this is proposed fixed fee p.a. applicable to a 20 mm service only
* (4) – this is proposed middle tier charge for 41-74 kL of water per quarter

For Group 3 the proposed three tier water volume tariff per quarter for residential customers in the first year of the price period is:

0 – 40 kL - $1.2957 per kL,
40 to 75 kL - $1.5549 per kL, and
More than 75 kL - $2.3324 per kL .

Group 4: Service fee 50% - Volume 50% - Initial Increase 7.21% on service fee and 5.17 % on the volume fee with a subsequent increase 5% on both components

	Current tariff	2007-08	Proposed Tariff	2008-09
	Fixed service Fee* (1)	Volumetric Fee* (2)	Fixed service Fee*(3)	Volumetric Fee*(4)
Peterborough	193.60	1.1471	207.5566	1.1978
Port Campbell	193.60	1.1471	207.5566	1.1978
Timboon	193.60	1.1471	207.5566	1.1978

Notes * (1) – this is the fixed fee per annum applicable to a 20 mm service
* (2) – this is the usage charge for 75 kL per quarter in the existing tariff
* (3) – this is proposed fixed fee p.a. applicable to a 20 mm service only
* (4) – this is proposed middle tier charge for 41-74 kL of water per quarter
* (5) – this is for a non potable supply and is all usage

For Group 4 the proposed three tier water volume tariff per quarter for residential customers in the first year of the price period is:

0 – 40 kL - $0.9981 per kL;
40 to 75 kL - $1.1978 per kL; and
More than 75 kL - $1.7967 per kL.

Group 5: Service fee 50% - Volume 50% - Initial Increase for all except Dartmoor 11.58% on service fee and 12.42% on the volume fee - subsequent increase 20% on both components

	Current tariff	2007-08	Proposed Tariff	2008-09
	Fixed service Fee* (1)	Volumetric Fee* (2)	Fixed service Fee*(3)	Volumetric Fee*(4)
Dartmoor	345.87	0.7559	207.9763	1.2002
Casterton	186.38	1.0674	207.9763	1.2002
Coleraine	186.38	1.0674	207.9763	1.2002
Macarthur	186.38	1.0674	207.9763	1.2002
Merino	186.38	1.0674	207.9763	1.2002
Sandford	186.38	1.0674	207.9763	1.2002

Notes * (1) – this is the fixed fee per annum applicable to a 20 and 25 mm service
* (2) – this is the usage charge for all usage in the existing tariff (except Dartmoor where this is the usage charge for 45-90 kL per quarter in the existing tariff
* (3) – this is proposed fixed fee p.a. applicable to a 20 mm service only
* (4) – this is proposed middle tier charge for 41-74 kL of water per quarter

For Group 5 the proposed three tier water volume tariff per quarter for residential customers in the first year of the price period is:

0 – 40 kL - $1.0000 per kL,
40 to 75 kL - $1.2002 per kL, and
More than 75 kL - $1.8003 per kL

The above water tariffs for the five groups are indicative only – but demonstrate the shift to give customer control over the size of their water bill and also show the levels of tariff that are required to fund the necessary works and operations for relevant systems. The tariffs examples above do not show for instance the movements service charges based on the size of service connection, nor do they show rural water tariffs.

8.7 Proposed Sewerage Tariffs

Wannon Water has resolved to treat the provision of sewerage removal from customers as a service and only levy a fixed sewerage service charge to all residential, small business customers and other small non-domestic customers. This means that the current residential and business volumetric tariffs applied in Heywood, Portland and Port Fairy will cease to be applied from 1 July, 2008.

For larger commercial properties where the water volume consumption is equal to or greater than 750 kL per annum, discharge factors will apply to determine a sewerage usage charge to be levied. This charge is ensures a measure of equity with residential customers given that the larger volumes of sewage being discharged by those customers to the sewerage systems is far greater than the amount that discharged by individual households.

The major issues for sewerage charges are twofold,

a) most sewerage systems have significantly under recovered the cost of operation in the past and there is a need to address this imbalance, and/or
b) there is a need for significant works to ensure that the system complies with discharge licence standards of the Environmental Protection Authority or biosolids processing requirements.

Group 1: Fixed Service Fee

	Current tariff		Proposed Tariff 2008-09	
	Fixed Service Fee		Fixed Service Fee	
Allansford	491.8200		536.7170	
Koroit	491.8200		536.7170	
Mortlake	491.8200		536.7170	
Peterborough	491.8200		536.7170	
Timboon	491.8200		536.7170	

Group 2: Fixed Service Fee

	Current tariff		Proposed Tariff 2008-09	
	Fixed service Fee		Fixed service Fee	
Camperdown Urban	388.2400		423.6706	
Cobden	388.2400		423.6706	
Simpson	388.2400		423.6706	
Noorat/Glenormiston	388.2400		423.6706	
Terang	388.2400		423.6706	
Warrnambool	388.2400		423.6706	

Group 3: Fixed Service Fee

	Current tariff 2007-08		Proposed Tariff 2008-09	
	Fixed service Fee		Fixed service Fee	
Casterton	265.2500		305.9607	
Coleraine	265.2500		305.9607	
Hamilton	265.2500		305.9607	

Group 4: Fixed Service Fee

	Current tariff 2007-08		Proposed Tariff 2008-09	
	Service Fee and Volume Fee		Fixed service Fee	
Heywood	274.02*(1)		299.5459	
Portland	246.39*(1)		299.5459	

Note 1 – The 2007-08 sewerage tariffs are based on a typical customer with 200 kL water use per annum and includes an amount for the volume component of the existing tariff.

Group 5: Fixed Service Fee

	Current tariff 2007-08		Proposed Tariff 2008-09	
	Service fee and Volume fee where applicable		Fixed service Fee	
Dunkeld	380.5900		449.9822	
Port Campbell	388.2400		449.9822	
Port Fairy	372.61*(1)		449.9822	

Note 1 – The 2007-08 sewerage tariffs are based on a typical customer with 200 kilolitres water use per annum and includes an amount for the volume component of the existing tariff.

8.8 Tariff Strategy and Structures

Wannon Water inherited three different pricing regimes from the prior authorities. Each of the merged authorities had a different approach to the pricing of water and sewerage services. As a result there is currently very little consistency in how regulated water and sewerage prices are determined for customers in the Hamilton, Portland and Warrnambool zones.

Consequently, two types of changes are being introduced:

- Moving all customers onto the same tariff structure through business rules that establish consistency across the region; and
- Increasing tariffs associated with the maintenance of service standards, meeting regulatory obligations, or obtaining future security of supply.

8.8.1 Principles for Tariff Strategy and Structures

The critical issue for Wannon Water's tariff strategy and structure is to use prices as a tool to help restore the demand supply balance at least long term cost to customers, the regional economy and sustainable water resource management.

The principles and objectives for the 2008-13 pricing determination are therefore as follows:

- To support Wannon Water's *Water Demand Supply Strategy* to help restore demand supply balance;
- To structure water prices to provide incentives for customers to conserve water consistent with targets set in the *Water Supply Demand Strategy*;
- To deliver a pricing regime that our customer relations staff and customers can readily understand;
- To ensure that pricing shocks are not delivered as a result of changing the business rules underlying the tariff structures;
- To establish uniform business rules for determining water and sewerage prices across Wannon Water's service area;
- To ensure prices recover the full costs of sustainably managing Wannon Water's water resources and sewerage systems.

Wannon Water will therefore implement uniform business rules for water and sewerage pricing, but will phase in or out some business rules over time in order to avoid potential price shocks for customers due to the changed pricing methodology.

The Board has adopted the following business rules after consulting with the Customer Engagement Committee and inviting the public to comment on both water and sewerage pricing structure discussion papers. For the purposes of this Water Plan a "business rule" refers to the basis for how a water or sewerage charge is to be calculated.

8.8.2 Fixed Access Charges

(i) Water Service Charge

Definition: A water service charge is the fixed charge levied on the owner of a property connected to a water system.

a) Business Rule – Water Service Charge for Each Installation:

"A water service charge shall be levied on the property owner for each separate connection or each separate occupation (installation) of a property connected to a water system".

A separate occupancy refers to multiple installations of a property including dual occupancies and multi-unit developments at a single property.

Current status:

Hamilton, Portland and Warrnambool zones – This business rule already applies in all three zones, and no change is envisaged.

b) Business Rule – Water Service Charge Based on Meter Size:

"A water service charge shall be determined by the size of the water meter installed at the customer's property. A water meter must be sized based on criteria set out in Wannon Water's metering policy. This business rule shall apply except where a larger water meter is required to be installed solely to achieve the mandatory minimum flow rate as set out in Wannon Water's Customer Charter."

Current status:

Hamilton zone - Water service charges are based on the size of the tapping of the water service at a customer's property rather than meter size.

Portland and Warrnambool zones – This business rule already applies in the Portland and Warrnambool zones (except for 25mm water meters in the Portland zone). This approach provided an unintended incentive for some higher volume customers in the Warrnambool zone to downsize the meter at their property in order to reduce their water service charges. This resulted in some meters at rural and business properties being required to perform beyond the design thresholds leading to excessive meter wear and gross under recording of metered water consumption.

This problem was addressed by the Board endorsing the metering policy including meter sizing criteria.

c) Business Rule – Water Service Charge for Additional Tappings:

"The full water service charge is to be levied for each metered water supply connection of a customer's property to the water supply system."

Current status:

Hamilton and Portland zones - This business rule already applies.

Warrnambool zone - Additional connections of a customer's property to the water supply system only incur a reduced water service charge of $61.75 (2006-07 prices) regardless of the size of the additional metered connection. This represents a cross subsidy for larger water consuming customers.

It is estimated that implementation of this business rule will raise an additional $153,147 (2006-07 prices) revenue in the Warrnambool zone, which will be offset by some further business rule changes for these customers in other areas.

d) Business Rule – Water Service Charges for 25mm Meters:

"Apply business rule (b) for 25mm water meters connections to the water supply system".

Current Status:

Warrnambool zone - This business rule already applies in the Warrnambool zone. A 25mm metered service attracts a water service charge 49% higher than the water service charge for a 20mm metered service. This relationship is close to the engineering principle that an increase in diameter from 20mm to 25 mm meter is an increase in capacity of 56% which makes the Warrnambool factor of 49% reasonable to apply.

The rationale for scaled charges for customers who have a 25mm meter is that the larger 25mm meter enables the customer to draw higher flow rates of water from the system and therefore command a greater share of the infrastructure capacity than a customer with a 20mm metered service. Further under the Customer Charter, Wannon Water must provide a minimum flow rate to a customer based on the size of the connection to a customer's property to the water supply system.

Hamilton and Portland zones - Common water service charges are levied for 20mm and 25mm metered services. This practice fails to recognise the higher capacity of 25mm metered connections.

Implementation of this business rule is estimated to raise an additional $33,661 in the Portland zone and $25,559 in the Hamilton zone in 2006-07 prices, compared to the benchmark. These amounts will reduce as Wannon Water has elected to reduce its reliance on the fixed component of the tariff charge.

e) Business Rule – Water Service Charge for Un-metered Services:

"*Un-metered services attract an elevated service charge to encourage water meter installation*"

Current Status:

Where a property is not metered a volume is estimated for billing purposes. Excluding municipal council properties, there are 325 un-metered services in towns across Wannon Water's service district.

The Un-metered Property service charge will be set at $800 for 2007-08 and the estimation of water volumes cease on 1 July 2008.

Customer costs to install a water meter will be capped by Wannon Water to $500 for a standard water meter and $600 where a radio frequency or remote dial water meter is required to be installed.

The Un-metered Property service charge will not apply to municipal properties and these properties will continue to have estimated water volumes until a water meter is installed by the municipal council.

(ii) Sewerage Service Charge

Definition: A sewerage service charge is the fixed charge levied on the owner of a property connected to a sewerage system.

a) Business Rule – Sewerage Service Charge for Each Installation:

"A sewerage service charge shall be levied on the property owner for each separate connection or each separate installation (occupation) of a property connected to the sewerage system by an individual or shared service".

Current status:

Hamilton, Portland and Warrnambool zones - This business rule already applies in all zones except that sewerage service charges are not applied to trade waste customers in the Portland zone.

b) Business Rule – Fixed Flat Sewerage Service Charge:

"A fixed flat sewerage service charge shall be levied".

Current status:

Hamilton zone – Sewerage service charge (also known as sewerage availability charge) is levied based on the size of tapping connection to the water service. If a property has multiple water connections a sewerage charge is levied for each water connection. The additional revenue raised in the Hamilton region from this method of setting the sewerage service charge is estimated to be $11,513 (in 2006-07 prices) per annum, and this would be foregone.

In addition, in the Hamilton zone, properties with a greater than 25mm water service connection incur a sewerage availability charge based on size of the water tapping. The rationale for this charge is based on the customer's ability to draw rapidly larger amounts of water into the serviced property, which in turn must be disposed of. The logic is if a property has the ability to command large amounts of water supply resources, then it also has the ability to require large amounts of the sewerage disposal infrastructure. In the absence of a volumetric sewerage charge this was a way of ensuring that potential users of the service have a cost reflective charge.

The amount of additional revenue raised in the Hamilton region from this method of setting the sewerage service charge is estimated to be $87,097 per annum. Moving to a flat service charge for sewerage in the Hamilton zone regardless of tapping size will require a 1.8% increase in the existing minimum Hamilton zone sewerage service charge to account for the lost revenue. However, this increase will be reduced as the final sewerage tariff structure selected includes a volumetric component for the larger commercial dischargers.

Portland and Warrnambool zones – This business rule already applies in the Portland and Warrnambool zones, and a set price is applied for each individual sewerage system.

c) Business Rule – Cistern Charge:

"Remove the Cistern Charge in the Warrnambool zone".

Current Status:

Hamilton and Portland zones - Cistern charges are not levied in the Hamilton and Portland zones.

Warrnambool zone - Customers with more than 4 cisterns are charged $107.94 per cistern. This charge mostly applies to schools and factories which have multiple cisterns. This is another mechanism to charge larger customers for the potential discharge higher volumes of sewage to the sewerage system in substitution of a volumetric charge.

This charge raises an estimated $475,278 per annum in the Warrnambool zone. It is proposed that removal of this charge be revenue neutral to Wannon Water by lowering the threshold for the introduction of Trade Waste Volume Charges and marginally increasing sewerage service charges for all Warrnambool zone customers.

(iii) Service Charges for Vacant Serviced Land

Definition: Vacant Serviced Land is unoccupied land declared to be a serviced property under the *Water Act 1989* (water and or sewerage services are available for connection)

a) Business Rule – Water and Sewerage Service Charges for Vacant Land:

"Water and or sewerage service charges shall be levied on vacant declared service properties in all areas of Wannon Water. The vacant land tariffs will be set at the lowest charge for each applicable service in the associated community."

The metropolitan retail water companies and some regional water authorities including the former South West Water discontinued the practice of levying service charges on vacant serviced land even though such charges may be levied under the Water Act 1989. The rationale for not charging service charges on vacant land is that a monopoly service provider should not impose service charges where a customer does not require a service to be rendered.

However, the rational for charging vacant land which fronts a water or sewerage main is that the property owner is deriving benefit through increased value to his property.

Wannon Water is of the view that where services are available to service a property the property owner should be levied a service charge to contribute to the cost of making the provision of water and sewerage services available to service the property. In this way the greater community receives a return on its investment in the infrastructure provided to service the land.

Current Status:

Warrnambool zone - The levying of water and sewerage service charges for vacant is not presently undertaken.

Hamilton zone - Reduced water and sewerage service charges are levied on vacant serviced land. The actual price of the water and sewerage service charges has remained fixed since 1996-97.

The total revenue from the service charge on vacant serviced land in the Hamilton zone is estimated to be $29,640.

Portland Zone - Reduced water and sewerage service charges are levied on vacant serviced land however the total revenue raised from these charges is significant at $254,043 per annum.

It is estimated that there are some 1300 vacant land parcels within water and sewerage service area in the former South West Water. All would attract a water service charge and approximately 96.5% attract a sewerage service charge. The water charge on the 2008-09 benchmark year modelling would be $93.88 and the sewerage charge would be $127.10 for the Warrnambool region.

8.8.3 Volumetric Charges

(i) Weighting of Revenue Derived From Volume and Service Charges

Water revenue across the three zones is derived from fixed service charges and water volume charges. The current balance between two components for residential customers is:

Table 8-2: Balance between Fixed and Volumetric Charges by Percentage of Revenue

Zone	Volume	Fixed
Warrnambool zone	46.6%	53.4%
Hamilton zone	53.4%	46.6%
Portland zone	39.6%	60.4%

The average annual levels of residential water consumption for the 2005-06 year are:

- Hamilton zone 236.91 kL
- Portland zone 220.06 kL
- Warrnambool zone 201.56 kL

(ii) Long Run Marginal Cost (LRMC)

Modelling was undertaken to identify the long run marginal cost of capacity augmentation across the region. This helps determine the relative size of the volumetric component of a two part tariff as it sends powerful signals as to the proximity of the next capacity augmentation. However, it was difficult to apply this to Wannon Water's tariff structures given the highly varying circumstances faced by different communities across the region:

- For the Otway water system, current modelling suggests no requirement for capacity augmentation for 40 years, i.e. until 2047;
- Most other systems are secure through until 2055; while
- Hamilton and Glenthompson require urgent and immediate investment in additional capacity.

Under these circumstances, the region would face several difficulties in tariff design:

- Charges for Hamilton and Glenthompson would be highly differentiated from all other towns. That would be difficult to explain and implement;
- From 2010 the new Hamilton supply will provide for the foreseeable future. In these circumstances the LRMC would fall from a very high value to a very low value, following completion of the augmentation. That would lead to a see-saw in tariff structure over a two year period. That would not meet good practice in utility pricing which places a high value on stability;
- In the remainder of the region, the relative security of supply would mean that LRMC was low and that the majority of the charge would be collected through the fixed charge. That would give our customers little ability to control the size of their bills, and would run counter to government policy and the clearly expressed preferences of our Customer Engagement Committee.

It is proposed that the weighting of revenue derived from water volume charges be significantly increased. This Water Plan therefore proposes to set the water pricing for residential customers at 70% water volume charge and 30% fixed service charge for the average annual residential water consumption based on the 2005-06 consumption statistics where appropriate.

This approach implements the Government's policy that all regional water corporations should introduce pricing structures that provide incentives for water conservation (Victorian Government White paper – *Securing Our Water Future Together,* p 128 and clause 14(a) (vi) of the Water Industry Regulatory Order). It is also consistent with the demand management targets set out in our *Water Supply Demand Strategy*, and in accordance with customer preferences expressed by our Customer Engagement Committee.

However there are a small number of communities which traditionally either utilised rainwater tanks, or have few permanent inhabitants and are primarily made up of holiday homes which are occupied for a very small period of the year. Wannon Water has endeavoured to ensure that the price charged to customers is cost reflective. Therefore it is proper that the provision of the service (fixed service charge) should have a greater weighting in these communities, so that costs are more equitably borne. This concept was strongly supported by Wannon Water's Customer Engagement Committee.

The communities where an equal weighting for service and volume charges has been applied are as follows:

- Casterton
- Coleraine
- Macarthur
- Merino
- Peterborough
- Port Campbell
- Sandford
- Timboon

(iii) Inclining Block Tariffs

Wannon Water (and the Customer Engagement Committee) considers that the introduction of a three tiered water volume tariff for all residential customers in its service area will encourage more efficient use of water.

Two decisions need to be taken in implementing an inclining block tariff:

- the size of the steps or tiers (in kL/year); and
- the relative charge at each level (in $/kL).

With this in mind the following tiers and charges have been adopted. The 160kL trigger was set at the average winter consumption:

Table 8-3: Inclining Block Tariffs

Tier	Volume Annual Basis	Volume Daily Basis	% of 2nd Tier price
1st Tier	0-160 kL	0-0.4384 kL	83.3%
2nd Tier	161-300 kL	0.4385-0.8219 kL	100%
3rd Tier	301 kL plus	0.8220 kL plus	150%

This approach delivers a reasonable amount of water to residential customers to meet daily needs at a reasonable price. Higher consuming residential customers will pay a premium for significantly above average water use which will send a stronger pricing signal to conserve water.

The actual price quantum's have been determined on the basis of the outcomes being revenue neutral for each of the water and sewerage system within Wannon Water's service area – utilising 2005-06 water consumption quantities per household and 2006-07 prices.

Given that the average consumption range is from 201kL to 236kL based on the 2005-06 year, it means that on average 54% of residential customers will receive a reduced charge compared to tariff charges in the first regulatory price period, 29% will receive their water at a price which is a combination of the discount and the standard price, and 17% (high consumption) will pay more for water.

(iv) Water Volume Charge

Definition: Water Volume Charge – is the price per kilolitre of water delivered to the customer's property as measured by the water meter.

a) Business Rule – Water Volume Charge for Residential Customers:

"The occupier of a residential property shall be levied a water volume charge based on stepped volume pricing consisting of three blocks of metered water volume, namely tier one 0-160kLs, 83.3% of the price of tier 2, tier two 161-300kL , tier three 301kLs plus at 150% of the price tier two".

Current Status:

Portland - A similar business rule applies in the Portland zone.

Warrnambool zone - A similar business rule applies in the Warrnambool zone with the exception that only two tiers of metered water volume applies.

Hamilton zone - A fixed kilolitre charge for metered water volume is levied on residential customers.

It is proposed to introduce stepped volume charges for all residential customers from 1 July 2008. Implementing this business pricing rule will send a stronger pricing signal to residential customers to use water efficiently and reward customers who take action to reduce their water consumption. This is consistent with the proposed water savings target set out in the Water Supply and Demand Strategy and the actions in the State Government White Paper – *Our Water Our Future*.

b) Business Rule – Water Volume Charge for Urban Business and Other Urban Non-Residential Customers:

"The owner or occupier of an urban business/non-residential property shall be levied a flat charge per kilolitre of metered water volume".

Current status:

Hamilton, Portland and Warrnambool zones - All urban business/non-residential customers are levied a flat kilolitre charge for water. This is consistent with the Essential Services Commission guidelines that business customers be levied a flat per kilolitre charge for water.

c) Business Rule – Water Volume Charge for Rural Customers:

"The occupier of a rural property shall be levied a flat price per kilolitre for metered water volume up to the volume cap placed on the water consumption at the property. A higher price per kilolitre (infrastructure leasing surcharge) shall be levied for any metered water consumption recorded above the volume cap. The water volume cap shall be determined having regard to historical water consumption.

Current status:

Hamilton and Portland zones - All rural customers are levied a flat per kilolitre charge for water but without a volume cap.

Warrnambool zone – Rural customers are levied a water volume charge based on stepped volume pricing consisting of two tiers of metered water volume. Further an Infrastructure Leasing Charge is also levied for any water consumption above the volume cap.

It is proposed to adopt a modified version of the current Warrnambool zone rural customer pricing approach for all rural customers. This change is consistent with the Essential Services Commission guidelines. It is proposed to replace the two tiers of volume charges with a single volume charge up to the volume cap. The Infrastructure Leasing Surcharge will be levied for any water volume consumption above the volume cap.

This approach is consistent with the objective of capping water consumption for rural customers while also adopting a flat water volume charge for rural customers similar to other non-residential customers. This change is designed to be revenue neutral.

(v) Sewerage Disposal Charge

Definition: The sewerage disposal charge is the price charged per kilolitre of sewage discharged to the sewerage system from a property which is billed to the owner of the property. It is proposed to replace this with a fixed charge.

a) Business Rule – Sewerage Disposal Charge:

"A fixed service charge for sewerage disposal is levied on the owner of a property connected to a sewerage system".

The proposal is that a fixed service charge be applied to all properties connected to a particular sewerage system. The charge is based on the concept that all households and other properties which discharge sewage (equivalent in both volume and quality to domestic strength sewage) should pay a fixed amount related to the provision of the service.

Current Status:

Portland zone – A volume based Sewerage Disposal Charge is levied on property owners which is calculated on the basis of water use at the property or installation. A discharge factor based on 80 per cent of metered water delivered to the customer's property is applied together with a monthly garden watering adjustment factor to calculate the sewerage disposal charge. The monthly gardening water factor is as follows:

Monthly garden watering adjustment factors

Jan	*Feb*	*Mar*	*Apr*	*May*	*Jun*	*Jul*	*Aug*	*Sep*	*Oct*	*Nov*	*Dec*
0.686	0.790	0.891	1.011	1.116	1.258	1.254	1.217	1.210	1.163	1.024	0.841

Sewerage Disposal Charge = Discharge factor x metered water volume x seasonal factor

Hamilton and Warrnambool zones – The sewerage disposal charge is not levied in the Hamilton and Warrnambool zones.

The current Sewerage Disposal Charge is an estimated charge only and cannot be accurately determined as the actual volume of sewage discharged to the sewerage system is not able to be measured by a meter. Further the discharge factor and seasonal factors are based on averages and do not represent the variations in water use that apply to individual customers.

There are ever increasing complexities in estimating fairly the volume of water discharged to sewer by residential and small business customers.

As a result of promotion of water conservation by water corporations and the State Government, customers across Victoria have responded by implementing permanent and temporary plumbing arrangements to divert large volumes of grey water for reuse within their properties rather than discharging the grey water to the sewerage system. For example the volume of sewerage received at the Hamilton Water Reclamation Plant has reduced by more than 20 per cent during the current period of water restrictions. The formula for estimating a customer's discharge to the sewerage system takes no account of on-site grey water re-use by the customer.

Further the State Government provides rebates to customers who install rain water tanks connected to toilet cisterns. In addition, the installation of a rainwater tank or solar hot water system is now mandatory in Victoria for all new dwellings erected. Consequently increased volumes of un-metered stormwater will increasingly be used to flush toilets. The formula for estimating a customer's volume discharge to the sewerage system presently takes no account of this.

It is no longer considered equitable to charge domestic users of the sewerage service for the quantity disposed because of the difficulties in estimating the amount.

8.8.4 Trade Waste Charges

Wannon Water will introduce a consistent approach to the pricing of trade waste across the service region, further improving on the actions of the predecessor authorities. The following section describes this new approach, and the business rules to be applied.

The pricing principals include objectives to:

- Allocate costs to trade waste customers that are generated by their use of the sewerage system (i.e. to ensure that residential customers do not cross subsidise their costs);
- To allocate costs between trade waste customers by reference to the main cost drivers of collection, treatment and disposal (i.e. Volume, BOD Suspended Solids, Ammonia);
- To send appropriate price signals to trade waste customers to encourage pre-treatment , reduced discharge and increased opportunities for recycling in line with Environment Protection Authority guidance and DSE Trade Waste Future Directions Strategy; and
- To establish a pricing structure that is easy to understand.

The pricing model to be applied to Trade Waste customers includes three key components:

1. Administration
2. Volume and Load
3. Penalties

a) Business Rule – Trade Waste Customer Classification:

"*Non-residential customers discharging non-domestic sewerage are considered Trade Waste customers and will be classified based on load and risk characteristics".*

All industrial and commercial customers discharging non-domestic sewage to the sewerage system are classified as Trade Waste customers. Using a risk based methodology the customers are characterised into four categories dependent on their load and risk to the sewerage system. These categories have given guidance to the pricing structure.

Category	Description
1	Low volume (less than 750kL/annum water use) and strength of waste generally commensurate with domestic waste. Commensurate with residential water use.
2	Higher volume (greater than 750kL/annum water use) but strength still commensurate with domestic strength waste.
3	Strength of standard constituents greater than domestic strength but other characteristics still comply. Flow may be more or less than 750kL.
4	Unique flow/load. Standard characteristics may be outside system capacity. Other characteristics may be outside normal limits but may be acceptable due to low annual load. May involve additional infrastructure/treatment. Only by special agreement

(i) Administration Charges:

The overall administration of the Trade Waste System has been analysed. This determines the pricing of the application fee and annual fees for all four categories of Trade Waste customers.

a) Business Rule - Trade Waste – Application Fees:

"New non residential customers discharging non-domestic sewerage will be required to apply for Trade Waste discharge to the sewerage system."

To cover the costs incurred in establishing the arrangements, when a new business is identified a trade waste application is completed. For all Category 1 & 2 businesses an onsite inspection will be conducted to ensure compliance.

- Minor Trade Waste Site Inspection Charge - $100.00
- Minor Trade Waste Application Charge - $70.00

For Category 3 & 4 customers a Trade Waste Agreement will be developed. A standard Agreement has been developed with some additional negotiations required to meet the business needs.

- Development of Major Trade Waste Agreement - $2,100

All legal fees required to draft changes to the standard Major Trade Waste Agreement will be funded by the Customer.

Category	Description	Charge
1	Site inspection + application processing	$170
2	Site inspection + application processing	$170
3	Development of Trade Waste Agreement	$2,100
4	Development of Major Trade Waste Agreement	$2,100 + legal fees

b) Business Rule - Trade Waste – Annual Fees:

"All Trade Waste Customers will be required to pay charges that cover the annual administration of their trade waste service".

For the Category 1 & 2 customers this includes the management of clean out compliance and audit inspections.

For Category 3 & 4 this includes monitoring of waste stream, meter reads and regular meetings to meet the changing needs of the customer. These charges would be specific to the nature of the trade waste, and therefore variable between customers. Negotiated charging will be included in all Category 3 and 4 Trade Waste Agreements.

Category	Description	Charge
1	Audit inspections	$100.00
2	Reminder letter + Audit inspections	$170.00
3	Monitoring, meter reading, meetings to address customer needs	negotiated
4	Monitoring, meter reading, meetings to address customer needs	negotiated

(ii) Volume and Load Charges:

a) Business Rule - Trade Waste – Category 1 Customers:

"Trade Waste customers classified as Category 1 will pay a fixed service charge equivalent to domestic customers."

This group of customers discharge trade waste of a volume and load within the range of domestic customers. Their access to the sewerage system will be charged on the same basis as domestic customers, as an annual fixed sewer service charge.

b) Business Rule - Trade Waste – Category 2 Customers:

"Trade Waste customers classified as Category 2 will be levied a trade waste volume charge based on their water use multiplied by a discharge factor for their industry sector unless they fund the installation of sewer metering."

The pricing formula is:

Water Consumption x Industry Discharge Factor x Trade Waste Volume Charge

The Industry Discharge Factors are shown in Annex E, and are based on established standards used in the Australian Water Industry. Where a customer wishes to have individual metering installed so that they may be charged based on actual volume of trade waste discharge, then the installation of that metering will be funded by the customer.

c) Business Rule - Trade Waste – Category 3 and 4 Customers:

"Trade Waste customers classified as Category 3 or 4 will be levied trade waste volume and load charges."

These costs will be allocated to each customer pro-rata to the demand that the customer's load places on the individual sewerage system which they input to. There are

three stages in the waste stream handling process relevant to trade waste volume and load pricing:

- Sewers to transport the waste from the premises to the water reclamation plant;
- The water reclamation plant itself; and
- The disposal process when the end product is deemed a waste material. This currently includes biosolids.

A fourth stage involving the further treatment, sale and re-use of products including recycled water and biosolids is not included within the scope of the trade waste tariffs.

Sewer costs are based solely on the volume of trade waste discharged as this is the primary cost driver. A proportional share of the full reticulation costs have been allocated to Trade Waste customers based on their volumetric load. This ensures that customers with similar waste streams experience the same pricing regardless of location within a particular sewerage system, consistent with the pricing principals for residential customers.

Charges for trade waste treatment are set by reference to four major cost drivers:

- Volume: as this drives the scale of the plant;
- Biological Oxygen Demand (BoD);
- Suspended solids; and
- Ammonia.

Allocation of capital and operating costs between these four drivers has been undertaken to reflect the function of each part of the collection, treatment and disposal process. This ensures that customers pay only those costs attributable to the characteristics of their waste stream.

Tariffs have been developed at a regional level to provide signals about the real costs of supply. Large sewerage systems like Warrnambool and Hamilton each have a separate trade waste tariff schedule. It is proposed to amalgamate the costs and tariffs for smaller systems that share similar characteristics, so that Category 2 customers (primarily medium sized businesses) across these locations are subject to the same pricing.

It is proposed to base trade waste volume and load tariffs for Category 3 and 4 customers solely on a variable charge as this creates strong incentives to pre-treat and reduce waste-streams in line with Environment Protection Authority guidelines, the *Statement of Obligations* and the Department of Sustainability and Environment's *Future Directions Statement*.

The following trade waste volume and load charges have been developed using the principals above. This modelling completes the reviews and transitional arrangements highlighted in the predecessor Water Plan's, and provides for a consistent approach to pricing across the Wannon Water service region.

Table 8-4: Trade Waste Volume and Load Charges

All charges below are real charges and it is proposed that they be subject to CPI adjustment.

Warrnambool sewerage system:

Characteristic	Charge Basis	2008-09	2009-10	2010-11	2011-12	2012-13
Volume	$/kL	0.458	0.464	0.473	0.483	0.489
BOD	$/kg	1.012	1.094	1.262	1.280	1.349
Suspended Solids	$/kg	0.208	0.211	0.214	0.217	0.220
Ammonia	$/kg	0.829	0.939	1.177	1.194	1.285
Sodium	$/kg	tbc[1]	tbc	tbc	tbc	tbc

1 To be confirmed

Hamilton sewerage system:

Characteristic	Charge Basis	2008-09	2009-10	2010-11	2011-12	2012-13
Volume	$/kL	1.033	1.134	1.201	1.249	1.256
BOD	$/kg	1.203	1.635	1.684	1.717	1.742
Suspended Solids	$/kg	0.492	0.696	0.718	0.730	0.738
Ammonia	$/kg	n/a	n/a	n/a	n/a	n/a
Sodium	$/kg	tbc[1]	tbc	tbc	tbc	tbc

1 To be confirmed

Portland sewerage system:

Characteristic	Charge Basis	2008-09	2009-10	2010-11	2011-12	2012-13
Volume	$/kL	0.889	0.911	0.929	1.022	1.253

Camperdown, Casterton, Cobden, Coleraine, Dunkeld, Heywood, Mortlake, Port Campbell, Simpson, Terang, Timboon sewerage systems:

Characteristic	Charge Basis	2008-09	2009-10	2010-11	2011-12	2012-13
Volume	$/kL	1.395	1.445	1.510	1.546	1.563

Modelling for the Port Fairy system is to be confirmed in the next draft of the Water Plan.

Determining load using COD instead of BOD:

Various water corporations across the state use either Biological Oxygen Demand (BOD) or Chemical Oxygen Demand (COD) for organic load based charging. The EPA use BOD as the measure of compliance of treated effluent and current operations of Wannon Water's reclamation plants is based on BOD measurement. There is no generalised correlation between BOD and COD which leads to BOD to be chosen as the primary measure of waste strength.

Where a consistent waste stream is encountered, however, as in a controlled trade waste, both parameters can be measured to determine what if any correlation exists for that particular waste

stream. If a correlation can be found then COD measurement could be used as a surrogate measurement for BOD. This correlation would need to be confirmed regularly to ensure the waste stream has not changed outcomes.

Provision for Other Load Charges:

Significantly high salt loads in the trade waste stream reduce opportunities for recycling, and Trade Waste pricing for those systems where increased beneficial use of recycled water is a priority will include incentive pricing for salt.

A salt (sodium) charge will be developed to take account of the cost incurred by Wannon Water if the business were to remove this salt. This can be achieved by separating the salty waste stream through the treatment plant or adding additional Reverse Osmosis treatment to the final processing of reclaimed water. Further analysis is required for the priority systems (eg Warrnambool, Hamilton,) to determine the salt charges, but they will be determined using principals consistent with the development of other load-based charges proposed in this Water Plan, and included in the final Water Plan submission to the Essential Services Commission on 8 October, 2007. There will be ongoing dialogue with major customers likely to be impacted by these charges during the coming months to ensure that the proposed salt pricing will lead to the intended beneficial regional For the Warrnambool system an expression of interest process will be conducted in late 2008 to gauge private sector interest in the development of a major inland recycling project as an alternative for surface or groundwater extraction, and deliver sustainable regional water management outcomes.

Recycled water used on farm land that contains high amounts of salt increases the sodicity of the farm soils. The soils may need to be treated to off set this impact, incurring a direct cost to the business related to the strength of the trade waste. Where recycled water containing high salt loads attributable to trade waste customers impacts on the soils but reuse is still sustainable, the additional land management costs attributable to the salt load (eg applying gypsum to the land) may form the basis of salt charges.

There will be ongoing dialogue with major customers likely to be impacted by these charges during the coming months to ensure that the proposed salt pricing will lead to the intended beneficial regional outcomes. For the Warrnambool System it is expected that an expression of interest process to be conducted in late 2008 will achieve private sector interest in the development of a major inland recycling project as an alternative for surface or groundwater extraction, and deliver sustainable regional water management outcomes.

(iii) Re-sampling and Analysis of Non-Compliant Trade Waste Fee:

This fee applies if a Trade Waste discharge is required to be re-sampled as a result of a previous non-compliant sample taken by Wannon Water. This charge will incorporate Wannon Water's costs to take the sample, the courier costs associated with the re-sample, the laboratory expense of analysing the sample, and a management overhead of 10%.

(iv) Asset Protection Charge:

This is an annual fixed charge levied to customers who have a Trade Waste Permit and where it is either not practicable or the customer has yet to install a grease interceptor trap or maintain the pre-treatment device to the required standard. The Asset Protection charge is determined at a level that will, over time, allow Wannon Water to recover most of the additional inspection and cleaning costs for sewerage pipelines as a result of allowing the discharge of untreated Trade Waste.

(v) Contravention Charges:

a) Business Rule - Trade Waste – Contravention Charges

"Trade Waste customers not complying with their obligations may be subject to trade waste contravention charges."

Trade Water Contravention Charges may be passed on to the customer to recover costs incurred by Wannon Water for investigating and monitoring contraventions of a Trade Waste Agreement or Trade Waste Permit and facilitating the customer to achieve re-compliance. The Trade Waste Policy outlines the process for dealing with breaches of customer obligations, and the conditions for imposing Contravention Charges.

The level of the penalty will be set to recover costs incurred by Wannon Water and to ensure an appropriate incentive for compliance. Contravention Charges will be included in the final Water Plan submission following completion of modelling.

While these charges are automatically payable to Wannon Water if a customer contravenes a Trade Waste agreement or Trade Waste permit, any additional costs or damages are also fully recoverable by Wannon Water.

Wannon Water's Trade Waste Management Policy, Trade Waste Agreement and Trade Waste Permit are enforceable under the Wannon Water Trade Waste By-Law. The Trade Waste By-Law will come into force from 1 July, 2008. This By-Law will replace the existing trade Waste By-Laws inherited from the predecessor Authorities.

8.9 Tariff Setting Rules

8.9.1 Setting a Benchmark

The process followed to set the tariff structures ensured that the overall revenue from the new tariff structure would be equivalent to the current Essential Services Commission approved tariffs in each of the former water Authority areas.

In order to ensure that the tariff raised was revenue neutral to the organisation, a benchmark model was created in the current billing system which applied 2006-07 prices and approved applicable pricing structures to residential customers. In Warrnambool this was based on 2005-06 water consumption figures, whereas in Portland and Hamilton zones estimates were based on the actual consumption for the first two quarters of 2006-07 year. (This approach was necessary as the prior year's consumption records for individual properties did not migrate to the new billing system employed from 1 July, 2006).

Wannon Water has considered carefully the current level of prices and quantum of revenue by community. The changes in tariff structures have been balanced in such a way that the average user would pay the same gross amount as per the existing tariff for that community. Where specific groups of customers incur significant increases due to changes in pricing methodology, those changes will be phased in over the term of the determination.

8.9.2 Local Prices, Cost Recovery and Price Shocks

The Minister for Water, Environment and Climate Change has indicated that water customers will be expected to cover the real costs of water supply and sewerage services, including the longer-term costs of protecting the environment.

Wannon Water has built its future tariff and price rises around this principle, so that the charges customers face reflect the real costs of supply at a local level. This approach means that customers in low cost areas will not be expected to contribute to high cost areas. Where there has been an underspend in the past, the customers who have benefited from the previous savings should now face the real costs of upgrading their supply.

However, the pricing principles also seek to ensure that customers are not exposed to price shocks. Where customers would face an excessive increase to pay for necessary works, then this Water Plan has capped the maximum acceptable annual price increase at CPI+20%. Costs above this level will be recovered from the wider customer base. While at the other end of the scale, the Plan has established a minimum annual base contribution of CPI+5%.

The prices for each town across the region have been modelled to assess the impact of implementing the proposed expenditure program. The resulting prices fell into four broad price bands. Those bands have been adopted to provide a simpler, more realistic policy to implement.

8.9.3 Impacts on Families in Hardship

A further important consideration is to protect families who currently experience hardship and who may face increased difficulty in paying for their water charges in future. Wannon Water has implemented a structured program to minimise these potential impacts which are linked to our Hardship Policy:

- Wannon Water is developing a water audit program in line with the Department of Sustainability and Environment's *Water Smart Gardens and Homes Rebate Scheme*. Under this program Wannon Water will pay for an audit of high water users in financial hardship and contribute to the costs of retrofitting water saving measures such as low flow shower-heads;
- The tiered water pricing scheme provides the base water demand at a lower unit cost;
- Financial assistance is available through a range of approaches regarding staged payments and opportunities to apply for Utility Relief Grants from the Department of Human Services;
- Where families can demonstrate that they have a genuine financial hardship difficulty in paying their water bills then Wannon Water has devised a bonus credit scheme to share the costs of that bill. Provided that a customer makes three payments in line with an agreed payment schedule, then Wannon Water will make the fourth payment on their behalf.

Through this series of measures Wannon Water will soften the impact of the forecast price rises.

8.10 Revenue Requirements and Price Rises

8.10.1 Setting the Revenue Requirement

The economic regulatory framework administered by the Essential Services Commission determines the revenue requirement of the organisation using the 'building block' method. This defines the level of funding required in each year of the pricing period by reference to three revenue categories:

- **Operating expenditure:** which is recovered at cost, provided it is justified and efficient;
- **Return on capital:** that is the return that a shareholder could expect to receive for investment in the company. This drives efficiency in capital investment; and
- **Depreciation:** this reflects the consumption of an asset in providing service capability.

The sections below outline the revenue requirement for the business as a whole broken out between water and sewerage services respectively.

8.10.2 Revenue Requirement – Water Supply

By far the single largest item of capital expenditure for the Water Plan will be the investment in water supply augmentation for Hamilton. This involves a $29.5M expenditure program. There is also a $3.5M program to supply Coleraine through a pipeline from Casterton.

However, the table below demonstrates that prices are driven largely by continuing operating expenditure rather than by capital costs.

Table 8-5: Revenue Requirement – Water ($M)

	2008-09	2009-10	2010-11	2011-12	2012-13
Capital expenditure	21.54	25.89	6.78	8.06	4.46
Operating expenditure	19.32	18.69	19.65	19.61	19.52
Return on Assets	4.11	4.83	5.28	5.39	5.53
Depreciation	2.59	2.36	2.59	2.56	2.61
Total	**26.02**	**25.88**	**27.52**	**27.56**	**27.66**

8.10.3 Revenue Requirement – Sewerage Services

There is significant investment over the life of the price period in water reclamation plant up-grades and in sewerage schemes. Once again, though, the major driver of revenue is the ongoing annual operating costs of the business.

Table 8-6: Revenue Requirement – Sewer ($M)

	2008-09	2009-10	2010-11	2011-12	2012-13
Capital expenditure	10.18	6.62	6.73	8.31	6.16
Operating expenditure	14.74	13.93	15.02	14.61	14.71
Return on Assets	3.00	3.26	3.64	3.93	4.18
Depreciation	1.90	1.92	2.02	2.13	2.23
Total	**19.64**	**19.11**	**20.68**	**20.67**	**21.12**

8.10.4 Overall Revenue Requirement

Taking these two component elements together generates the following aggregate revenue requirement for the business as a whole. An allowance for corporate overheads is included in the two elements.

Table 8-7: Revenue Requirement – Water & Sewerage ($M)

	2008-09	2009-10	2010-11	2011-12	2012-13
Capital expenditure	31.72	32.52	13.51	16.37	10.62
Operating expenditure	34.06	32.62	34.67	34.22	34.23
Return on Assets	7.11	8.09	8.92	9.32	9.71
Depreciation	4.49	4.28	4.61	4.69	4.84
Total	**45.66**	**44.99**	**48.20**	**48.23**	**48.78**

8.10.5 Shaping the Price Path

Adopting a steady price increase in each year involves significant under-recovery in the first two years of the price period, balanced by over-recovery in the last two years, to ensure an overall matching of costs and revenues over the five year period. That means that prices at the start of the third price period will be higher than strictly required going forward.

This outcome reflects the increase in overall revenue requirement at the start of the second Water Plan and the fact that there was under-recovery of costs during the first price period.

This Water Plan therefore proposes that there should be a step change in prices at the start of the new price period of 20% where appropriate. This then reduces the annual average price increase for the remainder of the price period.

8.11 Miscellaneous Charges

Miscellaneous charges represent fees levied by Wannon Water for the provision of a range of services. Collectively these charges amount to about $468,000 per annum – or something less than 2% of total revenue. Nearly half the revenue is raised from the provision of Information Statements, and a similar amount is raised from water and sewer connections. Hence almost all the revenue is derived from customers as part of the purchase of a new property or in changes of ownership. These fees are very small in comparison to the overall cost of the wider transaction being undertaken by the customer.

Introduction of Common Charges

Wannon Water intends to consolidate the three sets of existing miscellaneous charges from the prior authorities into one set of charges for inclusion in the 2008-2013 Water Plan. As part of the process of determining an equitable price, reference has been made to the miscellaneous charges levied by other water corporations to ensure the proposed prices are comparable. Secondly, the price set per charge will raise a similar amount of combined income as charges set under the 2005 Water Plan determination.

In some instances a charge was only levied in one or two of the merged authority districts. As a basic premise, it has been assumed that the maximum revenue commensurate with the cost of providing the service (plus a small margin) should be applied to each miscellaneous service. In this way, specific users of specialised miscellaneous services provided by Wannon Water will pay for that service rather than being subsidised from the general tariff base.

For all miscellaneous services, documentation will be available to customers to provide:

- A description of the proposed new miscellaneous service;
- The reasons for introducing the miscellaneous service;
- The terms and conditions that will apply to the provision of the new service including relevant application principles;
- The direct efficient costs of providing the new miscellaneous service;
- An estimate of annual sales; and
- The proposed price or the pricing principles that will be used to determine the price for the remainder of the regulatory period.

Wannon Water welcomes the proposal from the Essential Services Commission to establish a common listing of standard miscellaneous services and charges to establish consistency between water corporations.

Financial Impact

Annex F provides a full listing of the proposed miscellaneous charges. The following table provides a high level summary of the key charges along with comparisons of what the three previous water businesses charged and what other water businesses charge for the same or similar services.

It is expected that total miscellaneous charges will raise in the first year $1,697,624. The major components are:

Table 8-8: Miscellaneous Charges ($)

New Customer Contributions – Water	394	$390,000
New Customer Contributions – Sewerage	387	$383,500
Information Statements	4120	$288,400
Fire Service Fees	628	$206,233
Water Tappings	385	$73,379
Trade Waste Services		$102,710
Other		$253,402
Total		$1,697,624

The complete list is reflected in Annex F. The individual prices have been derived on the basis of cost to provide the service plus a small contributory margin.

8.12 Form of Price Control and Adjusting Prices

8.12.1 Tariff Basket Design

It is proposed that charges should be controlled through a set of price caps set within a tariff basket.

A price cap creates incentives on the business to seek efficiency gains in delivering its services while by contrast a revenue cap encourages expenditure up to a pre-agreed limit. A Price Cap also has the advantage that it does not lead to annual adjustments of prices in response to levels of demand.

However individual price caps on specific components of the service package would be a very inflexible form of price control.

Wannon Water inherited three highly differentiated tariff structures, each of which was based on different principles, and which allocated costs and prices according to different rules. A major exercise has been undertaken to simplify these different rules and establish consistent principles across the region. However, those new arrangements are still in their infancy, i.e. the tariff structure is still immature. It is inevitable that there will prove to be anomalies that have been created for small groups of customers who have been affected in unforeseen ways as a result of the tariff reform.

Wannon Water needs to retain the flexibility to amend the relative tariffs of different customer groups to rebalance the recovery of revenue to meet its tariffing principles within an overall price cap.

It is proposed that adjustments between the price caps would be made each year as part of the proposal to the Essential Services Commission seeking approval for tariff levels for the coming year. All changes would be controlled by an overall price cap on the weighted average increase for the group of products and services. Within that any differential adjustment in any year would be limited to 2% above the CPI+X% price cap with a maximum adjustment in aggregate of 5% above the price cap over the five year period.

8.12.2 Variations to the Price Determination

This Water Plan sets out Wannon Water's best professional judgment as to the work programs required to meet the projected demand for services and ensure compliance with external and customer based standards over the period to 2012-13. The plan includes projections as to the costs that are likely to be incurred and the customer charges needed to ensure continued financial viability.

However, there is some considerable uncertainty in projecting forecasts out for a period of six years from the current planning horizon.

Wannon Water will seek a cost pass through for any changes in specified fees and charges such as licence fees from regulators. Wannon Water will determine a full listing of such charges in agreement with the Essential Services Commission.

If costs turn out to be more significant than projected then Wannon Water will attempt to manage this variation within its discretion and managerial capacity by adjusting programs and priorities and seeking efficiencies elsewhere. However, there is a limit to the extent of that flexibility.

Wannon Water will need to seek a variation to the price determination in a number of circumstances:

a) Government Policy Change

In the face of new government policies that create significant impacts on our costs or revenues. The clear example that is currently being proposed relates to requirements for greenhouse gas emission targets and carbon credit trading. A further case is the proposal to require all customers that consume more than 10ML/year to develop and implement a water conservation plan.

If Wannon Water is required to meet targets beyond current proposals this could raise our costs significantly, beyond the point where Wannon Water could make counter balancing adjustments elsewhere. Any such policy initiatives change is likely to impact equally across the sector and trigger an industry-wide review and response.

b) Contract Changes

There is one potential major increase in our costs which has been in the Water Plan, but is outside our managerial control. Wannon Water's main power supply contract comes up for renewal at the end of June 2008. Wannon Water's electricity consultant has indicated that electricity prices will rise in the range between 70% and 120%. Only a very small proportion of Wannon Water's current accounts relates to delivery charges – 95% of current cost relates to energy charges. Consequently Wannon Water has modelled its revenue requirements on the

basis of a 100% increase in electricity prices. Given the enormity of the impact and the uncertainty, it is Wannon Water's intention to endeavour to lock in electricity costs prior to the Essential Services Commission final decision in respect to next price determination for Wannon Water.

c) Security of Supply Issues for Hamilton

There is insufficient information at this point to determine either the costs or prices of this critical project. Wannon Water will have to undertake major works and that costs are likely to be of the order of $30M, but it is unclear at this stage in the planning process which of the two short listed options is the preferred approach. This uncertainty is due to the significant role that other agencies have in the final decision of the Minister, including GWMWater and the Department of Sustainability and Environment. Apart from the engineering and environmental considerations, there are several major economic issues also unresolved. These include the purchase cost of the water right, the annual cost of water, and also the significant power costs required to deliver the water.

Some of these issues may be resolved by the time of the second submission of the Water Plan so details of the project including final costs and work programs could be included as part of the final response to the Essential Services Commission's draft decision early in 2008. However, it may not be possible to gather all information on which to base a well founded pricing determination at that time. Consequently, Wannon Water seeks to reserve the right to reopen the determination in the interests of its customers should there be a significant variation in the cost of augmentation of the Hamilton water supply system.

ANNEX A: Statement of Obligations

This annex expands on the outline provided in Section 6.2 and provides a detailed analysis of the implications of the Clauses of the Statement of Obligation for Wannon Water.

Section 6 Guiding Principles

In performing its functions and providing its services the Authority must:
a) manage water resources in a sustainable manner; and
b) effectively integrate economic, environmental and social objectives into its business operations; and
c) minimise the impacts of its activities on the environment, and
d) manage risk to protect public safety, quality and security of supply; and
e) operate as efficiently as possible consistent with sound commercial practice; and
f) manage its business operations to maintain the long-term financial viability of the Authority; and
g) undertake continuous review, innovation and improvement; and
h) collaborate with other public authorities and government agencies to take account of regional needs

Wannon Water has developed a mission and vision that encapsulates the guiding principles. The mission and vision are as follows:

Vision:

Wannon Water will be a sustainable business meeting the expectations of its communities through focus on economic, environmental and social responsibility, innovation and best use of water resources.

Mission:

Wannon Water provides water and sewerage services that contribute to the sustainable growth, health and well being of the community and environment in the southwest of Victoria.

These formal statements guide the water plan preparation as well as annual corporate plans.

Section 9 Board Performance

The Authority must annually review and report to the Minister and the Treasurer on the performance of the Board of the Authority.

An annual Board appraisal will be prepared in June each year in accordance with guidelines issued by the Minister.

Section 10 Customer and Community Engagement

10.1 The Authority must develop and implement open and transparent processes to engage its customers and the community in its planning processes to ensure, among other matters, that the services it provides reflect the needs and expectations of customers.

Section 5 of this Water Plan describes the processes in which customers and the community are consulted.

10.2 The Authority must:

a) make available to the public, information about the water supply, sewerage and recycled water services it provides; and
b) make available to the public, information about water conservation and the efficient and responsible use of water; and
c) make available to schools in its area, educational material about water conservation and the efficient and responsible use of water, at no charge or, for educational material that involves a significant cost to the Authority, at a charge that covers the fair and reasonable costs of making the material available.

Wannon Water has developed a significant website and suite of information brochures, along with publishing a Customer Charter and Charter summary. Every customer has received a copy of the Charter summary directly mailed to them with their account.

Wannon Water has implemented a significant and ongoing communications and media program associated with the Permanent Water Savings Measures. It has also worked with municipal councils in developing their Sustainable Water Use Plans and will continue to work with these organisations during the implementation phase of the plans.

Wannon Water actively promotes SaveWater! Initiatives within its accounts, website and via the local media.

Wannon Water has developed and implements a school and community education program and provides materials and tours of facilities free of charge.

Section 11 Managing Risks

The Authority must develop and implement plans, systems and processes, having regard to the Australian/New Zealand Standard AS/NZS 4360 - Risk Management to ensure that risks to the Authority's assets or services are identified, assessed, prioritised and managed.

Wannon Water has a Risk Management Policy and strategy that complies with the requirement. The risk management process has been used to prioritise the capital works and operational expenditure programs within this Water Plan.

The Risk Management process was subject to Internal Audit in December 2006 and was found to be robust.

Section 12 Responding to Incidents and Emergencies

The Authority must include in any plan, system or process to manage its risks, measures to deal with emergencies and incidents, including measures to deal with:
a) the disruption of services; and
b) incidents resulting in waste discharges to the environment; and
c) a dam failure; and
d) potential security risks, including but not limited to terrorist attacks.

Wannon Water has developed an emergency management plan. The plan has been developed to identify key risks areas, response and recovery from emergencies. Contingency plans have been developed for:

- Blue-Green Algae Response
- Drought response
- Henty Park Bore Emergency Response
- IT Disaster Recovery
- Otway Wildfire Response
- Power Failure response
- Spills response

A Business Continuity Plan has been developed for the key technology platforms. Capital expenditure has been included in the Water Plan for upgrade the Disaster Recovery facility from a 'cold site' to a site that is capable of restoring technology services within 2 hours.

The following key programs of expenditure are proposed within the Water Plan period.

Description	Purpose	Works Involved	Water Plan Total
Provision of Generator facilities to power various Plant/Facilities	Ensure continuity of services.	Gensets for various Locations including, Fairy St Office, Digby Rd PS, Percy St PS, North & South Otway PS, Pt Campbell, Casterton WTP and Tullich Bores.	$400,000
Disaster recovery and business continuity of technology services.	Resumption on IT services in event of losing the server room at the Fairy St office.	Implementation of backup IT hardware at the disaster recovery room located at the Warrnambool WTP	$252,000
		Total	$652,000

Section 13 Managing Assets

13.1 The Authority must develop and implement plans, systems and processes to manage its assets in ways which:

a) allow the Authority to supply its services sustainably; and

b) maintain the levels and standards of service: (i) specified by the Commission in a Code issued under section 4F of the Water Industry Act; or (ii) included in a Water Plan approved by the Commission; and

c) minimise the overall whole of life costs of assets; and

d) minimise detrimental social, economic or environmental effects of managing its assets.

13.2 The Authority must develop and maintain a comprehensive database of aII relevant asset information, including the condition and performance of its assets.

Asset management decisions are made to be economically viable, environmentally sound, and socially just over the long term

Asset replacements are made to ensure the system is capable of meeting the required levels of service as stated in Wannon Water's Customer Charter.

A key objective of Wannon Water is to look at the lowest long-term cost when making asset management decisions. Overall whole of life cycle costs of assets are minimised by the following strategies:

- Development of service level options and costs
- Forecasting changes in demand for services

- Predicting asset failure timing from condition and performance monitoring
- Undertaking risk assessments
- Analysis of maintenance expenditure to identify optimal planned maintenance levels
- Consideration of the optimal timing of capital works (particularly renewals)

Wannon Water maintains a comprehensive database of relevant asset information, including the condition and performance of its assets.

Current asset replacements are based on failure history and condition assessment. Forward look replacement programs are developed by using expected life of assets and estimating future augmentation requirements.

Section 14 Dam Safety

14.1 The Authority must develop and implement processes to identify, assess, manage, prioritise improvements to, and periodically review the safety of, dams operated by the Authority.

14.2 In developing processes under subclause 14.1 the Authority must have regard to the ANCOLD Guidelines and have particular regard to:

a) prioritising risks posed by the Authority's dams over all dams, components of dams and the types of failure; and
b) giving priority to reducing risks to life above other risks; and
c) basing the urgency of reducing the risk posed by a dam on the relativity of risks to the tolerability limits as defined in the ANCOLD Guidelines; and
d) basing programs for reducing risk on the concept "As Low As Reasonably Practicable" as defined in the ANCOLD Guidelines; and
e) where feasible, progressively implementing risk reduction measures to achieve the best outcomes for the available resources.

14.3 The Authority must develop and implement a dam safety monitoring and surveillance program for each dam operated by the Authority, consistent with the ANCOLD Guidelines.

14.4 The Authority must develop and maintain a comprehensive database of all relevant dam safety information.

14.5 The Authority must prepare and give to the Secretary by 30 June each year a report that contains:

a) a prioritised list of proposed dam safety works identified under clause 14.1 and the dates by which the Authority proposes to complete each of those works', and
b) a summary of the risk profile of; (i) each dam operated by the Authority, at the date of the report; and (ii) each dam on which the Authority proposes to undertake safety works, after those works are complete; and
c) a summary of the overall risk reduction profile of the Authority's dams.

14.6 If for any reason the Authority is unable to undertake any proposed dam safety works identified under subclause 14.1 within the time advised, it must promptly prepare and give to the Minister a report which explains why the Authority is unable to undertake those works and includes any other information requested by the Secretary.

The above obligation to maintain & operate all dams in a responsible manner for the safety of the community is due to the large volume of water in storage and associated risks. Relevant programs have been established to ensure the compliance with the nationally recognised Australian National Committee on Large Dams (ANCOLD) Guidelines 2003.

The following activities have been included in this Water Plan period to maintain compliance with the ANCOLD guidelines:

1. Develop and update annually a risk based categorisation of all "referable" dams to be known as the "Hazard Category" and in accordance with the ANCOLD Guidelines 2003.
2. Annual Inspections of all "referable" dams in accordance with the ANCOLD Guidelines 2003.
3. Maintain all "referable" dams in accordance with the ANCOLD Guidelines 2003.
4. Daily/Weekly visual Inspections are to be carried out on all "referable" dams in accordance with the ANCOLD Guidelines 2003.
5. Update Operational & Maintenance Manuals on a regular basis.
6. Active representation on the Victorian Water Industry's Dams Working Group.

The key projects that have been identified within the Dam Safety Emergency Management Improvement Plan for the Water Plan period are:

Description	Purpose	Works Involved	Water Plan Total
Coleraine - Regrade perimeter drain and line	For surface runoff at the toe of the dam	Upgrading/clearing the existing drain	$20,000
Cruckoor - Refurbish two lower valves	To make jammed valves operational	Replace Valves	$20,000
Donald's Hill Reservoir - Safety handrails	To improve safety	Install handrails on short bridge	$10,000
Donald's Hill Reservoir - Surface drain	To drain runoff and seepage away from toe of the dam	Grading a new surface drain at the gabion wall	$5,000
Glenthompson - Install water level gauge post	To monitor reservoir level.	Replace gauge	$2,000
Hamilton No1 - Investigation of condition of outlet pipe	To ensure serviceability	Asses the condition of existing old infrastructure by Closed Circuit TV.	$10,000
Hamilton No1 - Sleeve outlet pipe	To ensure stability of dam wall	Provisional depending on the condition investigation of the outlet pipe. Slip lining the existing pipe with a new pipe	$100,000
Hartwichs - Remove extension to overflow pipe	To reduce the flood capacity	Remove the extended pipe as it is a risk to the dam	$10,000

Description	Purpose	Works Involved	Water Plan Total
Hartwichs - Strengthen outlet tower bridge	To improve operational safety	Replace outlet tower bridge as it is in poor condition	$40,000
Hartwichs - Investigation of condition of outlet pipe	To ensure dam stability	Assess the condition of existing old infrastructure via Closed Circuit TV	$10,000
Hartwichs - Sleeve outlet pipe	To ensure stability of dam wall	Provisional depending on the condition investigation of the outlet pipe. Slip lining the existing pipe with a new pipe	$100,000
Konongwootong - Provide stabilizing berm and filters	To ensure the stability of the reservoir embankment	Embankment is in poor condition, cracks have appeared on the crest. Seepage has been identified on the toe of the dam. A major upgrade is required. Works will include decommissioning or major works to retain the storage to supply rural customers. Both options have a similar budget.	$500,000
Konongwootong - Investigation of condition of outlet pipe	To ensure dam stability	Assess the condition of existing old infrastructure via Closed Circuit TV	$10,000
Konongwootong - Sleeve outlet pipe	To ensure stability of dam wall	Provisional depending on the condition investigation of the outlet pipe. Slip lining the existing pipe with a new pipe	$100,000
Plantation Road - Safety handrails	To ensure operator safety.	Replace existing handrails as the existing handrails are sub-standard.	$5,000
Plantation Road - Pump out water in tower and seal tower	For improved dam operations	Leakage water needs to be removed and tower sealed to stop leakage	$5,000
Plantation Road - Grating covers for pits	For improved dam operations	A mesh grid is required or handrails for operator protection	$5,000
Plantation Road - Investigate safer operation of intake valves	For improved dam operations	Currently the operation of the valves would require confine space entry.	$10,000
Tank Hill - Repair riprap near crest	To ensure dam embankment stability	Replace rip rap. Currently not enough to be effective	$10,000

Description	Purpose	Works Involved	Water Plan Total
Tank Hill - Safety handrails	For improved dam operations	Replace existing handrails.	$5,000
Tank Hill - Extend spillway chute to beyond embankment toe	To ensure dam embankment stability	Extend the concrete trench at the right abutment of the dam to prevent potential erosion of the embankment.	$10,000
Dales Rd No1 - Safety handrails	For improved dam operations	Install handrails.	$2,500
		Total	$989,500

Section 15 Conserving and Recycling Water and Section 16 Water Supply Demand Strategy

15.1 To implement sustainable water resource management the Authority must develop and implement programs for:

a) assessing and monitoring available water supplies;
b) assessing and monitoring future demands on water supplies;
c) the efficient and effective management of demand for water;
d) reducing leakage and minimising other losses of water from its works to an economically sustainable level;
e) identifying opportunities to substitute, and if appropriate substituting, potable supplies with water from alternative sources that are fit for purpose; and
f) the sustainable use of recycled water

15.2 Programs developed by the Authority under subclause 15.1 must specify objectives to be achieved and measures for monitoring performance in accordance with any written directions issued by the Minister for that purpose.

15.3 The Authority must participate with those of its urban customers, that have been identified by the Authority as being large non-residential water users, to improve water management outcomes, including water conservation, recycling and waste minimisation.

16.1 By 31 March 2007, and within each five years thereafter, the Authority must develop a Water Supply Demand Strategy to identify the best mix of demand measures and supply options for its urban supply systems.

16.2 The Water Supply Demand Strategy referred to in subclause 16.1 must:

a) include water conservation targets; and
b) be developed in accordance with any written guidelines issued by the Department, after consultation with the Department of Treasury and Finance, for that purpose.

The *Water Supply Demand Strategy* will be completed by 31 March 2007 and has been developed in accordance with the Guideline. The following comments address each of the above elements.

Available surface water supplies have been assessed using REALM models and their yield predicted under two different scenarios: 1. the medium climate change scenario established by the CSIRO and adopted by DSE and 2. the continuation of the weather conditions experienced over the last 10 years. The lowest yield from these two scenarios has been adopted for modelling purposes. Monitoring of the supplies will continue using the meters that are in place. Ground water supplies have been assessed against the PAV for each GMA – further work is needed within the water planning period on the sustainability of these resources.

An end use model has been used to project future demand using: population and household projections (based on VFI projections) and major industry projections. Current demand has been climate corrected (using the last 5 years of consumption history) to generate the starting point from which projections are made. Bulk meters are in place to monitor the demand for the various systems and consumption of the various customer classes will be monitored from the customer meter data.

A range of cost effective demand reduction measures are proposed to be implemented during the water plan and beyond to achieve the demand reduction targets (see later for targets). The measures include:

- Inclining Block Tariff for Residential Users
- Sustainable Water Use Plans for Municipalities
- Community Education Regarding Demand Deduction
- Major Customer Water Saving Initiatives
- Permanent Low Level Restrictions on Water Use
- Rural Customer Demand Management
- Leakage Detection and Reduction – Reticulation Networks
- General Indoor Retrofit of Homes
- Metering of all Properties in Hamilton
- Voluntary Installation of Water Efficient Shower Heads
- Water Harvesting From Roofs in New Subdivisions (Warrnambool)
- Reducing Evaporation From Open Water Storages

Substitution opportunities have been identified at Water Reclamation Plants for use on biosolids and screenings wash down, some industrial and nursery uses and watering of parks and gardens in Hamilton. The other significant substitution opportunity is the substitution of water from the Otways with roof water harvested from house roofs in one of the growth corridors of Warrnambool that is then treated at the treatment plant and reticulated to the city.

Sustainable use of recycled water is being pursued through substitution as detailed above at Hamilton and also through irrigation at many of the other Water Reclamation Plant sites. There is the potential for significant use of recycled water from the Warrnambool system that will be further investigated during the water plan.

The objectives of the various measures have been determined and are able to be monitored through the water planning period using customer surveys and data analysis.

Significant savings are projected through conservation measures of the major water customers. The major customers are supportive of the need to investigate opportunities to conserve, reuse, re-engineer processes and develop waste minimisation plans. Wannon Water has staff dedicated to working with major customers to achieve the desired outcomes.

Water conservation targets for residential, commercial and major customers have been developed for each of the organisations systems. These are detailed in the *Water Supply Demand Strategy*.

The following programs of expenditure are proposed within the Water Plan period. This program is direct response to the Section 15 obligation in relation to conserving and recycling water. Other expenditure exists to meet growth in the region.

Description	Purpose	Works Involved	Water Plan Total
Establishment of expanded recycled water infrastructure at various sites throughout Authority (allowance for Cobden, Camperdown, Warrnambool & Hamilton)	Statement of Obligations 15. Consistent with White Paper. To implement elements of the Reclaimed Water Strategy which enable further fit-for-purpose treatment and distribution to customers	Construction of new infrastructure to provide fit-for-purpose reclaimed water for expanded customer base	$1,528,750

Section 17 Metering

The Authority must meter all new water use.

All new customers are required to have a water meter installed.

Section 18 Responding to Drought

18.1 The Authority must:
a) develop and implement an effective drought response plan for each water supply system operated by the Authority; and
b) make its drought response plans available to the public.

18.2 The Authority must review, and if necessary amend, its drought response plans:
a) at intervals of no more than five years; and
b) within twelve months of either: (i) the lifting of any period of restriction imposed under the Authority's drought response plan; or (ii) any major change occurring to works or arrangements for conserving water for, or supplying water to, any water supply system operated by the Authority.

18.3 In times of actual or anticipated shortage, the Authority must provide information requested by the Secretary regarding the implementation of drought response plans in the form and manner requested.

Wannon Water has up to date drought response plans for all its relevant water supply systems. The drought response plans associated with the Grampians, Glenthompson and Coleraine will be reviewed following lifting of current restrictions.

Section 19 Sewerage Services to Unsewered Urban Areas

19.1 The Authority must participate with municipal councils in the development of Domestic wastewater management plans.

19.2 If reticulated sewerage services:
a) have been identified in a Domestic wastewater management plan as the preferred option for improved domestic wastewater management; or
b) have been nominated by the Minister in any Government program,

the Authority must develop a sewerage management plan in conjunction with the Environment Protection Authority and relevant municipal council, and in consultation with the local community that: (i) identifies the preferred types and levels of sewerage services to be provided together with costs and funding options; (ii) identifies priorities and possible timelines for the provision of services; (iii) identifies how the wastewater collected, including biosolids, will be sustainably managed; and (iv) provides for a regular review of the plan and priority areas for sewering.

19.3 Subject to the requirement for capital projects, the Authority must implement any program of works for the provision of sewerage services identified in the sewerage management plan prepared under subclause 19.2 that has been:
a) included in a Water Plan for which the Commission has approved or specified Prices; or
b) included in a corporate plan adopted by the Authority; or
c) approved by the Minister, after consultation with the Treasurer.

19.4 If a program approved by the Minister referred to in subclause 19.3 includes a contribution from the owner of a property for the provision of sewerage services, the Authority cannot recover more than the amount of that contribution from the owner.

Wannon Water is currently working with three sewerage service projects, being with:

1. Glenelg Shire Council for backlog sewerage services located in West Portland,
2. Glenelg Shire Council for new town sewerage services to the Dutton Way, and
3. Moyne shire Council for new town sewerage services in Peterborough.

Both of the above new town sewerage schemes are subject to an $800 cap for customer contributions.

No further backlog or new town sewerage schemes have been identified for this Water Plan period. Wannon Water will continue to proactively work with the Environment Protection Authority and Municipal Councils over the Water Plan period to identify backlog or new town sewerage projects.

Section 20 Sewerage Connection to Properties

20.1 The Authority must not require a serviced property to be connected to the Authority's sewerage works unless the sewerage service has been:
a) included in a sewerage management plan developed in conjunction with the Environment Protection Authority and relevant municipal council, and in consultation with the local community; or
b) provided in the interests of health or the environment after consultation with, and written advice from, the Environment Protection Authority, a municipal council or the Chief General Manager within the meaning of the Health Act 1958.

20 2 The Authority must take aII reasonable steps to ensure that a property provided with a sewerage service:

a) included in a sewerage management plan developed in conjunction with the Environment Protection Authority and relevant municipal council, and in consultation with the Iocal community; or

b) provided in the interests of health or the environment after consultation with the Environment Protection Authority, a municipal council or the Chief General Manager within the meaning of the Health Act 1958,

is connected to the Authority's sewerage works, unless the owner of a property can demonstrate that wastewater can be sustainably reused on site in accordance with guidelines issued by the Environment Protection Authority.

The following table sets out the number of properties yet to connect to significant sewerage schemes previously constructed in Wannon Water's service area.

Town/Scheme	Non Vacant Properties Served	Number of Properties Connected	Percentage of Properties Connected
Allansford	241	234	97.10%
Koroit	523	494	94.46%
Mortlake	532	472	88.72%
Timboon	489	463	94.68%
Dunkeld	263	259	98.48%
Coleraine Road, Hamilton	43	41	95.35%

Wannon Water will continue to work with Councils and customers to identify the reasons for non connection and will require owners to proceed with connection where appropriate or where environmental or health issues arise.

Property owners will be surveyed to ascertain the reasons for non-connection with issues then addressed by Wannon Water in consultation with the owner. Issues of financial hardship and the availability of plumbing contractors to undertake connections will continue to be identified and worked through with customers on a one to one basis.

Section 21 Trade Waste

21.1 The Authority must develop policies and practices to manage trade waste:

a) to protect its sewerage systems, including treatment works and processes, and the health and safety of the public and of people working in or operating those systems', and

b) to minimise environmental impacts consistent with any licence issued under the Environment Protection Act 1970., and

c) improve the quality of trade waste entering its sewerage systems in order to maximise opportunities for the reuse of wastewater and biosolids.

21.2 In developing trade waste management policies and practices, the Authority should be guided by the waste management hierarchy principle set out in section 1I of the Environment Protection Act1970.

21.3 The Authority must develop and implement systems for managing compliance with trade waste agreements between the Authority and customers.

Wannon Water has a trade waste policy that complies with the above requirements. The policy was approved by the Board in January 2007. Key elements of the policy include objectives to:

- protect the environment,
- protect the health and safety of employees and the public,
- maximise opportunities for re-use of reclaimed water and biosolids,
- recover costs associated with providing trade waste services,
- encourage waste minimisation, cleaner production and pre-treatment of higher strength wastes, and
- Promote compliance with agreements, permits and the Trade Waste By-Law.

Section 22 Regional and Local Government Planning

22.1 The Authority must participate in and support the development and implementation of any Regional Catchment Management Strategy or catchment sub-strategy or Regional River Health Strategy which may affect, or be affected by, the Authority's activities.

22 2 The Authority must participate in and support the development and implementation of any municipal planning scheme, Iocal planning policy framework or municipal strategic statement which may affect, or be affected by, the Authority's activities.

22.3 A principal objective of the Authority's participation will be to promote consistency of any strategy or any scheme with its planning and programs for sustainable water management.

Wannon Water has contributed to municipal planning process and regional catchment strategy development in the past and will continue to do so. Effective relationship will fellow planning organisations is mutually beneficial.

Section 23 Research and Knowledge

The Authority must:
a) identify the Authority's research needs;
b) prioritise the research needs identified', and
c) identify how the Authority proposes to meet its research needs.

Wannon Water has developed a comprehensive *Innovation Strategy* which including research needs. This strategy provides for the organisational capacity to deliver improved business outcomes derived from this program.

The core Goals and Objectives identified in the *Innovation Strategy* are prioritised and include measurable timelines for delivery. Implementation of the *Innovation Strategy*, including the identified research needs, will be delivered through a collaborative, outward focussed program managed by dedicated Project Managers within an Innovation and Sustainability team.

Research projects are designed and developed in association with industry peers and relevant research providers to ensure cost effective deliver and maximum uptake of the outcomes.

In collaboration with regional partners such as the Catchment Management Authorities and the Department of Sustainability and Environment, Wannon Water participates in the South West Sustainability Partnership which provides a blueprint for research opportunities and projects.

Identified projects to be undertaken during the water plan include:

- "Reshaping rural and regional urban customer attitudes to water saving and recycling across southwest Victoria" in partnership with the Victorian Water Trust, Deakin University and the Alcoa Foundation,
- completion of a collaborative project investigating the influence of hormones in sewer treatment plants with industry peers and Department of Primary Industries,
- New investigations into priority flora and fauna species occurring on our land base,
- A series of collaborative research projects identified in the *Innovation Strategy*, and including investigations into the sustainability of the Dilwyn Aquifer highlighted in the *Water Supply Demand Strategy*, and
- Membership in Water Quality Research Australia, a collaborative research centre of national application with a focus on drinking water quality, recycled water and relevant areas of wastewater management.

The annual review process for the *Innovation Strategy* includes processes to identify emerging research needs and to initiate projects to meet these needs during the Water Plan period.

The following programs of expenditure are proposed within the Water Plan period.

Description	Purpose	Works Involved	Water Plan Total
Implement Research and Development program identified in Innovation Strategy	Statement of Obligations 23 - Authority must identify how it will meet its research needs	Funding for R&D projects targeted to business needs and identified in updates of Innovation Strategy, to be undertaken by relevant providers Universities, WQRA), maximise investment outcomes.	$500,000

Section 24 Sustainable Management

24.1 The Authority must:
a) in performing its functions, exercising its powers and carrying out its duties, apply the Sustainable Management Principles', and
b) demonstrate in its Water Plan how the Authority proposed to apply those principles.

24.2 In applying the Sustainable Management Principles the Authority must develop and implement programs for assessing, monitoring and continuously improving the Authority's sustainability performance, including:
a) responding to climate change;
b) maintaining and restoring natural assets;
c) using resources more efficiently; and
d) managing everyday environmental impacts; and
must include those programs in its Water Plan.

Wannon Water's *Innovation Strategy* has identified a series of priority Goals and Objectives for continually improving our business performance.

The Strategy includes a focus on responding to climate change through minimising our impacts and implementing options for:

- adaptation and mitigation,
- embedding Sustainability in our daily activities, and
- actively maintaining and restoring our natural assets.

The projects identified in these sections of the strategy are consistent with the Victorian Government's "Our Environment, Our Future" strategy, the *Statement of Obligations* Sustainability Principals, and the principals embedded in our preferred Sustainability monitoring and reporting systems.
Wannon Water will develop a Strategic Plan for reducing greenhouse gas emissions with guidance from the Greenhouse Emissions Reduction Framework. Actions will be developed and delivered through a three year rolling Greenhouse Action Plan. These actions will integrate with natural resource management activities that aim to sustain and enhance biodiversity in and above ground.

All resource management will be integrated and guided by a Resource Management Framework that will include management of everyday waste, energy and chemical use.

Cost neutral projects during the Water Plan period include;

- the embedding of Life Cycle, Ecological Footprint and Greenhouse assessment methodologies in our design and asset replacement processes,
- integration of climate change impacts into development planning, and
- changing our purchasing policies, including the reuse of packaging, and chain of custody assessments of key suppliers.

Major expenditure will include;

- establishment and certification of sustainability monitoring and reporting systems (eg Global Reporting Initiative, Corporate responsibility Index),
- establishment and maintenance of a series of on-ground projects to enhance our natural assets in partnership with our neighbours, DSE and local CMA's, and
- a dual approach to reducing the greenhouse impact of our base energy requirements through green energy purchase and establishment of offsets.

The following programs of expenditure are proposed within the Water Plan period.

Description	Purpose	Works Involved	Water Plan Total
Maintaining and Restoring our Land	Statement of Obligations 24.2 - maintaining and restoring our natural assets. Anticipated Corporate Sustainability principals.	A program of on-ground land management works to maintain and restore priority sites (up to 25ha), including integration of CMA and DSE objectives. Includes Portland Heathland Management Plan. Requires ongoing monitoring of outcomes.	$220,750
Establishment of Greenhouse offsets	Statement of Obligations 24.2 - responding to climate change, managing our everyday environmental impacts	Investment in Greenhouse Gas Emission Offset project to achieve a 5% reduction in Wannon Water greenhouse gas emissions	$560,000
Utilisation of Renewable Energy	Statement of Obligations 24.2 - responding to climate change, managing our everyday environmental impacts	Investment in renewable energy to achieve up to 5% reduction in Wannon Water greenhouse gas emissions. 1% per annum increase for 5 years.	$300,000

Description	Purpose	Works Involved	Water Plan Total
Implementation of Sustainability Assessment and Reporting Framework	Statement of Obligations 24, 25 (Sustainability Systems)	Implement new systems for monitoring and reporting of criteria in Sustainability Assessment and Reporting Framework. Potential for Certification of system, and routine reporting costs.	$165,000
		Total	$1,245,750

Section 25 Environmental Management System

The Authority must develop and implement an Environmental Management System which;
a) must be in accordance with the following standards from the Standards Australia AS/NZSISO 14000 Series of Environmental Management Systems Standards: (i) AS/NZS ISO 14001: Environmental Management Systems Requirements with Guidance for Use; and; (ii) AS/NZS ISO 14004: Environmental Management Systems General Guidelines on Principles, Systems and Support Techniques; but
b) need not be accredited under those standards.

During the Water Plan, Wannon Water will fully implement internationally recognised and industry relevant Sustainability monitoring and reporting frameworks, such as the Global Reporting Initiative and Corporate Responsibility Index.

Funding has been included to achieve certification of these systems to provide independent confirmation to Wannon Water's customer base and stakeholders of the ongoing sustainability performance of the organisation.

To facilitate an appropriate level of environmental performance under these Sustainability Frameworks, our management systems will be upgraded to include the elements of ISO14000 and ISO14004, and additional operations and maintenance procedures, monitoring and research will be implemented to ensure our systems deliver real on-ground outcomes.

Wannon Water maintains an integrated management systems approach, ensuring that our daily activities are constantly considering all relevant aspects and impacts across the whole of the triple bottom line.

Section 26 Blue Green Algal Blooms

26.1 The Authority must report any blue green algal blooms impacting on water supply services to:
a) the Department of Human Services', and
b) the relevant Convening Agency.

26 2 If the Authority is a Convening Agency, the Authority must:
a) develop and maintain on an annual basis a contingency plan for regional blue green algal blooms; and
b) undertake its duties as a Convening Agency in accordance with that contingency plan.

A blue-green algae response plan forms part of the Emergency Management Plan. Wannon Water is the regional convening agent for blue green algae outbreaks.

The response plan includes reporting protocols to the Department of Human Services.

Section 27 River and Aquifer Health and Section 28 Monitoring River Health

27.1 The Authority must manage the impact of its activities on any waterway, aquifer or wetland to minimise environmental impacts on and risks to the aquatic ecosystem.

27 2 When the Authority renews or carries out major works on a dam or existing structure on a waterway, or constructs a new structure on a waterway, the Authority must ensure that;

a) it is renewed or constructed so that; (i) the dam or structure does not pose a barrier to native fish movement; and (ii) water releases do not pose an environmental risk through variations of temperature, dissolved oxygen, sediment, nutrients or other substances; and (iii) adequate offtakes are provided for environmental flows; or

b) if it is not practical to comply with paragraph (a), it is renewed or constructed in accordance with a plan of works approved by the Secretary.

27.3 The Authority must Iiaise with Catchment Management Authorities to ensure that environmental flow regimes are managed to maximise ecological benefits.

28.1 The Authority must monitor the impact of its activities on waterways and wetlands, including the impact of dams on the thermal regime of waterways.

28.2 The Authority must make available to the public:

a) water quality and flow data compiled by the Authority relating to waterways; or

b) if the data is available from a central data agency, relevant contact details for that agency.

Wannon Water recognises its area of influence extends beyond the water source and discharge points and is actively involved with local partnership projects for waterway and terrestrial environments.

Wannon Water maintains an active monitoring and management program to ensure Wannon Water minimise the environmental risks and impacts of our activities on aquatic ecosystems, including aquifers, surface and coastal waters.

Ongoing funding of these programs during the Water Plan period includes;

- ocean monitoring programs associated with our three treated water discharge points at Warrnambool, Portland and Port Fairy, and
- the maintenance of our routine Environment Protection Authority compliance sampling programs.

The major upgrade of the Portland Water Reclamation Plant will help achieve full compliance with the Environment Protection Authority standards for receiving waters during the Water Plan.

Wannon Water's *Water Supply Demand Strategy* has highlighted the need to provide a major augmentation of the Hamilton Water Supply System, and consultation with the Glenelg Hopkins Catchment Management Authority (GHCMA) confirms that this project will deliver improved outcomes for environmental flow regimes in the Grampians surface water systems.

In addition, remedial works at the Konongwootong Reservoir (north of Coleraine) will be completed during the planning period, and the design of these works will include appropriate liaison with the GHCMA to mitigate any identified fish movement and downstream water quality and quantity risks.

Wannon Water's *Recycled Water Strategy* includes a hierarchy to prioritise reuse projects. This hierarchy targets potable, river and groundwater substitution and enhancing environmental flows, to provide regional sustainable water cycle benefits. Funding is included in this Water Plan to deliver three priority recycled water project consistent with this objective.

The establishment of onground management and restoration works for our natural assets during the Water Plan period will include investigations in partnership with the Environmental Protection Agency (EPA) and GHCMA into the potential for recycled water use for reinstatement of wetlands at Bald Hill in Portland, and an appropriate allocation of funds for ongoing monitoring of our success in achieving our specific aquatic targets.

Future research likely under our *Innovation Strategy* includes the monitoring and evaluation of environmental conditions for priority sewerage schemes, such as assessing the beneficial impact on the Curdie's Inlet from implementation of the Peterborough Sewerage Scheme.

Routine reporting of relevant water quality and quantity data managed by Wannon Water will be made available through our website, and linkages provided to other agencies who manage related aquatic information sets.

The following programs of expenditure are proposed within the Water Plan period.

Description	Purpose	Works Involved	Water Plan Total
Maintaining and Restoring our Land	Statement of Obligations 24.2, 27, 28 - maintaining and restoring our natural assets. Anticipated Corporate Sustainability principals.	Ongoing monitoring programs to determine outcomes of program of on-ground land management works to maintain and restore priority sites.	$45,000

ANNEX B: OH&S Obligations

The mandatory legislation at this time is:

Statutory Acts

- Accident Compensation Act 1985
- Accident Compensation (WorkCover Insurance) Act 1993
- Workers Compensation Act 1958
- Accident Compensation (Occupational Health and Safety) Act 1996
- Occupational Health and Safety Act 2004
- Dangerous Goods Act 1985
- Equipment (Public Safety) Act 1994
- Road Transport (Dangerous Goods) Act 1995
- Road Transport Reform (Dangerous Goods) Act 1995 (Commonwealth)
- Mines Act 1958
- Road Management Act 2004

Statutory Regulations

- Accident Compensation Regulations 2001
- Dangerous Goods (Storage and Handling) Regulations 2000
- Equipment (Public Safety) (Incident Notification) Regulations 1997
- Equipment (Public Safety) (General) Regulations 1995
- Occupational Health and Safety (Asbestos) Regulations 2003
- Occupational Health and Safety (Certification of Plant Users and Operators) Regulations 1994
- Occupational Health and Safety (Confined Spaces) Regulations 1996
- Occupational Health and Safety (Hazardous Substances) Regulations 1999
- Occupational Health and Safety (Issue Resolution) Regulations 1999
- Occupational Health and Safety (Major Hazard Facilities) Regulations 2000
- Occupational Health and Safety (Manual Handling) Regulations 1999
- Occupational Health and Safety (Noise) Regulations 2004
- Occupational Health and Safety (Plant) Regulations 1995
- Occupational Health and Safety (Prevention of Falls) Regulations 2003
- Road Transport Reform (Dangerous Goods) Regulations 1997

ANNEX C: Electrical Safety Obligations

Electrical System Obligations (AS/NZS 3000:2000)
Further to the above standard which is the principal standard for systems compliance are another nine standards, two codes of practice, formal rules and regulations and overarching legislation;

Publication	Full Title
Act No.25/1998 Version No. 036	Electricity Safety Act 1998
AS/NZS 3000:2000	Wiring rules (Including Amendment Nos. 1, 2 and 3)
AS/NZS 3001:2001	Electrical installations-Relocatable premises(including caravans and tents and their site locations)
AS/NZS 3004:2002	Electrical installations-Marinas and pleasure craft at low-voltage
AS/NZS 3008.1.1:1998	Electrical installations-Selection of cables. Part 1.1: Cables for alternating voltage up to and including 0.6/1 kV-Typical Australian installation conditions
AS/NZS 3010:2005	Electrical Installations-Generating sets
AS/NZS 3012:2003	Electrical installations-Construction and demolition sites
AS/NZS 3017:2001	Electrical installations-Testing guidelines
AS/NZS 3760:2003	In-service safety inspection and testing of electrical equipment
AS/NZS 4836:2001	Safe working on low voltage electrical installations
Code of Practice for Safe Electrical Work - 1997	Code of Practice for Safe Electrical Work 1997 Low Voltage Electrical Installations
Industry Standard	Industry Standard for Electrical Installations on Construction Sites - March 2002
S.R.No. 49/1999 Version No. 003	Electricity Safety (Installations) Regulations 1999
SIR – 2005	Victorian Service and Installation Rules
Victorian Electricity Supply Industry - Code of Practice	Low voltage (LV) service fuse removal & reinsertion by "Electrician" and "L" & "G" inspector licence holders.
Energy Safe Victoria	Standards for: Isolating and Making Equipment Safe 2004, Testing and Tagging of Equipment 2005

ANNEX D: Schedule of Water & Sewerage Charges

WANNON WATER
PRICES

Variable water, wastewater and tradewaste charges are rounded down to 4 decimal places
All other charges are rounded down to 2 decimal places
* These increases do not include CPI but will be included at the appropriate time.

Tariff and Price Component	*Price ($) (1 July 2008)*	*Year 2*	*PPM Year 3*	*Year 4*	Year 5
1. WATER TARIFFS					
1.1 Urban Residential, Non-Residential and Rural Water Service Charges (per annum)					
Water Service Charge - Group 1 Portland, Heywood and Port Fairy					
0-20mm connection	79.4165	10%	10%	10%	10%
21-25mm connection	118.2337	10%	10%	10%	10%
26-32mm connection	317.6504	10%	10%	10%	10%
33-40mm connection	555.9468	10%	10%	10%	10%
41-50mm connection	873.5581	10%	10%	10%	10%
51-80mm connection	1270.6718	10%	10%	10%	10%
81-100mm connection	1837.2978	10%	10%	10%	10%
101-150mm connection	2566.4206	10%	10%	10%	10%
151+mm connection	3390.1157	10%	10%	10%	10%
Water Service Charge - Group 2 Allansford, Noorat/Glenormiston, Camperdown, Cobden, Koroit, Lismore/Derrinallum, Mortlake, Simpson, Terang and Warrnambool					
0-20mm connection	93.8809	10%	10%	10%	10%
21-25mm connection	139.7680	10%	10%	10%	10%
26-32mm connection	375.5051	10%	10%	10%	10%
33-40mm connection	657.2033	10%	10%	10%	10%
41-50mm connection	1032.6622	10%	10%	10%	10%
51-80mm connection	1502.1036	10%	10%	10%	10%
81-100mm connection	2171.9312	10%	10%	10%	10%
101-150mm connection	3033.8516	10%	10%	10%	10%
151+mm connection	4007.5692	10%	10%	10%	10%
Darlington Service Charge	31.2936	10%	10%	10%	10%
Water Service Charge - Group 3 Balmoral, Caramut, Cavenish, Dunkeld, Glenthompson, Hamilton, Penshurst and Tarrington					
0-20mm connection	115.4747	15%	15%	15%	15%
21-25mm connection	171.9164	15%	15%	15%	15%
26-32mm connection	461.8761	15%	15%	15%	15%
33-40mm connection	808.3684	15%	15%	15%	15%
41-50mm connection	1270.1876	15%	15%	15%	15%
51-80mm connection	1847.6066	15%	15%	15%	15%
81-100mm connection	2671.5030	15%	15%	15%	15%
101-150mm connection	3731.6760	15%	15%	15%	15%
151+mm connection	4929.3610	15%	15%	15%	15%
Water Service Charge - Group 4 Peterborough, Port Campbell and Timboon					
0-20mm connection	207.5566	5%	5%	5%	5%
21-25mm connection	309.0060	5%	5%	5%	5%
26-32mm connection	830.1855	5%	5%	5%	5%
33-40mm connection	1452.9779	5%	5%	5%	5%
41-50mm connection	2283.0613	5%	5%	5%	5%
51-80mm connection	3320.9260	5%	5%	5%	5%
81-100mm connection	4801.8143	5%	5%	5%	5%
101-150mm connection	6707.3911	5%	5%	5%	5%
151+mm connection	8860.1348	5%	5%	5%	5%
Water Service Charge - Group 5 Dartmoor, Casterton, Coleraine, Macarthur, Merino and Sandford					
0-20mm connection	207.9763	20%	20%	20%	20%
21-25mm connection	309.6309	20%	20%	20%	20%
26-32mm connection	831.8643	20%	20%	20%	20%
33-40mm connection	1455.9160	20%	20%	20%	20%
41-50mm connection	2287.6779	20%	20%	20%	20%
51-80mm connection	3327.6413	20%	20%	20%	20%
81-100mm connection	4811.5241	20%	20%	20%	20%
101-150mm connection	6720.9542	20%	20%	20%	20%
151+mm connection	8878.0509	20%	20%	20%	20%

Tariff and Price Component	*Price ($) (1 July 2008)*	*Year 2*	*PPM Year 3*	*Year 4*	Year 5
1.2 Urban Residential Water Volume Charges (per kL)					
Water Volume Charge - Group 1 Portland, Heywood and Port Fairy					
Block 1 (0-438 litres/day)	0.8908	10%	10%	10%	10%
Block 2 (439-822 litres/day)	1.0694	10%	10%	10%	10%
Block 3 (822+ litres/day)	1.6041	10%	10%	10%	10%
Water Volume Charge - Group 2 Allansford, Noorat/Glenormiston, Camperdown, Cobden, Koroit, Lismore/Derrinallum, Mortlake, Simpson, Terang and Warrnambool					
Block 1 (0-438 litres/day)	1.0531	10%	10%	10%	10%
Block 2 (439-822 litres/day)	1.2642	10%	10%	10%	10%
Block 3 (822+ litres/day)	1.8963	10%	10%	10%	10%
Darlington Usage all usage (per kL)	0.3462	10%	10%	10%	10%
Water Volume Charge - Group 3 Balmoral, Caramut, Cavenish, Dunkeld, Glenthompson, Hamilton, Penshurst and Tarrington					
Block 1 (0-438 litres/day)	1.2952	15%	15%	15%	15%
Block 2 (439-822 litres/day)	1.5549	15%	15%	15%	15%
Block 3 (822+ litres/day)	2.3324	15%	15%	15%	15%
Water Volume Charge - Group 4 Peterborough, Port Campbell and Timboon					
Block 1 (0-438 litres/day)	0.9978	5%	5%	5%	5%
Block 2 (439-822 litres/day)	1.1978	5%	5%	5%	5%
Block 3 (822+ litres/day)	1.7967	5%	5%	5%	5%
Water Volume Charge - Group 5 Dartmoor, Casterton, Coleraine, Macarthur, Merino and Sandford					
Block 1 (0-438 litres/day)	0.9998	20%	20%	20%	20%
Block 2 (439-822 litres/day)	1.2002	20%	20%	20%	20%
Block 3 (822+ litres/day)	1.8003	20%	20%	20%	20%
1.3 Urban Non-Residential and Rural Water Volume Charges (per kL)					
Water Volume Charge - Group 1 Portland, Heywood and Port Fairy					
Potable Water (per kL)	1.0694	10%	10%	10%	10%
Non-Potable Water (per kL)	0.8908	10%	10%	10%	10%
Water Volume Charge - Group 2 Allansford, Noorat/Glenormiston, Camperdown, Cobden, Koroit, Lismore/Derrinallum, Mortlake, Simpson, Terang and Warrnambool					
Potable Water (per kL)	1.2642	10%	10%	10%	10%
Non-Potable Water (per kL)	1.0531	10%	10%	10%	10%
Water Volume Charge - Group 3 Balmoral, Caramut, Cavenish, Dunkeld, Glenthompson, Hamilton, Penshurst and Tarrington					
Potable Water (per kL)	1.5549	15%	15%	15%	15%
Non-Potable Water (per kL)	1.2952	15%	15%	15%	15%
Water Volume Charge - Group 4 Peterborough, Port Campbell and Timboon					
Potable Water (per kL)	1.1978	5%	5%	5%	5%
Non-Potable Water (per kL)	0.9978	5%	5%	5%	5%
Water Volume Charge - Group 5 Dartmoor, Casterton, Coleraine, Macarthur, Merino and Sandford					
Potable Water (per kL)	1.2002	20%	20%	20%	20%
Non-Potable Water (per kL)	0.9998	20%	20%	20%	20%
1.4 Rural Water Leasing Surcharge (per kL)					
Infrastructure Leasing Surcharge	1.4520	10%	10%	10%	10%

Tariff and Price Component	*Price ($) (1 July 2008)*	*Year 2*	*PPM Year 3*	*Year 4*	Year 5
2. SEWERAGE TARIFFS					
2.1 Sewerage Service Charges (per annum)					
Sewerage Service Charge - Group 1 Allansford, Koroit, Mortlake, Peterborough and Timboon	536.7170	6%	6%	6%	6%
Sewerage Service Charge - Group 2 Camperdown, Cobden, Noorat/Glenormiston, Simpson, Terang and Warrnambool	423.6706	5%	5%	5%	5%
Sewerage Service Charge - Group 3 Casterton, Coleraine and Hamilton	305.9607	20%	20%	20%	20%
Sewerage Service Charge - Group 4 Heywood and Portland	299.5459	20%	20%	20%	20%
Sewerage Service Charge - Group 5 Dunkeld, Port Campbell and Port Fairy	449.9822	12%	12%	12%	12%

ANNEX E: Trade Waste Volume & Load Charges

All charges below are real charges and it is proposed that they will be subject to CPI adjustment.

Warrnambool sewerage system:

Characteristic	Charge Basis	2008-09	2009-10	2010-11	2011-12	2012-13
Volume	$/kL	0.458	0.464	0.473	0.483	0.489
BOD	$/kg	1.012	1.094	1.262	1.280	1.349
Suspended Solids	$/kg	0.208	0.211	0.214	0.217	0.220
Ammonia	$/kg	0.829	0.939	1.177	1.194	1.285
Sodium	$/kg	tbc[1]	tbc	tbc	tbc	tbc

1 To be confirmed

Hamilton sewerage system:

Characteristic	Charge Basis	2008-09	2009-10	2010-11	2011-12	2012-13
Volume	$/kL	1.033	1.134	1.201	1.249	1.256
BOD	$/kg	1.203	1.635	1.684	1.717	1.742
Suspended Solids	$/kg	0.492	0.696	0.718	0.730	0.738
Ammonia	$/kg	n/a	n/a	n/a	n/a	n/a
Sodium	$/kg	tbc[1]	tbc	tbc	tbc	tbc

1 To be confirmed

Portland sewerage system:

Characteristic	Charge Basis	2008-09	2009-10	2010-11	2011-12	2012-13
Volume	$/kL	0.889	0.911	0.929	1.022	1.253

Camperdown, Casterton, Cobden, Coleraine, Dunkeld, Heywood, Mortlake, Port Campbell, Simpson, Terang, Timboon sewerage systems:

Characteristic	Charge Basis	2008-09	2009-10	2010-11	2011-12	2012-13
Volume	$/kL	1.395	1.445	1.510	1.546	1.563

Modelling for the Port Fairy system is to be confirmed in the next draft of the Water Plan.

Industrial Trade Waste Volume Discharge Factors

0 per cent	25 per cent (SL)	50 per cent (SL)	80 per cent (SL)
BI – Bridge DF – Drinking Fountain DI – Deleted Inst – DOMR DL – Deleted Inst – NOND DR – Drainage Reserve FV – Farms/Vacant GC – Golf Course IN – Incinerator LA – Vacant Land LN – Vacant land – Comm MP – Municipal Pound MS – Median Strip OS – Public Open Spaces PG – Parks & Gardens/Reserves PL – Playground PM – Private Main PT – Plantation RB – Roundabout SP – Standpipe SX – Shower – Public TC – Tennis Court TI – Tip TP – Temporary Tapping TR – Trough WA – Walkway – Public WF – Wharf WW – Wannon Water Property	BG – Bowling Green/Croquet Club BS – Boat Shed CE – Cemetery MG – Market Garden PN – Plant Nursery RC – Racecourse SG – Sporting/Recreation Ground SN – Show Grounds	AF – Airfield CP – Caravan Park/Camping Ground FM – Farms/Animal Husbandry HR – Horse Stables & House SC – School SW – Swimming Pool YC – Yacht Club	AS – Ambulance Station BB – Bed & Breakfast/Guesthouse CH – Church CO – Community Centre CS – Cool Store-Ice Works DH – Doctors Surgery & House FS – Fire Station GM – Mini Golf HL – Hostel HY – Holiday Complex IN – Incinerator KE – Boarding Kennels/Animal Hospital KG – Kindergarten PS – Police Station PU – Public Liability SD – Shop & Dwelling TT – Trotting Track WR – Workshop/Residence
90 per cent (WWA) Household	**90 per cent (SL)**	**95 per cent (SL)**	**95 per cent (SL) continued**
CB – Body Corporate – DOMR DA – Display Home FH – Farm (with house) HO – House RV – Retirement Village UW – Units – Winter Average	AP – Apartment FL – Flat GA – Gaol HF – House & Flat RS – Railway Station TO – Townhouse UT - Unit	AB – Abattoir AG – Art Gallery AQ – Aquarium BD – Briquette Depot BH – Bakehouse BK – Bank BR – Brewery BT – Bus Depot CL – Club CN – Body Corporate – NOND CW – Car Wash/Truck Wash DC – Depot DP – Depot Private DS – Doctors/Dentist Surgery DY – Dairy FA – Factory FP – Food Processing FU – Funeral Parlour HA – Hall – Public/Church/Private HC – Health Centre HG – House with garden meter HS – Hospital Public/Private HT – Hotel/Motel IT – Indoor Sports Centre/Gymnasium IX – Mixed Industry KN – Knackery LB – Laboratory LG – Licensed Grocery LI – Library LY – Laundry ML – Mill MM – Museum MU – Massage Studio	NC – Night Club NH – Nursing Home OF – Office PA – Pavilion PB – Panel Beating Shop PC – Public Convenience PK – Car Park PO – Post Office PP – Photographic Processor PW – Printing Works RD – Recycle Centre RE – Restaurant RF – Refinery RM – Rooms RY – Railway Yard SA – Sale Yards SF – Surf Life Saving Club SH – Shop SI – Signal Station SL – Shed – Commercial SM – Supermarket SR – Showroom SS – Service Station SU – Sub Station SY – Store Yard TE – Telephone Exchange TH - Theatre TY – Timber Yard VS – Veterinary Surgery WH – Warehouse WK – Workshop WL – Wool Processing WM – Woollen Mill WY – Wrecking Yard

Notes:

- Applies to connected properties only.
- Where losses of water occur due to processes carried on in the property or water is not discharged to a public sewer, appropriate adjustments to the trade waste volumetric discharge factor may be made at Wannon Water's discretion.
- Where properties are sub-metered, discharge factors will be adjusted accordingly.
- WWA denotes "Winter Weighted Average".
- SL denotes "Straight Line".

Trade Waste Categorisation

Wannon Water will categorise each trade waste customer into one of 4 different risk management categories according to the trade waste volume produced, the goods and chemicals stored/used on site, the customer's compliance records and the characteristics of the effluent.

ANNEX F: Miscellaneous Charges

MISCELLANEOUS CHARGES		Wannon Water	
Item	**Quantity**	**Unit Rate**	**Revenue**
Sewer Cut-in			
Sewer connection - 150mm mains and below	50	$ 470.00	$ 23,500
Sewer connection - 225mm mains and above	5	$ 600.00	$ 3,000
Sewer Connection Applications			
Residential	350	$ 80.00	$ 28,000
Non-residential	30	$ 120.00	$ 3,600
Sewer Disconnection Applications			
Per application	10	$ 80.00	$ 800
Water Tapping Fees (including fire service connections)			
20mm	350	$ 182.57	$ 63,900
25mm	20	$ 205.07	$ 4,101
32mm	5	$ 334.19	$ 1,671
40mm	5	$ 345.13	$ 1,726
50mm	5	$ 396.23	$ 1,981
75mm	0	$ 1,929.41	$ -
100mm	0	$ 1,929.41	$ -
150mm & above	0	$ 2,479.41	$ -
Water Meter & Dirt Box			
20mm	350	$ 65.92	$ 23,072
25mm	20	$ 219.71	$ 4,394
32mm	5	$ 553.74	$ 2,769
40mm	5	$ 689.98	$ 3,450
50mm	5	$ 1,925.00	$ 9,625
75mm	0	$ 1,951.40	$ -
100mm	0	$ 1,982.20	$ -
150mm & above	0	$ 2,244.00	$ -
Remote Read Water Meter			
20mm	10	$ 183.67	$ 1,837
25mm	5	$ 255.11	$ 1,276
32mm and above		At cost plus 10%	
Water Disconnection Fee			
All sizes	20	$ 100.00	$ 2,000
Metered Hydrants			
Metered hydrant - deposit	0	$ 1,000.00	$ -
Metered hydrant - minimum charge	20	$ 28.00	$ 560
Metered hydrant - 25mm per day	1460	$ 2.20	$ 3,212
Metered hydrant - 65mm per day	2920	$ 4.40	$ 12,848
Metered hydrant - late fee (per day)	5	$ 22.00	$ 110
Volumetric component - non residential price for Warrnambool			
Standpipe Access			
Key deposit	0	$ 200.00	$ -
Minimum charge	5	$ 28.00	$ 140
Access charge per day	500	$ 2.20	$ 1,100
Late fee (per day)	5	$ 22.00	$ 110
Volumetric component - non residential price for Warrnambool			

MISCELLANEOUS CHARGES	Wannon Water		
Item	**Quantity**	**Unit Rate**	**Revenue**
Information Statement			
per item including SMR and asset location plan	4120	$ 70.00	$ 288,400
Special Meter Reading			
per reading	5	$ 40.00	$ 200
Tenant Meter Reading Fee			
per reading on occupation or vacation of property	3000	$ 15.00	$ 45,000
Testing Water Meters			
20mm & 25mm	10	$ 80.00	$ 800
32mm & larger	5	$ 250.00	$ 1,250
Flow Rate Testing			
per test	10	$ 60.00	$ 600
Water Quality Testing			
per test	10	$ 60.00	$ 600
Replacement of Galvanised Property Service Pipe			
Replacement of galvanised property service pipe		At cost	
Maximum charge	10	$ 550.00	$ 5,500
Water Restriction Device (Installation or Removal)			
Business Hours (per connection)	10	$ 60.00	$ 600
After Hours (per connection)	5	$ 120.00	$ 600
New Customer Contributions - Water			
per lot	16	$ 500.00	$ 8,000
per lot	374	$ 1,000.00	$ 374,000
per lot	4	$ 2,000.00	$ 8,000
New Customer contributions - Sewer			
per lot	15	$ 500.00	$ 7,500
per lot	368	$ 1,000.00	$ 368,000
per lot	4	$ 2,000.00	$ 8,000
New Infrastructure Process Fees			
1-5 lots	50	$ 200.00	$ 10,000
6-20 lots	30	$ 300.00	$ 9,000
21+ lots	12	$ 600.00	$ 7,200
Existing Infrastructure Process Fees			
per application	100	$ 150.00	$ 15,000
Agreements - water, sewer, buildover & credit			
per item prepared	50	$ 60.00	$ 3,000
Dishonoured Payment Charge			
per dishonoured payment		Bank charge	
Copy of Drainage Plan			
per copy		At cost	

MISCELLANEOUS CHARGES	Wannon Water		
Item	**Quantity**	**Unit Rate**	**Revenue**
Flow Rate and Pressure Test			
per test including for fire service	10	$ 220.00	$ 2,200
Receival of Effluent			
per application	20	$ 60.00	$ 1,200
per kL	500	$ 15.00	$ 7,500
Trade Waste Services			
Minor Trade Waste Site Inspection	40	$ 100.00	$ 4,000
Minor Trade Waste Application	40	$ 70.00	$ 2,800
Development of Major Trade Waste Agreement	1	$ 2,100.00	$ 2,100
Annual fee - catergory 1	440	$ 100.00	$ 44,000
Annual fee - catergory 2	293	$ 170.00	$ 49,810
Annual fee - catergory 3 (negotiated)			$ -
Annual fee - catergory 4 (negotiated)			$ -
Re-sampling & analysis of non-compliant trade waste (at cost + 10%)			$ -
Asset Protection Charge			$ -
Trade Waste Contravention Charges			$ -
Private Fire Service			
Application fee	10	$ 110.00	$ 1,100
Sealing first fire hose tap	20	$ 37.00	$ 740
Sealing additional fire hose tap	20	$ 4.00	$ 80
Resealing fire hose tap	10	$ 220.00	$ 2,200
Annual service fee - 20mm	0	$ 26.03	$ -
Annual service fee - 25mm	8	$ 38.76	$ 310
Annual service fee - 32mm	20	$ 104.13	$ 2,083
Annual service fee - 40mm	32	$ 182.24	$ 5,832
Annual service fee - 50mm	136	$ 286.35	$ 38,944
Annual service fee - 75mm & above	372	$ 416.52	$ 154,945
Backflow Prevention			
Application fee	50	$ 110.00	$ 5,500
Contravening charges - reporting violation	5	$ 150.00	$ 750
Contravening charges - compliance	5	$ 300.00	$ 1,500
Annual service fee - per device	200	$ 50.00	$ 10,000
TOTAL MISCELLANEOUS CHARGES			**$ 1,697,624**