Kāpiti Coast
Water Conservation Plan

KĀPITI COAST
DISTRICT COUNCIL
me huri whakamuri, ka titiro whakamua

Introduction

He taonga te wai – water is precious.

Kāpiti Coast's population is expected to grow faster than other parts of the Wellington region over the next few decades. The District is already experiencing periods of high demand which will only increase as numbers of residents grow. The Sustainable Water Management Strategy was adopted by Council in 2003. The Strategy included extensive community consultation set some conservation targets which triggered a lengthy investigation of supply options. With the decision now made about how to continue to supply Kāpiti residents with good quality water for essential uses, it is timely to plan how to reduce our non-essential use of drinking water as soon as practicable.

During the consultation process, the community indicated strong support for setting a peak target of 400 lpd. This is still comparatively high but has been developed based on 250 lpd for essential uses and an additional 150 lpd for other purposes. Despite being a fairly generous allocation per head, it will require some serious efforts on the part of the community and Council to achieve it.

In order to reach the target, it will be critical that Council, households and businesses each play their part. The Council has multiple roles role in this as water supplier, reticulation network owner and also as a consumer of water. The Council is committed to reducing its own consumption as rapidly as possible.

.This Plan has been designed to get us to that target consumption rate as soon as we can. It contains a mix of measures and tactics. No one initiative alone will solve the problem but by combining them we believe we will achieve our target objective.

The Plan has a five year timeframe to reach the 400lpd target. The effectiveness of the measures in reducing peak water use will be reviewed in the 2012 Community Plan process. This will enable Council to prioritise resources for the most effective solutions to reach the 400 lpd target.

There is significant scope to reduce this usage in Kāpiti. We look forward to working with households and businesses to achieve our common objective.

Table of Contents

1. Glossary

Extraordinary use: Use of water for purposes other than ordinary use will require a water meter (Refer 9.10 and 9.13 of the 2010 Water Supply Bylaw). The following activity groups shall include but not be limited to:

(a) Domestic – spa or swimming pool in excess of $10m^3$ capacity;

(b) Commercial and business;

(c) Industrial;

(d) Agricultural;

(e) Horticultural;

(f) Viticultural;

(g) Lifestyle blocks (peri-urban or small rural residential);

(h) Fire protection systems other than sprinkler systems installed to comply with NZS 4517;

(i) Out of district (supply to, or within another local authority);

(j) Temporary supply;

(k) Hospitals;

(l) Rest homes;

(m) Schools, Colleges, Technical Institutions;

(n) Recreational facilities; and

(o) Restaurants

(p) Other uses as determined in writing by the Council or by an authorised officer of the Council

Greywater	Water collected from the washing machine and bathroom
lpd	Litres per person per day
Manifold	The Council valve supplying water to the private connection
Non-potable water	Untreated water including greywater, rainwater and groundwater
Ordinary Use	Use of water for domestic purposes and subject to clause 9.5.3 shall include: (a) Water for human consumption; (b) Maintaining sanitary conditions; (c) Garden watering by hand; (d) Subject to compliance with the conditions set under clause 9.7.1, a fire sprinkler system installed to comply with NZS 4517;
Peak water use	The highest daily water use recorded for a water supply in any one year
Point of supply	The pipe tail piece extending from the boundary box, meter or service valve, which marks the change point of responsibility between the customer and the Council, irrespective of property boundaries.
Potable water	The water provided by Council water supply
Private connection	The water connection past the point of the manifold or toby

2. Sustainable Water Use Strategy 2003

The Kāpiti Coast District 2003 Sustainable Water Management Strategy, *Water Matters*, placed considerable emphasis on the need to change the approach to water management and water use within the District.

The Strategy identifies potable water use targets of 400 litres per person per day (400 lpd): 250 lpd for essential water uses and 150 lpd for non-essential uses. Essential use is considered to include water for bathing, drinking, washing of clothes, household cleaning and the flushing of toilets.

The Strategy set a target of 75 litres/connection for water losses (leaks on private connections or in the reticulation network, unauthorised use, take from fire hydrants or unknown connections). Work undertaken in 2010 as part of the Waikanae Water Capacity Project readjusted this figure to 90 litres/person/day.

There is no specific allocation for commercial water use due to little water intensive industry expected in the next 50 years.

Table 2.1 Peak water use for the four local townships

Reticulated Supply System (l/p/day)	2002 – 2003	2003 – 2004	2004 – 2005	2005 – 2006	2006 – 2007	2007 – 2008	2008 – 2009
Ōtaki	1,478	1,144	1,106	1,300	1,012	1,019	1,075
Waikanae	803	736	762	745	811	767	757
Paraparaumu/ Raumati	565	540	613	606	506	662	524
Paekākāriki	580	564	593	640	643	669	606

The Strategy acknowledges the residential targets are generous but that they signal a desire to reduce the use of water in the District. Table 2.1 shows that while the figures include water loss and non-residential use, current use is greater than the target and the Strategy signalled the need for a significant reduction in the current high water use.

Water Matters places equal importance on responsible water use and the supply programme. The strong relationship is evident in the current Water Supply Project where the target of peak use of 400 litres per person per day has formed a fundamental design assumption for the supply project.

In 2003 the following principles were identified to underpin the emphasis on responsible water use:

- formal recognition that water within the District is a finite resource
- realisation that the alternative to responsible water use is increased transportation of water from other catchments, or the Wellington region – which also have an ultimately finite supply
- that seeking water supply from other catchments reduces long term choices and imposes costs for other communities – both local and within the Wellington region. While these costs may be acceptable, they need to be considered with full understanding of impacts and implications for all stakeholders
- that there will be increasing emphasis at the national level on how freshwater resources are used. This will increase scrutiny of environmental and social equity issues as they relate to water use
- recognition that efficient water use will be increasingly imposed from the national level and that there will be impacts on total water resource use in the long term

- a desire to show leadership in an environment of increased pressure on communities to use water efficiently.

In effect, a reduction in demand is the cost of ensuring that the community has maximum flexibility and choice to invest in a balanced and sustainable future. Any investment in responsible water use has the extra benefit of reducing the level of additional supply needed.

The major goals of the responsible water use programme for the District are:

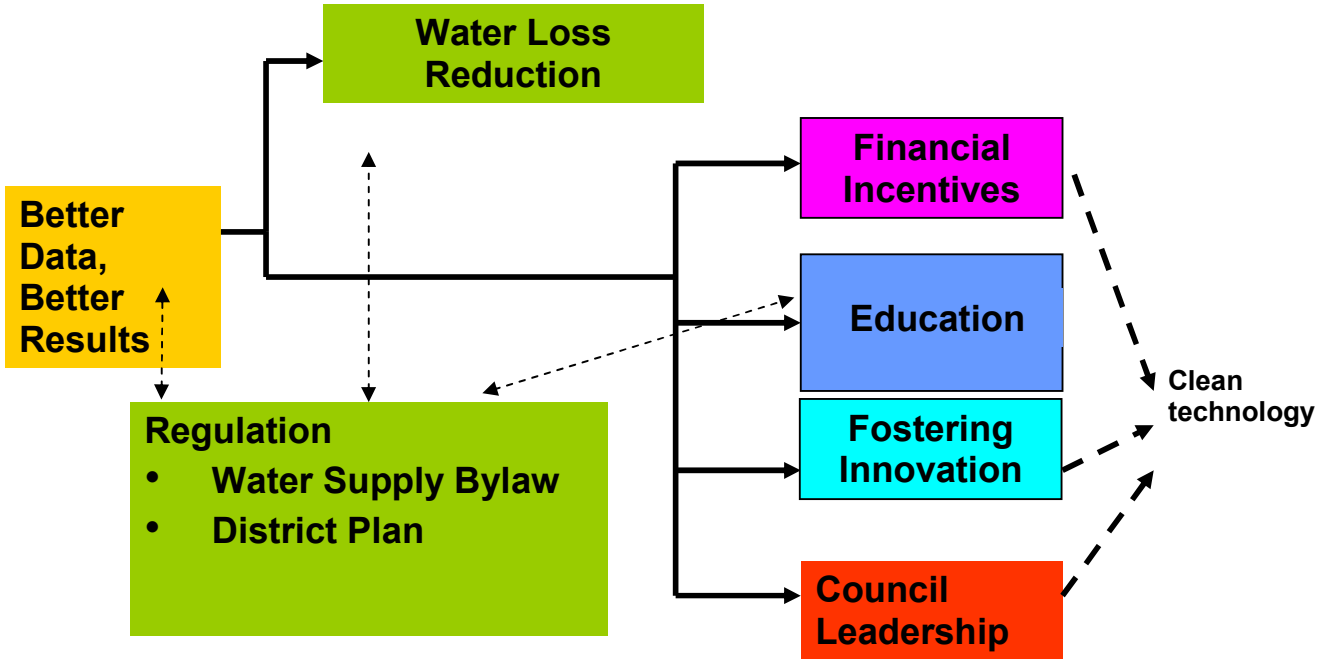
- positioning the community so it can respond to the changing regulatory environment for use of freshwater likely to emerge over the next ten years or so;
- maximising the 'development' choices that are available to the community from its own natural resources, within the capacity of those resources;
- giving people a choice about whether they use more expensive potable water or non-potable water (such as rainwater, greywater or borewater) for different purposes;
- reducing the risk of reliance on single supply sources;
- reducing the need for investment in potable supply systems.

The Sustainable Water Management Strategy signalled a shift away from reliance on potable water supply systems and a focus on more efficient water use. It is this approach which forms the basis for the Water Conservation Plan set out here

3. Introducing the Water Conservation Plan

In the past the different actions of the Council that influence how water is used in the District have not been well coordinated. Independent research by Beacon Pathway,[2] concluded that the most effective way to encourage better water conservation behaviour was to adopt a mixture of approaches comprising regulation, education and financial incentives. The seven action areas of the Plan (see diagram below) address those three approaches and the coordination issue within the Council.

3.1 Water Conservation Plan Action Areas



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[1] Policy Options for Sustainable Homes April 2010

4. Council leadership

4.1 Background

The 50 year Sustainable Water Use Strategy shifted Council water policy from a demand driven approach to one that ensures efficient water use matches investment in increased supply. The Strategy's targets have been incorporated into the 2009 LTCCP.

How well our water supplies meet current and future needs, depends on how residents, the local businesses and the Council manage their water use.

Council's leadership role in achieving the aims of this strategy include coordination of measures to reach the 400 lpd target, informing and educating the community as to how it can play its part, and modelling best practice in its own water use.

4.2 Objectives

- Provide a coordinated water conservation regime that uses resources effectively to reach the 400 lpd target
- Community supports the Council direction in managing water
- Ensure the community has good information and advice on water conservation alternatives
- Asset Management Plans for Council facilities and services meet industry best practice for water use

4.3 Strategies

4.3.1 Keeping the community informed

Water Conservation is an important communication area for the Council. In the spring and summer period the Council invests considerable resources keeping the community informed on the water situation and steps people can take to manage their water use.

Since 2003 water use has never exceeded the total supply capacity limits but there is an increasing risk that until the new supply is built, a hot summer such as 2008 may push consumption past allowable daily limits. It is critical over the next five years that the community is kept informed on the water situation and that they have the right resources to manage their water use.

Each year the Council will review:

- How the Council manages water restrictions so residents have enough opportunity to prepare before water restrictions change.
- Best ways to promote the Council incentives for the community to invest in water conservation.
- How to improve promotion of Council water conservation advice services. The Green Plumber and Green Gardener programmes play an important advisory role and annual review will investigate the best way to promote their services.

- How to ensure people who have settled from outside the district are aware of the water conservation values in the Kāpiti Coast and where they can obtain more information.

- How to incorporate local community knowledge into promotional material. The Council will invite locals to share expertise on good practice for local conditions.

- How the Council publicises its internal water conservation measures. It will be important to show what actions the Council is taking to ensure the assets and services it manages are using water efficiently.

- How to keep the community informed on progress towards the 400lpd target.

The annual water conservation work programme will be produced by Labour Weekend in October each year and a final report on the results will be produced by the following June.

4.3.2 Quality advice and information

Reaching the water use targets will require local residents to take action in managing their water use. Beacon Pathway[3] noted that providing professional advice that people can trust is an important part of any community scheme.

The Council will continue providing water conservation information and advice to assist residents to make choices that suit their circumstances.

Some of these activities will include:

- The Green Plumber: advice on fixing leaks and water savings in the home. The Green Plumber will play an important role in providing advice to residents and businesses that are required to repair a leak under the Water Supply Bylaw 2010.

- The Green Gardener: advice on efficient water use outdoors. The Green Gardener will play an important advisory role for residents who make seek funding for a non-potable system.

- Sustainable Home and Garden Show – a place to obtain good advice, good ideas and suitable water saving products for the home and garden. This event will provide an ideal market for residents to find a good price for any non-potable systems being offered under the financial incentive discussed in Chapter eight

4.3.3 Reduce Council's own water use

Council will meet the water-related levels of service included in its Asset Management Plans.

The Council has Asset Management Plans (AMP) that amongst other things demonstrate how the Council infrastructure assets will be managed to meet the expected levels of service and the cost of the service (the price/quality relationship). The AMPs are updated regularly to reflect the community expectations around identified levels of service.

The following group of assets are significant users of potable water:

- Waste Water Treatment Plants and network;
- Water Treatment Plants and network;
- Open Space and Leisure (includes some sports fields and facilities, swimming pools, and parks and reserves); and
- Property (includes Council offices, libraries, toilets and halls)

Using water responsibly was identified as an important issue in the LTCCP. The Council is a large user of water and it is important that it leads by example and models the sustainable water use direction of Council policy. The Council makes efforts to use water efficiently in each area and this plan signals a consistent approach to water conservation across all asset groups.

[2] Policy Options for Sustainable Homes April 2010

As each AMP is reviewed, there is an opportunity to formalise water conservation as an important objective in the relevant plans. The Council will:

- Ensure relevant AMPs include objectives to use water in a manner that meets industry best practice
- Investigate how the Council charges itself for water consumed to enable investment in water saving measures. This may include internal billing water charges
- Undertake water audits to identify, prioritise and budget for water saving measures in existing assets
- Budget for water efficient technology as current assets come up for renewal or new assets are being developed.
- Ensure water conservation measures are cost effective

4.4 Work Programme

1. Council Leadership Activities	Target date	Budget expenditure					Delegated Officer	Performance Indicators
		2010/11	2011/12	2012/13	2013/14	2014/15		
Keeping Community and Council Informed								
Develop reporting processes to track progress of each Action Area and for the Water Conservation Plan	March 2011	*	*	*	*	*	Water Use Coordinator	Target date achieved Progress is easily and accurately reported Reports enable next steps to be identified
Water conservation communication prepared	October	*	*	*	*	*	Water Use Coordinator	Target date achieved Community reports messages widely received and understood (through triennial survey)
Run cost effective summer campaign	October – March	$10,000	$10,000	$10,000	$10,000	$10,000	Water Use Coordinator	Budget achieved Community reports messages widely received and understood (through triennial survey) Peak use reduces compared to a similar summer
Develop and maintain public water conservation material (incentives, handouts, website)	Ongoing	$10,000	$10,000	$10,000	$10,000	$10,000	Water Use Coordinator	Community reports messages widely received and understood (through triennial survey)
Investigation and analysis	Ongoing	$15,000	$20,000	$20,000	$20,000	$20,000	Water Use Coordinator	Work completed on time and budget
Community advice								
Green Plumber	Ongoing	$20,000	$20,000	$20,000	$20,000	$20,000	Water Use Coordinator	Number of visits to households and businesses maintained Number of water leaks resolved Volume of water saved 90% or more customer satisfaction rating (evaluation form) is good or very good

Green Gardener	Ongoing	$15,000	$15,000	$15,000	$15,000	$15,000	Water Use Coordinator	Number of advisory visits to households and businesses 50% or more of households visited continue with water savings initiatives after 6 months (follow up email) 90% or more customer satisfaction rating (evaluation form) is good or very good
Sustainable Home and Garden Show	Yearly	$20,000	$20,000	$20,000	$20,000	$20,000	Water Use Coordinator	5000 visitors to the show each year Community reports Messages widely received and understood (through triennial survey)
Council water use								
Relevant asset management plans contain water conservation objectives	June 2011	*	*	*	*	*	Asset Managers	Target date achieved % savings achieved
Review how Council charges itself for water use to encourage investment into water conservation	June 2011	*	*	*	*	*	Risk and Asset Manager	Review completed on time
Annual water audits undertaken to prioritise cost effective measures	Ongoing	*	*	*	*	*	Asset Manager	Number savings initiatives put in place % savings achieved year on year

* Costs met from existing budgets

5. Better data, better results

5.1 Background

With an improved understanding of how water is used in each water supply area, the Council and the community can target conservation measures and more effectively assess progress towards the consumption targets.

Reaching the 400 lpd target will require first identifying where savings can be made through understanding water use in each network. Continued data collection will enable assessment of the cost effectiveness of programmes to reduce water use.

Improving monitoring and reporting of water use

Currently the Council can only monitor water use from meters on each reservoir. While this allows the Council to have some understanding of trends in overall water use and water losses in each network, the information is not accurate enough to separate residential use from extraordinary use or water loss.

Without a clear understanding of where water is being used, how it is being used or where it is being lost it is difficult to prioritise water conservation actions that can lead to the 400 lpd target.

Further, the Council often runs residential and business water conservation actions in tandem and as the Council cannot accurately separate out water loss from residential or commercial use, it is difficult to assess the effectiveness of each action.

The **better data, better results** action area will identify information gaps in monitoring water use in each network which are preventing the Council identifying and prioritising actions to reach the 400 lpd target. The **better data, better results** action area will also ensure the Council can assess the effectiveness of the different water conservation measures to ensure resources are being used effectively to reach the 400 lpd target.

5.2 Objectives

- Develop an accurate understanding of where water is being used, how it is being used in each water supply catchment
- Identify savings opportunities for each water user group (residential, water loss and extraordinary users) for targeted campaigns and identify areas for active leak detection and repair
- Gather information to enable reporting on trends and progress towards the 400 lpd target

5.3 Strategies

5.3.1 Zone metering network

The Council will install zone meters in each network to track water use.

Monitoring water use at the zone level will allow the Council to:

- Understand water usage within each zone of a water network.
- Target zones with higher water loss profiles for more effective leak reduction.
- Quickly identify major water loss events as they happen and more efficiently follow up with targeted leak detection.
- Identify which zones are meeting the 400 lpd target and which zones could benefit from targeted water conservation programme.
- Assess if a targeted programme either at the network or zone level had any impact on reducing water use towards the 400 lpd target
- Make communication more relevant by shifting from township level to zone level.

5.3.2: Understand extraordinary and normal residential water use

To make zone metering effective normal residential and extraordinary water use in each zone needs to be quantified.

Extraordinary Use

The 2010 Kāpiti Coast District Council Water Supply Bylaw defines extraordinary use as the use of water for purposes other than ordinary use. It also includes swimming pools greater than $10m^3$.

The Regulation Action Area (Chapter 7) explains in detail how the Council will be managing extraordinary water use. The data collected from managing extraordinary use will be useful for better understanding of the water use profile of each township and each zone.

This initiative will help identify the benchmark water use from each group of extraordinary water users and identify opportunities to tailor water saving programmes. The cost of installing and reading the meter will be passed on to the user.

Normal residential use (Water Use Monitoring Programme)

Currently the Council has limited information on residential water use patterns. This makes it difficult to understand how much of the total base water use is residential use and how much is unaccounted use.

The Water Conservation Plan proposes to determine residential use by monitoring water use from a sample group that reflects the wider residential use. A number of multiple unit domestic property flow meters will be fitted throughout the district and monitored as part of this programme. The Council will also seek volunteers from the community to install meters to monitor their usage. This information will provide a better understanding of both the volume and patterns of residential water usage specific to the Kāpiti Coast District.

The programme will also conduct work that will enable the Council to assess how effective actions have been at reducing water use at the zone and town supply level. As residential use is understood and accounted for in each zone, the Council can subtract this from total usage to better determine the level of water loss in each zone and the supply at large.

The multi property meters will be installed at the street level (not on individual connections) and the water use data will be averaged over the number of connections being supplied through the water meters. Streets totalling 350-400 households will be monitored to reflect the wider community.

The Council will also seek permission to monitor water use from individual households who have installed water saving technology. The water use from these households can be compared to the averaged data from the Water Use Monitoring Programme to see how effective the water saving technology is at reducing demand. Particularly useful date can be expected from households that comply with Plan Change 75, households that have installed an on-site water supply through the incentives programme or households trialling a technology through the innovative grant process (Chapter 10 Innovation).

5.4 Work Programme

Water Loss Reduction ***Activities***	**Target Date**	**Budgeted expenditure**					**Delegated Officer**	**Performance Indicators**
		2010/11	**2011/12**	**2012/13**	**2013/14**	**2014/15**		
Management of programme (leak detection, pressure reduction, private leaks)	Ongoing	$85,000	$85,000	$85,000	$85,000	$85,000	Water Asset Manager	To be developed in the Water Reduction Action Plan
Project costs for external contractors providing assistance on large scale leak detection projects	Ongoing	$20,000	$20,000	$20,000	$20,000	$20,000	Water Asset Manager	To be developed in the Water Reduction Action Plan
Pressure Management Projects	Ongoing	$10,000	$10,000	$10,000	$10,000	$10,000	Water Asset Manager	To be developed in the Water Reduction Action Plan
Reactive Maintenance	Ongoing	$25,000	$25,000	$25,000	$25,000	$25,000	Water Asset Manager	To be developed in the Water Reduction Action Plan
Installing Pressure Regulating Valves	Ongoing	$25,000	$25,000	$25,000			Water Asset Manager	To be developed in the Water Reduction Action Plan

6. Reducing wastage in the water supplies

6.1 Background

In 2010 the Council introduced an operational Water Loss Reduction Strategy (WLRS) to manage water loss in each reticulation network. The purpose of this is to recognise the value of the Kāpiti Coast's precious water resource and support the Council Leadership Action Area. Together with other initiatives it will enable Council to manage its water supply infrastructure in a responsible and sustainable manner.

The WLRS is a three year programme that commenced in the 2009/10 financial year. In 2010/2011 the Council will develop a Water Loss Reduction Implementation Plan. The Implementation Plan will provide a timeline with critical milestones and details the work plan for implementing the water loss reduction strategy for Kāpiti Coast District Council (KCDC).

The Water Loss Reduction Strategy and the Implementation Plan will be added to the KCDC Water Asset Management Plan (AMP). This will demonstrate the ongoing commitment of the Council to the Water Loss Reduction Strategy and provide funding and resources to ensure the success of the programme.

6.2 Objectives:

1. Reduce residential peak water demand to 400 lpd by 2012/13. The acceptable target for water loss and commercial use is 90 lpd.

2. Minimise water supply losses to environmentally and economically sustainable levels in line with New Zealand best water management practice

3. Provide clear information on how well Council is managing water loss within the local water supply infrastructure.

6.3 Strategy

6.3.1 Develop and implement the water loss action plan

As the zone and street meters are installed and Council gains better understanding of the level of water loss in the network and on private connections, the Council will set targets to reduce water loss to industry best practice. The action plan will cover:

- Monitoring and Reporting: Provides a methodology for monitoring, improving and reporting water loss in each network. Real water losses for each network are to be measured and reported to Council (as discussed in the better data, better results action area).

- Pressure Management to reduce water losses and rate of defect occurrence in the distribution system, implemented gradually over the next 3 years. This will include installing pressure reducing valves in each network to minimise leakage through reducing high night time pressures.

- Active Leakage Management to control, target and prioritise areas with greatest potential for water loss reduction. This will include remedying leaks in the reticulation network and requiring leaks on private connections to be repaired through the Water Supply Bylaw 2010 process (Chapter 9 Regulations Action Area).

- Quality Material and Repairs: The Council will:
    a. Maintain the speed and quality of repairs and materials to minimise water loss from bursts and background leaks.
    b. Ensure quality assurances processes are in place to minimise future defect occurrence (this may include faulty products or incorrect installations),

c. Monitor condition of current assets

- Effective asset management and water management initiatives to manage water losses through a whole life cycle approach. This will include pipeline material selection and construction standards to minimise risks of water losses

The work programme for each year will be included in the annual plan process and reported part of the overall water conservation plan reporting on reaching the 400 lpd goal.

6.4 Work Programme

Water Loss Reduction ***Activities***	**Target Date**	**Budgeted expenditure**					**Delegated Officer**	**Performance Indicators**
		2010/11	**2011/12**	**2012/13**	**2013/14**	**2014/15**		
Management of programme (leak detection, pressure reduction, private leaks)	Ongoing	$85,000	$85,000	$85,000	$85,000	$85,000	Water Asset Manager	To be developed in the Water Reduction Action Plan
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Reactive Maintenance	Ongoing	$25,000	$25,000	$25,000	$25,000	$25,000	Water Asset Manager	To be developed in the Water Reduction Action Plan
Installing Pressure Regulating Valves	Ongoing	$25,000	$25,000	$25,000			Water Asset Manager	To be developed in the Water Reduction Action Plan

7. Regulation

7.1 Background

The Council is responsible for providing potable and reliable water supplies to the Ōtaki, Hautere, Waikanae/Paraparaumu/Raumati (WPR) and Paekākāriki communities. The Sustainable Water Use Strategy (the Strategy) outlines the demand management approach the Council uses to ensure the supplies will meet the reasonable needs of each community for the next 50 years.

The success of the Strategy relies on residents and local businesses using water responsibly. The Council has taken a proactive approach in encouraging better water use practices through:

- offering free expert advice to local residents on resolving leaks on private property and water efficient garden practices
- seasonal promotions on water efficient products
- regular communications during high demand periods

While these measures offer support, regulations are needed to ensure:

- water use in high demand periods stay within consented daily limits
- leaks on private connections are resolved in a timely manner
- extraordinary users use water efficiently
- future development uses water sustainably

7.2 Objectives

- The Water Supply Bylaw 2010 provides a backstop for the Council water demand management programme
- The Water Supply Bylaw 2010 provisions are supported by the community as reasonable measures
- The District Plan provides measures to ensure future development uses water sustainably while keeping risks to public health and the environment to an acceptable level

7.3 Strategies

The following strategies will be used in relation to regulation:

1. The Council will use the District Plan to:
   - ensure water use from new residential development meets the peak 400lpd target
   - ensure on-site water supplies provide sufficient water while keeping risks to the environment and public health to an acceptable level
   - allow for innovative solutions as they develop
2. Develop a Greywater and Rainwater Code of Practice to support the District Plan Requirements
3. Use the Water Supply Bylaw to regulate and control water consumption

7.3.1 Use the District Plan

The Council will use the District Plan to ensure future homes will meet the 400lpd peak target and the Kāpiti Coast District Council Water Supply Bylaw to ensure water use from each home does not exceed the 400lpd target.

In 2009 the Council adopted the provisions in Plan Change 75 to require all new households in reticulated water supply catchments to include on-site systems for non-potable water for toilet flushing and outdoor use.

The three options for new households are:

- 10,000 litres of rainwater storage for supplying toilets and outdoor taps; or
- 4,000 litres of rainwater storage for supplying toilets and outdoor taps in conjunction with an approved greywater system for outdoor irrigation; or
- applicants may propose an alternative solution that differs from either of the above options through the restricted discretionary consent process.

At the time of writing this Water Conservation Plan, Plan Change 75 is being appealed to the Environment Court. Subject to the result of the appeal the Council will continue to require all new homes to comply with the District Plan provisions.

The use of on-site water to supplement town water can increase the risk to public health and the environment. The Council follows best practices developed in Australia and New Zealand to manage these risks but there are areas where knowledge can be improved.

The Council has undertaken work with Environmental Science and Research (ESR), a crown research institute offering operational science and research services, to investigate the risks around greywater reuse on local soils. The Council will build on this work to guide how it manages and regulates greywater reuse on the Kāpiti Coast.

The Council is also concerned about the impact wide scale use of sand trap bores may have on the environment, particularly in areas near the coast and wetlands. Currently there is little knowledge of how bore water use affects the water table. Managing the effects of bores is a responsibility of Greater Wellington. The Council will be encouraging Greater Wellington Regional Council to undertake a more comprehensive study of the shallow groundwater bores. This information will inform decisions on the role bores may play in meeting the District Plan requirements for reducing potable water use in new residential developments.

The District Plan is being reviewed. This presents an opportunity for the Council to investigate whether water saving requirements can be used for proposed commercial and industrial developments. It will also assess whether other technologies that meet the aims and objectives of the District Plan can be incorporated as a permitted activity.

7.3.2 Develop a Greywater and Rainwater Code of Practice

The Council is developing a Greywater and Rainwater Code of Practice to support the District Plan. This will outline the key performance requirements for systems used on the Kāpiti Coast to comply with the District Plan and Building Code. The code will be supported by ongoing scientific research to ensure the barriers are suitable to keep risk to an acceptable level.

The Greywater and Rainwater Code of Practice will establish a process for appraising and assessing innovative solutions for compliance with the District Plan requirements and the Building Code. The Greywater and Rainwater Code of Practice can also be used to provide guidance for any innovative products arising from the **Financial Incentive** action area (Chapter 10)

7.3.3 Water Supply Bylaw 2010

The Kāpiti Coast District Council is responsible for the supply of potable water throughout the District. In order to ensure that there is a safe and sufficient supply of fresh water to new and existing residents the Council uses the Water Supply Bylaw to regulate and control water consumption.

The Water Supply Bylaw 2010 is an important element in the Council's proposed Water Conservation Plan. The Bylaw provides an enforcement mechanism to ensure water users on the reticulated network use their water responsibly. While education, advice and incentives all play an important role in developing good water conservation practices in the community, without a bylaw there is no means to enforce Council's commitment to managing water use.

The four key areas of the Water Supply Bylaw 2010 that specifically support the water conservation plan are:

1. Identifying, limiting and restricting water use activities that are unsuitable during high demand or drought periods.

2. Setting a clear expectation that all reticulated water users must comply with notified water restrictions;

3. Passing on a duty of care to reticulated water users to ensure that their connection and plumbing is kept in a good state of repair so that water is not wasted; and

4. Providing the Council with a means to identify, measure and charge extraordinary users who consume over 350m3/year.

Managing water use in high demand periods

As mentioned in the Council Leadership action area the Council will continue running an annual Summer Water conservation campaign that covers later spring through to early autumn. An important element of this will be how the Council implements, communicates and enforces water restrictions so that:

- Residents have enough warning to adjust their behaviours before water restrictions change.

- Council is clear about how it will enforce water restrictions if there is persistent wastage from any connection.

- There are opportunities for businesses and households to demonstrate their actions are sufficient to be exempted from the water restrictions. The exemptions will include operating irrigation systems, laying lawns or topping up swimming pools. Any exemption will contain conditions to ensure the savings are achieved. For example conditions for an irrigation exemption would require a water timer, the use of mulch to minimize water loss and days can be used.

The Council will produce a summer water conservation work programme that outlines the procedures for managing summer water use. There is an opportunity to involve key interest groups from the community to ensure the water restrictions are fair and understood. Working with key groups also offers the chance for the summer water conservation campaign to be flexible enough to meet people's expectations while still progressing towards the 400lpd target.

Council officers will provide updates to Council throughout the summer and the effectiveness of the summer campaign will be included in a final report mentioned in 4.3.1 in the following June.

Requiring leaks on private connections to be repaired

As part of the levels of service agreed with the community, the Council maintains the water supply network to the household manifold or toby. The water supply from the toby/manifold to the household is the property owners' responsibility.

The Council will continue with leak detection as part of the Reducing wastage in water supplies action area (Chapter 6). The Council will require private property owners to fix any leaks identified.

Private property owners will be notified in writing and required to fix private leaks within 21 days. Properties with unusually high water use / private leaks will be identified when Council carries out leak detection ground surveys. Where needed, the Council will place a meter on the manifold to monitor the water loss and to ensure that the leak has been repaired.

The Green Plumber offers free assistance to ratepayers by visiting the property to try and find the source of the leak and recommend what will be needed to resolve the leak.

If the leak is not repaired within the 21 day period the Council will follow up with enforcement options.

The Council will keep records of the amount of water loss identified on private leaks, the amount of leaks repaired and include these into the annual report to the Council .

Managing Extraordinary water use

While the Council already meters approximately 960 extraordinary connections, not all extraordinary users are metered, particularly domestic spas or swimming pools over $10m^3$. Also many meters are only read on an annual basis making it difficult to understand their impact on peak demand. The Water Conservation Plan proposes that all extraordinary users are metered over the next two years and read every quarter.

This initiative will help identify the benchmark water use from each extraordinary group, such as swimming pools, schools, hotels, etc and identify opportunities to tailor water saving programmes

If users do not have a meter they will be charged for the cost of the meter installed. Extraordinary users will receive a water allocation of $350m^3$/yr as part of their rates but if they use more than $350m^3$ they will be charged for the water consumed at the current rate.

Meters will be read and invoiced on a quarterly basis.

7.4 Work programme

Regulation ***Activities***	**Deadlines**	**Budget**					**Delegated Officer**	**Performance Targets**
		2010/2011	**2011/2012**	**2012/2013**	**2013/2014**	**2014/2015**		
District Plan								
District Plan review	June 2012						Sustainable Development Manager	On time and budget
Develop an online greywater risk assessment tool	June 2011	$5,000					Water Use Coordinator	On time and budget
Develop a Greywater and Rainwater Code of Practice	June 2011	$10,000					Water Use Coordinator	On time and budget
Shallow Groundwater Study	June 2013						Greater Wellington	On time and target
Water Supply Bylaw 2010								
Project to fully meter extraordinary users	Ongoing	$65,000	$65,000	$65,000	$30,000	$30,000	Water Technical Officer	On time and budget
Water Restrictions (costs part of summer campaign)	Ongoing						Water Use Coordinator	

8. Financial Incentives

8.1 Background

During the summer months, residential outdoor water use adds significant demand to public water supplies. Reaching the 400lpd target will require changes in how people use water outdoors.

Encouraging more efficient outdoor water use is a key focus of the Council's water demand management programme and has included:

- Limiting high water use activities through water restrictions
- Promoting water efficient garden practices in the local media and at community events such as the Sustainable Home And Garden Show
- Providing advice through the Green Gardener programme

8.1.1 Encouraging up take of on-site non-potable supplies

Existing measures have helped keep demand within the daily allowable limits for each water supply. However, in each supply area demand is still exceeding the peak target of 400lpd.

The Sustainable Water Use Strategy (2003) recognises the role non-potable systems can play to relieve high demand on town water supplies by substituting potable water for uses such as toilet flushing or for outdoor use. In the Waikanae/Paraparaumu/Raumati (WPR) area, the strategy set a target that 80% of households by 2013 would have access to a non-potable supply.

In 2008 the Council initiated changes to the District Plan to require new households in urban areas to install non-potable supplies for toilet flushing and outdoor uses. This will ensure that up to one third of the 2050 building stock will use water at the 400 lpd target.

However, for homes built before 2008 there has been low uptake of non-potable systems. The Council surveyed residents at the 2008 Sustainable Home and Garden Show to gauge interest in installing on-site non-potable systems. While interest was high, costs were seen as prohibitive.

Another issues identified was that investment in on-site water projects unlike energy projects, has little payback. While a household invests in a system and helps the community reach the 400 lpd target, there is no financial benefit for them to do so. A house that invests in an on-site system has to pay the same water rates as an existing household with no system

To address the cost barrier the Council will offer incentives to make the costs of investing in an on-site non-potable supply more manageable.

8.1.2 Priority area is Waikanae/Paraparaumu/Raumati (WPR)

There is less pressure on the Paekākāriki and Ōtaki supplies as both have enough capacity to meet foreseeable demand. Of particular concern is the capacity in the WPR area.

While the Council will still work with the community towards Paekakairki and Ōtaki reaching the 400lpd target, for the duration of the 2010-2015 Water Conservation Plan, the priority is the WPR area.

However, the financing of any financial incentive will be from an urban district wide rate that encompasses Paekākāriki and Ōtaki. It will be important to ensure that Paekākāriki and Ōtaki have the opportunity to participate in the scheme.

8.1.3 Savings needed by 2015

Currently the majority of pre-2008 homes rely on potable water for outdoor irrigation. In March 2010, Council officers presented an assessment of how much potable water would need to be offset by non-potable use. Table 8.1 shows the savings required to reach the peak water use targetd of 400lpd and estimates of the potential savings available from other measures. Even after the effect of these measures have been taken into account, 5038m^3 of peak water use needs to be offset by non-potable water use if WPR is to reach the 400lpd target.

Table 8.1 Savings needed from pre2008 urban households to reach the peak 400lpd water use target in the WPR area

	Water savings required (m³)	Water loss recution savings (m³)	Household education savings (m³)	Bylaw and education savings (m³)	Remaining m³ to be saved
Paraparaumu/Raumati	3,146	157	94	472	2,423
Waikanae	3,396	170	102	509	2,615
Total WPR	6,542	327	196	981	5,038

On the basis of the assessment in table 8.1 savings targets for the next five years have been established, as shown in table 8.2.

Table 8.2 Annual savings targets 2011-2015:

	2010/11	2011/12	2012/13	2013/14	2014/15	Total
Target savings/yr	202m³	605m³	1210m³	1210m³	1811m³	5038m³

These targets are lower in year one and two to allow interest to build within the community and for Council to build capacity to offer a quality and efficient service to the community. They are estimates that may change depending on interest to the community. It will be important that any scheme is flexible enough to meet the demand pattern over the next five years

8.1.4 Choice of systems and effective savings.

When retrofitting systems there needs to be enough choice for residents while ensuring the systems are effective at reaching the community 400 lpd target. Table 8.3 on page 25 outlines the number of systems needed to reach the 400 lpd target for the WPR area if one type of on-site supply was chosen.

In practice, it will be a mix of the options shown.

The options have a range of effectiveness and cost. The choice of system will affect the overall cost of the financial incentives but it is important to offer enough choice to encourage uptake. The performances mentioned are an estimate and for them to prove effective, the resident will need to manage the water use. For example a 5,000 litre rainwater tank will only offer 5 hours of lawn irrigation if a conventional lawn sprinkler is used.

For these systems to be effective the resident needs to also be considering how to most effectively irrigate the outdoor areas and other water conservation strategies, such as mulching, building up the organic material in the soil, plant choice, shelter. As part of any financial incentive programme it will be important that the resident can demonstrate that the chosen system will produce the savings in potable water use outdoors.

To assist the residents the Council will ensure there is a simple process to show their proposal will be effective and they have quality advice or information to make an effective choice.

Table 8.3 Number of systems needed to reach the 2015 target for WPR:

	Pool of household built before PC75 with no on site system	Needed m^3 reduction	10,000 litre tanks	5,000 litre tanks	Sand trap Bore	Greywater systems
WPR	12,084	5,038	2,520	5,038	1,679	2,290

8.1.5 Managing impacts on public health and the environment

While non-potable systems can be effective at reducing potable water use, there can also be risks to public health and the environment. The Council will need to have certainty that wide-scale use of these systems will not adversely affect the health of the communities or the wider environment.

8.2 Objectives

For financial incentives to be effective the following objectives need to be met:

- The incentives need to attract enough installations of on-site non-potable systems to reach the target savings
- The scheme recognises the public good arising from the investment from individual households
- The systems installed need to offset enough potable water to reach the target savings
- Impacts on district rates must be kept to a minimum consistent with efficacy
- Residents in Ōtaki and Paekākāriki must be able to participate in any Financial Incentive Scheme
- The scheme must be flexible enough to meet demand while managing impacts on rates
- Prospective households need good advice to make the most effective choice
- Administrative costs must be kept to a minimum
- The systems must limit risks to public health and the environment to acceptable levels

8.3 Strategies

8.3.1 Interest Free Loans

Interest free loans will be available to households in urban areas built before 2008. The loans will be provided for the purchase and installation of on-site systems repayable as a targeted rate on the property over 10 years.

This loan will be included on the property Land Information Memorandum (LIM).

The loans will be available for five years – the time period within which water savings must be achieved to reduce peak demand to the 400lpd target.

The loan will be capped and will cover the costs of the material and labour for installing the on-site supply. The loan will remain with the property, so if the home is sold the new homeowner will continue paying the targeted rate until the loan is fully repaid.

To acknowledge the public good of installing a device, the participating households will not pay interest as part of the repayments. The ten year loan will be interest free and the cost of the interest repayments will be met by the existing water supply budgets.

As property owners repay the capital of their loans in years 1 -5, the Council will use the repayments to fund further installations. From

years 6-15, after the end of the incentive offer, capital repaid by property owners will be used to settle the loans.

Who will it target?

The funding will target residents who potentially have high outdoor water use and do not have a non-potable system. The priority area is WPR where demand in hot summers is approaching capacity.

To ensure fairness the fund will be allocated in proportion to the number of connections in each water supply.

Table 8.4 How the fund will be allocated to each community

Town Supply	Paekākāriki	Waikanae (WPR)	Ōtaki	Total
Number of pre 2008 connections with no on-site supply	**619**	**12,084**	**2,206**	**14,909**
As a percentage of total housing stock	4%	81%	15%	100%

While the funding will be available throughout the year promotional campaigns will coincide with the key gardening and landscaping season.

How much will it cost the community to reach yearly targets?

As mentioned earlier in this chapter, the Council expects the community will take time to understand and take up the financial incentives. Table 8.5 provides a provisional estimate of the funding needed each year to meet demand. If the demand is higher than expected, a business case will be made to the coming Annual Plan to adjust the funding provisions outlined in Table 8.5.

Making an application

It will be important that the application process is not so onerous as to prevent people from making an application. To assist residents, the Council will provide a free site assessment by the Green Gardener for the first two years of the scheme's operation. From years three to five, subject to a review in 2012, the Council will develop a free online application tool that residents can use to select the most suitable on-site solution.

Table 8.5 Funding savings targets 2011 – 2015 and impact on rates:

	Funding period						Repayment period (2016 – 2025)			
	2010	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Target Savings/yr	202m³	605m³	1210m³	1210m³	1811m³	5038m³				
Funding (repayments)	$211,000	$611,000	$1,179,000	$1,053,000	1,559,000	($526,000)	($527,000)	($527,000)	($526,000)	($527,000)
Interest Costs	$16,000	$62,000	$150,000	$229,000	$346,000	$306,000	$267,000	$227,000	$188,000	$148,000
Rate Impact	0.03%	0.14%	0.17%	0.12%	0.16%	(0.09%)	(0.06%)	(0.07%)	(0.05%)	(0.04%)

Any application will need to meet the following five criteria:

- The house was built prior to 2008 and be in an area receiving unrestricted Council water supply
- There is funding available in their area (Table 8.4)
- The application can demonstrate the preferred choice will reduce demand to the 400 lpd
- The applicant has a proved record of paying rates on time
- The applicant accepts that the Council may monitor water use to assess the effectiveness of loan scheme in reducing potable for potable water

If the application is suitable Council will make financing available.

Before paying, the Council will confirm that the work has been completed at the correct address. Once satisfied, the Council will pay for the material and labour and then set up the targeted rate on to the property.

The rate payer will start paying the targeted rate in the next financial year.

8.3.2 Rates Relief- rewarding those who have invested

In March 2010 the Council asked for investigation into the implementation of a rates relief scheme for residents who have invested in an on-site system. Their private investment benefits the community in helping reach the 400lpd target but households with on-site systems have to pay the same level of rates as those who have not invested in an on-site supply.

Of particular interest were the potential to:

- Add a further incentive for residents to install a system under the interest free loan scheme
- Recognise households who have been required to install a system under District Plan requirements
- Recognise households which have voluntarily installed an on-site system to reduce demand on potable water

How it would work

Any household which obtains rates relief would receive a reduction in their water rate in the following year for a period of ten years. Their reduction in costs would be covered by ratepayers who are not part of the scheme. This will not cause an overall increase in rates to the community but will increase the water rates for the residents who have not had a demand reduction system installed.

There are three types of properties which could qualify for the rates relief.

1. Households that have been required to install on-site water supplies through the District Plan as a demand management measure. These include households that are affected by Plan Change 75 and restricted water supply subdivision in urgban areas such as Waterstone and Pharazyn Estate.
2. Households who have voluntarily installed an on-site water supply.
3. Households who take up the Council's interest free loan to install an on-site supply system.

Table 8.6 provides an estimate of the total number of households falling into each group. In group 1 there are currently around 1000 households that have been required to install a system. The table shows a conservative growth rate that recognizes the current economic conditions.

The voluntary group (group 2) figures represent the number of households that are currently registered on the Council bore and tank register of households with a certified system (The bore and tank register is used to manage complaints during water restriction season).

The interest free loans group (group 3) shows an estimate of the number of systems that could be installed through the interest free loans if the take up rate meets targets.

Table 8.6 Households that could qualify for rates relief

Total number of houses	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Group 1 (Required)	1000	1300	1600	1900	2200	2500	2800	3100	3400	2800	1800
Group 2 (voluntary existing)	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
Group 3 (interest free loans)	100	300	800	1700	2600	3600	3600	3600	3600	3600	3500
Total number of houses receiving rates relief (please note rates relief is received in the following financial year)											
Groups 1, 2 & 3		3600	4100	4900	6100	7300	8600	8900	9200	8900	8900
% of housing stock		19	21	25	30	36	42	42	43	41	40

The table 8.6 shows that by 2017 up to 42% of the total project urban housing stock could benefit from the rates relief.

Assessing rates relief entitlements

Managing the rates relief will be relatively efficient for the required and interest free loans households (Group 1 and 3). Processes will already exist to confirm the presence of the systems. The voluntary systems (Group 2) will require an additional inspection. This will add to the administrative costs as there are potentially up to 2,500 properties who may seek rates relief.

Impact of rates relief

Further investigation is required to establish the extent of a rates relief policy. Two key features require clarification:

- The annual amount of the rates relief to be offered to eligible households, and
- The types of systems, ie the number of households that will be eligible.

The number of eligible households and the amount of the rates relief will affect the cost to be borne by ratepayers who do not receive any rates relief.

Further work will be carried out to develop and test scenarios before a recommendation is made to the Council in late 2010.

Scenarios will consider eligibility, the amount of relief and overall affordability impacts. Work will also be carried out to identify the systems that would entitle a household to rates relief, eg whether other systems such as irrigation controls, sand trap bores etc are eligible for the same entitlement as rain water tanks and grey water systems.

8.4 Work Programme

Financial Incentives ***Activities***	**Deadlines**	**Budget**					**Delegated Officer**	**Performance Targets**
Interest Free Loans		**2010/2011**	**2011/2012**	**2012/2013**	**2013/2014**	**2014/2015**		
Develop Application Process	Januray 2010						Water Use Coordinator	On time and target
Develop irrigation assessment tool	January 2010						Water Use Coordinator	On time and target
Develop Online assessment tool	June 2012		$,5000					On time and budget
Administer the rolling fund	Ongoing						Financial Accountant	Number of systems installed 90% satisfaction from people making application
Review the Rolling fund	June 2012						Water Use Coordinator	Review completed on time

Rates Relief		**2010/2011**	**2011/2012**	**2012/2013**	**2013/2014**	**2014/2015**		
Decision on Rate Relief Policy	December 2010							On time and target
Set up rates relief programme	Ongoing						Water Use Coordinator	On time and target
Administer Rates Relief	Ongoing						Water Use Coordinator	On time and target
Review the Rate Relief	June 2012						Financial Accountant	On time and target

9. Education

9.1 Background

The success of this Plan relies on support from the community to do their part in managing their water use. The Council will continue to utilise existing resources where possible, to customise resources where necessary and to develop new resources where appropriate.

The Council has developed a Water Conservation Education Strategy to ensure residents, businesses and schools have opportunities to improve knowledge of the importance of local water supplies and actions they can take. This Strategy was rolled out in 2009/10.

The Education Strategy targets youth via schools. This is to ensure the adults of tomorrow understand water conservation and understand the wider water issues faced by the district. The Council plans to enlist older people to share their knowledge with youth in a mutual education process which is intended to produce a significant behavioural change in the District over time, embedding the understanding that water is a precious resource.

There is scope to involve community and conservation groups who are known to support public education to promote water conservation, as well as the Youth Council and the Council of Elders, as avenues to promote our message. Already, a number of groups have indicated a willingness to participate in such activities.

An important partner will be tāngata whenua. Traditional values such as kaitiakitanga and mauri are at the heart of our water conservation message. We would like to invite tāngata whenua, who are already working in partnership with Council on the water supply issue, to share their knowledge with people in the District.

The activities will be strengthened by ongoing review and improvement.

9.2 Objectives

The key objectives for the education action area will be to:

- Make water conservation part of everyday life in Kāpiti
- Built better relationships with local schools to increase knowledge about water conservation among the youth of today for the adults of the future.
- Seek knowledge from the elders of the community to aid in the education of the youth within the community about the importance of conserving water
- Ensure information is effective to enable behaviour change
- Ensure any water conservation education programme can demonstrate its effectiveness in maintaining awareness of water conservation and reducing water demand

9.3 Strategies

9.3.1 Provide the right mix of resources and support for schools to deliver their own water conservation programme

Greater Wellington are updating their term-long module on water conservation and aim to have it ready by the start of the 2011 school year. The module will cover the water cycle, treatment, water use and conservation. There will be visits to a water treatment plant and activities to understand water use and find better ways of using water. Greater Wellington have agreed in principle to Council using the resources.

The GW water conservation resource is still in development and not expected to be ready till 2011 but work will be done to ensure local schools are ready and willing to use the water conservation module.

The Council role will not be to teach the modules on the Kāpiti Coast but rather offer support to local teachers, notably through contracting a water education coordinator to assist local teachers and maintain an effective network between schools and the Council for water conservation.

9.3.2 Water ambassadors

This is a programme for schools and the community. This is mainly to promote water conservation but also to increase understanding of the wider water issues faced by the District.

The Council will seek volunteers from the older generation and pro-conservation groups to become "water ambassadors". The water ambassadors will visit schools to share their knowledge with youth and explain why water is a precious resource. The water ambassador programme will be developed and be ready to coincide with the start of the 2011 school year.

The Council will produce the resources, training for the water ambassadors and organise the visits to schools. The Council will hold a workshop with interested parties in early November 2010 to develop a register of "water ambassadors" who are willing to go into schools with our water conservation message.

9.3.3 Competitions for schools

There will be two annual competitions for local schools.

The first is a competition to find the school with the best water conservation programme in the District. This competition will be open to all schools and will be judged on the following criteria:

- Environmental awareness (incl. awareness of importance of water) integrated in regular teaching programme.
- Promotion of water conservation measures in school.
- Sustainable use of water in school activities, e.g. school garden

There is the possibility of pupils participating in te reo Maori. This would underline the commitment Council has to the partnership with Iwi on the water project.

The second competition is for secondary school pupils to demonstrate their knowledge on water. Each year students will be invited to write a paper on a water-related topic – e.g. water treatment, water conservation, resource management etc. The Water Industry Training Organisation (WITO) and Council staff will judge the entries. The winning pupil will be employed at Council, working on water-related tasks for a period of four weeks during the summer holidays. The winning pupil will share their experiences working with Council to students in the following year.

9.3.4 Waikanae Water Treatment Plant visits

Over the years, there have been a number of visits from schools to the Waikanae Water Treatment Plant. We would like to continue to promote these visits but enhance the experience for schools by providing fact sheets on water conservation and water management.

9.3.5 Wider community and industry education

We will build on existing educational activities, such as the summer restrictions programme, to reach a wider audience with our water conservation messages. We will:

- Produce topic-specific fact sheets, to be placed in garden centres, plumbing shops, public libraries, community centres etc.
- Place articles in external publications, such as Super People (Grey Power magazine), and community newsletters, such as Panui

- Run workshops for related business and industry (water/plumbing/garden) to promote best practice water conservation
- Distribute water conservation tips in rates notifications
- Deliver consistent water conservation messages in regular Council communications such as Mayor's column and radio interviews, Council updates

9.4 Work Programme

Education ***Activities***	**Deadlines**	**Budget**					**Delegated Officer**	**Performance Targets**
		2010/2011	**2011/2012**	**2012/2013**	**2013/2014**	**2014/2015**		
Develop school education resource Maintain the water conservation education programme Develop resources where necessary	February 2011	$5,000	$10,000	$10,000	$10,000	$10,000	Water Conservation Education officer	Number of schools use resource 90% satisfaction with resourse
Set up Water Ambassador Programme Maintain the Water Ambassador Programme. Develop resources where necessary	February 2011 Ongoing	$3,000	$5,000	$5,000	$5,000	$5,000	Water Conservation Education Officer	Number of water ambassadors Number water ambassadors working with schools 90% satisfaction from Teachers and Water Ambassadors
School Water Competition	Ongoing	$3,000	$6,000	$6,000	$6,000	$6,000	Water Conservation Education Officer	50% of schools participating by 2015 Students reports messages widely received and understood (through satisfaction survey)
Secondary School Student Competition	Ongoing	$2,000	$3,000	$3,000	$3,000	$3,000	Water Conservation Education Officer	50 students participating in the competition by 2015 Students reports messages widely received and understood (through satisfaction survey)
Visits to water treatment facilities	Ongoing							#number of schools visit water treatment facilities a year

10. Fostering Innovation

10.1 Background

Kāpiti Coast is well placed to develop new water saving technology not only for the District but also for the country. The historical challenges around water use on the Kāpiti Coast have provided opportunities for local companies to take new products to the market that either use town water efficiently or utilise rainwater or greywater. Already there are examples of water saving products being developed locally that are being sold in New Zealand and overseas.

The Council has taken an active approach to encourage residents to purchase water saving devices. For example the Council runs the Kāpiti Coast Sustainable Home and Garden Show each year to promote sustainable living and provides a platform for companies to test and take new products to the market. Council is careful not to incur liability by having products independently tested.

The Council has also provided certainty to the market by now requiring new homes to install water saving devices. The District Plan requirements include provisions to allow new solutions that can meet the water saving requirements. Through this Plan, the Council will also be offering incentives for residents to install technology that can reduce potable water used outdoors.

There are already many effective concepts that can utilise rainwater or greywater effectively that have not been brought into the mainstream market. The Council LTTCP identified sustainable technology for households as a new economic growth area for the District and is involved in a partnership with Grow Wellington, the regional economic development agency, in a centre of excellence around Clean Technology. The Clean Technology centre of excellence has identified sustainable water technology as a growth industry. Its role will be not only to mentor companies but also to source funding for research and development.

10.2 Objectives

- Provide a contestable grant for local innovators to develop water conservation products
- Provide opportunities for secondary and tertiary students to develop solutions
- Build relationships with economic development, funding agencies and research agencies who assist in developing products
- Ensure local entrepreneurs know what the community is willing to pay and what they expect
- Develop opportunities for entrepreneurs and businesses to test and promote their products locally

10.3 Strategies

10.3.1. Develop the Contestable innovation fund policy

In conjunction with Grow Wellington, the Council will develop policy around how the fund will be used. An important consideration will be meeting the District Plan requirements around new homes and also developing new products that could meet the conditions in the financial incentive policy. Ways will be sought to involve local secondary students or tertiary students to develop solutions.

10.3.2. Provide a local sustainable water business directory.

The directory will attempt to raise the profile of existing water conservation products and services with local residents. It will be updated monthly to allow new products to be included as they appear. Companies will also be able to submit "success stories" on how their product works, the benefits and the level of compliance needed. There will also be monthly deals to target key seasons.

10.3.3. Develop Greywater and Rainwater Code of Practice

As mentioned in Section 6, the Council is developing a Greywater and Rainwater Code of Practice to support the District Plan. This will outline the key performance requirements for systems used on the Kāpiti Coast to comply with the District Plan and Building Code. The code will be supported by ongoing scientific research to ensure the barriers are suitable to keep levels of risk to an acceptable level.

The systems that will be considered will be:

- passive rainwater systems (rain gardens, pumice wicks, rain barrels)
- pumped rainwater systems
- passive greywater systems (washing machine and bathroom systems, mulch basins)
- pumped greywater systems
- greywater irrigation

The code of practice will also provide guidance on how new concepts can be approved to be included into the code of practice. This will enable more flexibility and choice for home owners and building industry to meet the requirements of the District Plan and the financial incentives. Council's liability in this matter will be carefully controlled (see 9.3.4 below).

10.3.4. Develop a product accreditation for new products

While the Council will encourage the development of new technologies it cannot appraise or recommend products. If Council accepts an unappraised product as part of a new build or through the retrofit programme the liability will transfer to Council.

Accordingly Council will place the burden of proof on the innovator to demonstrate that the new product will comply with national legislation and standards as well as comply with the Greywater and Rainwater Code of Practice. The key areas of interest will be that the product is fit for purpose, can demonstrate water savings, and keep risks to public health and the environment to an acceptable level. The proposed option for Council is for the innovator to obtain a product appraisal. The New Zealand Institute of Building Officers (BOINZ) offers a product appraisal service. Officers will develop an appraisal process with BOINZ once the code of practice has been adopted.

The $25,000 Contestable Grant outlined in 10.3.2 could be used to pay for prototypes to be appraised through the BOINZ process.

10.3.5. Encourage companies to test their products locally.

This programme will seek partnerships with companies who sell products that influence water use, such as irrigation, grass varieties, pool covers, on-site water supplies, etc, to test their products in operation. The Council can provide sites such as parks or buildings for the products to be installed and the water use monitored. Alternatively the Council could find volunteers in the community who could trial the product on their property.

The results of the programme will validate the water saving potential and can be fed into not only the financial incentives programme but also assist in improving the water use models for each network.

10.4 Work Programme

Fostering Innovation ***Activities***	**Deadlines**	**Budget**					**Delegated Officer**	**Performance Targets**
		2010/2011	**2011/2012**	**2012/2013**	**2013/2014**	**2014/2015**		
Contestable Funding Policy Developed Administer fund	June 2011 Ongoing		 $25,000	 $25,000	 $25,000	 $25,000	Water Use Coordinator Economic Development Manager	Done on time and target 6 Businesses obtain grant by 2015
Develop a Local Business Sustainable Water Directory	Januray 2011							20 businesses sign up
Develop product accreditation process for new products	June 2011						Water Use Coordinator	Done on time and target Either BOINZ or appropriate agency on board to provide product assessment service