

## VISION

Council's vision for our District is ***"Creating a better future with vibrant communities and thriving business"***. To achieve this vision we plan to make our District an attractive place that people will want to come and visit, work and live in.



## STRATEGIC DIRECTION

The 5 key areas of focus that Council agreed on as part of its strategic direction setting are :

- 1. Enhance stakeholder relationships**
- 2. Better community engagement**
- 3. Economic Development opportunities**
- 4. Community connectivity and development** (youth development and projects, promoting Waitomo as a place to live, employment partnerships)
- 5. Good stewardship and development of assets**

## SUSTAINABLE DEVELOPMENT

In taking a sustainable development approach, Council must take into account meeting the needs of the current residents and ratepayers but also being responsible so that the needs of future generations are not compromised.

The concept of sustainability is closely interwoven in the fabric of Council’s planning and especially this Plan as is evident from the guiding principles of Financial sustainability, Affordability and Community well- being.

This principle has been closely adhered to in developing the financial forecasts and ensuring debt levels are prudent and manageable and that rates are affordable for the present and into the future.

Sustainability has also been considered in the proposals developed and included for each activity area in this Plan. The Activity Management Plans developed for all activities have ensured that the maintenance and development of assets are services are carried out in an optimal manner so that the facilities are available to be enjoyed both now and into the future.

## COMMUNITY OUTCOMES


Community Outcomes are a description of the results or the desired state that a Council aims to achieve in meeting the current and future needs of Communities for good quality local infrastructure, local public services and performance of regulatory functions. Community Outcomes provide an important framework for future planning since the Outcomes reflect what is important to a community and where it wants to head towards in the future.




The Community Outcomes for our District are reviewed every three years along with the LTP review process to assess where the wants and needs of the community lie and to ensure that the activities and work streams are aligned to areas of greatest needs and community wishes.

In evaluating the Community Outcomes for this plan a revised set of ten outcomes has been established. The outcomes have been amended to reflect Councils objectives of:

- Better engagement with the community as well as stakeholders
- Playing a leadership role within the region and nationally and promoting the interests of our District as well as other small rural communities similar to ours.

The ten outcomes listed below have been organised under the four main headings of Vibrant Communities, Prosperous District, Effective Leadership and Sustainable Infrastructure to better align with Council’s Vision and Focus.

	<b><i>Vibrant Communities</i></b>	
	<b>CO1</b>	<i>A place where the multicultural values of all its people and, in particular, Maori heritage and culture is recognised and valued.</i>

	<b>CO2</b>	<i>A place where all age groups have the opportunity to enjoy social, cultural and sporting activities within our District.</i>
	<b>CO3</b>	<i>A place where young people have access to education, training and work opportunities.</i>
	<b>CO4</b>	<i>A place where young people feel valued and have opportunities for input into the decisions for the District.</i>
	<b>CO5</b>	<i>A place where we preserve the natural environment for future generations, ensuring that natural resources are used in a sustainable manner.</i>
	<b>Thriving Business</b>	
	<b>CO6</b>	<i>A place that attracts more people who want to live, work and play, and raise a family.</i>
	<b>CO7</b>	<i>A place where wealth and employment are created through local businesses and tourism opportunities and facilities are developed, facilitated and encouraged.</i>
	<b>Effective Leadership</b>	
	<b>CO8</b>	<i>A place where the development of partnerships for the delivery of programmes and services is encouraged and pursued.</i>
	<b>CO9</b>	<i>A place where the governance actively seeks to participate and take a leadership role in regional and national initiatives aimed at the development of the District.</i>
	<b>Sustainable Infrastructure</b>	
	<b>CO10</b>	<i>A place that provides safe, reliable and well managed infrastructure which meets the District community needs and supports maintenance of public health, provision of good connectivity and development of the District.</i>

# Planning Assumptions for 2015-25 Long Term Plan

## Introduction

In order to plan for the long term it is imperative to make assumptions about various aspects in the future. The significant assumptions made about the future form an important part of the planning framework.

It is also important to assess the estimated levels of uncertainty represented by the factors identified in the assumptions, so that the risk mitigation and planning can be appropriately carried out. The impact of the levels of uncertainty assessed on the integrity of this Plan has also been undertaken. Schedule 10 of the Local Government Act 2002 requires that, for high levels of uncertainty, Council is required to state the fact of the uncertainty and give an estimate of the potential effects of that uncertainty on the financial estimates provided in the 2015-25 draft LTP.

The significant forecasting assumptions are summarised in the table below and are discussed more fully in the pages that follow.

The main contributions of risk are identified as arising from:

- Central Government changes to legislation and policy impacting on the role and compliance costs of local government.
- Impacts of Climate Change
- NZ Transport Agency Subsidies
- Interest rate movements
- Annual Return on investment

## Summary of Assumptions

	No.	Assumption	Level of Uncertainty	Impact on Integrity of LTP
<b>GLOBAL IMPACT</b>	1	The impacts of climate change will be minimal over the LTP planning period.	Medium	Low
<b>NATIONAL IMPACT</b>	2	Actual rates of inflation will be within the range tabulated.	Low	Low
	3	NZ Transport Agency subsidies will continue at their current levels.	Medium	Medium
	4	The average annual interest cost on borrowings will be 6.25% over the first 2 years and 6.5% over the following 8 years. .	Medium	Low
	5	Central Government changes to policy or legislation will have minimal impact on local government income or expenditure.	Medium - High	Medium High
	6	Government funding will continue at current levels.	Low	Low
	7	The impact of population growth and structure has been adequately provided for in the financial estimates.	Low	Low
	8	The impacts of societal changes and population structure have been adequately provided for in the financial estimates.	Low	Low
	9	The annual return on investments is assessed at zero for the first three years of the LTP and thereafter at 200k per annum over the remaining period.	Medium	Low
	10	The risk of Council's investment portfolio and inability to borrow is minimal.	Low	Low
	11	Resource consent acquisition and compliance processes are within estimated timeframes and expenditure estimates.	Medium	Low
	12	The size of the rating base will not increase.	Low	Low
	13	Impact of transfer of significant Council assets will be minor.	Low	Low
	14	Changes to the scale of Council's asset inventory will be minor.	Low	Low
	15	The impact of growth related capital expenditure will be offset by revenue from financial contributions.	Low	Low

# Description of Assumptions

## 1 Potential climate change impacts

The Ministry for the Environment provides a series of guidance manuals to assist local government to assess and manage the impacts of climate change in their planning and decision-making processes, as well as infrastructure and asset management. The most recent MfE guidance on climate change for New Zealand has been referenced in the Council's assessment of the potential impacts of climate change.

Climate change is expected to influence:

- **the frequency and intensity of extreme rainfall.** The intensity of extreme rainfall may increase by up to 5 per cent by 2040 and up to 10 per cent by 2090.
- **average annual rainfall.** In the Waitomo District average annual rainfall is expected to increase by up to 2.5% by 2040. Seasonally the district could expect increases in winter rainfall and decreases in spring rainfall.
- **sea levels and functioning of estuaries.** The increased rate at which the sea level has risen over the last two decades has had a negative effect on the ability of estuaries to handle tidal changes and drain rivers. It is expected that sea levels will continue to rise in the foreseeable future although the rate of the rise cannot be accurately estimated at this stage.

Increased frequency and intensity of extreme rainfall events may contribute to reduced ability of stormwater systems to cope, particularly at those beach communities where stormwater outlet points are within tidal zones, where it is likely there will be additional pressure from rising sea levels, increased storminess and coastal erosion, and at Te Kuiti due to high river levels during high rainfall events. The tempo of erosion of land adjoining the estuaries could increase and lead to a loss of property and increased expectation by the affected communities for some form of intervention by Council.

Higher intensity rainfall events will increase runoff and could impact on existing drainage capacity. Consideration has been given to complete catchment assessment studies for the main urban areas.

Climate change is also expected to present in the form of more frequent drought periods, particularly on the east coast of New Zealand. By 2090, for the Waikato, the time spent in drought ranges from minimal change through to more than double, depending upon the climate model and emissions scenario considered. This may increase the demand for irrigation and impact on the capacity of Council's water supplies, including source and storage. Work has been done to address both of these issues, including initiatives to reduce water consumption in the District.

Higher rainfall could result in increased inflow and infiltration of Council's sewerage systems. In Te Kuiti a programme of CCTV inspection and renewals has been initiated. To date approximately 11,000m of the 50,000m of the reticulation has been checked by Closed Circuit Television (CCTV). Whilst progress is being made the implementation of this programme is limited by funding and affordability issues. The success of this work will go a long way towards mitigating any effects of climate change on Council's sewerage infrastructure over time.

There is much uncertainty about the extent of climate change and about social, economic and environmental change. That makes it necessary to consider a range of possible futures when assessing climate impacts, and whether adaptive responses are needed. A precautionary approach requires action based on our current understanding of the effect of climate change on flood risk. An overestimation of the impacts of climate change may result in unnecessary expenditure. However an underestimation could impact on the Council through the need for emergency project works. Either scenario would affect ratepayers. Therefore decisions need to be based on a combination of advice from the best expertise and information available at the time, balanced with council funding and planning processes and priorities. Responses should be flexible enough to take into account further improvements in understanding of climate change and not lock in options that minimise the ability to adapt at a later date.

Activity Management Plans for Water Supply, Waste Water, Storm Water and Roothing and Footpaths have considered the **longer term** consequences of Climate Change, especially in consideration of new capital works in areas with potential to be affected. While limited population growth and land use change is expected in the current LTP period, the Resource Management activity does consider the longer term consequences of Climate Change as part of the resource consent process.

Given the initiatives already in progress to address the potential effects of Climate Change, it is considered there will be minimal impact over the 10 year period of the LTP. However, a distinguishing feature of climate change-related risks is that the underlying risks themselves change over time. In addition, ongoing research will continue to add to the understanding of the potential impacts of climate change. This means that from time to time the Council may need to reconfirm that our infrastructure and services will perform in the future climate.

Assumption 1	Level of Uncertainty	Impact on Integrity of LTP
The impacts of climate change will be minimal over the LTP planning period.	Medium	Low

## 2 Future price changes - rates of inflation

The Society of Local Government Managers (SOLGM) commissioned a study to develop price level change adjustors for local authorities to use in estimating their future year expenses through to 2025. The following table shows the inflation forecasts developed for each significant adjustor impacting on local authorities (based on the BERL October 2014 (amended) report to SOLGM). Inflation adjustment has been factored into the budget forecasts:

Year	Road	Property	Water	Energy	Staff	Other
Ending June	(Roads and Footpaths)	Property and Facilities	Water, Sewerage and Stormwater	Energy (Electricity and Gas)	Staff	Corporate Overheads etc.
2015	0.4	1.9	4.7	4.2	1.6	1.5
2016	1.2	2.2	5.2	3.5	1.8	2.3
2017	1.4	2.4	3.8	3.8	1.9	2.5
2018	2.2	2.5	3.0	3.9	2.0	2.6
2019	2.4	2.6	3.2	4.1	2.1	2.7
2020	2.5	2.8	3.3	4.3	2.2	2.9
2021	2.7	2.9	3.5	4.5	2.3	3.0
2022	2.8	3.0	3.7	4.7	2.4	3.1
2023	3.0	3.2	3.8	4.9	2.5	3.3
2024	3.1	3.3	4.0	5.1	2.6	3.4
2025	3.3	3.4	4.2	5.3	2.7	3.6

The above inflation assumptions have been applied to both capital and operating cost forecasts as the indices include a combined forecast of operating and capital costs. Because of this combination in the composition of the indices, they may either understate or overstate changes in the prices of operating and capital expenditure.

Allowance for future inflation in Council's financial forecasts may also make it difficult to distinguish between money-terms and real terms of any figures and trends.

### Adjustment assumptions have been made for the following revenue categories:

- Dividends – adjustments applied using the adjustors in the above table under the column headed "Other".
- Subsidies – these are determined by the relevant funding agencies and no local adjustments can be made.

- Property revenue – adjustments applied using the adjustors in the above table under the column headed “Property and Facilities”.
- Water, stormwater and sewerage - adjustments applied using the adjustors in the above table under the column headed “Water, Sewerage and Stormwater”.

The above inflation forecasts do not make allowance for spikes in pricing that traditionally occur during re-tendering or renewal processes for medium to long term operating and maintenance contracts. These movements can be as large as 10% in the year immediately following contract re-tendering/renewal, due partly to the inherent increase in levels of service that is introduced to contract specifications, either consciously as a change to the scope of works or as a consequence of contract interpretation over previous years.

Rates of inflation greater than those assumed will impact in particular on future cost estimates and the ability of the community to afford the consequential rate increases. This can be mitigated by revising inflation estimates in conjunction with preparation of each Annual Plan and when the LTP is reviewed every three years.

Assumption 2	Level of Uncertainty	Impact on Integrity of LTP
Actual rates of inflation will be within the range tabulated.	Low	Low

### 3 NZ Transport Agency subsidy rates

Roading subsidy from NZTA is Council's largest single source of revenue after rates. The amended subsidy levels for 2015/16 year onwards have been announced. The funding rate for Council for the 2015-18 national Land Transport Programme (NLTP) period and at the end of transition is set out in the table below:

Normal funding assistance rates for the 2015-18 NLTP and at end of transition			
2015/16	2016/17	2017/18	End of transition 2023/24
62%	63%	64%	71%

NZTA is currently reviewing its road classification system. The outcome of NZTA's review of customer levels of service is also unknown, which could impact on the overall funding assistance Council receives from NZTA. Prescribed levels of service and in turn the required level of investment will be monitored over time and changes made as required via the exceptions annual plan process or the three yearly review of the LTP.

Assumption 4	Level of Uncertainty	Impact on Integrity of LTP
NZ Transport Agency subsidies will continue at their current levels.	Medium	Medium

### 4 Expected interest rates on borrowing

In recent years Council has reaped the benefit of historically low interest rates as the world economy has fought for recovery from the Global Financial Crisis. Whilst recovery from the Global Financial Crisis is fragile, growth is firming in advanced economies. Within New Zealand rapid growth in house process,

strong growth in farm incomes (largely driven by the dairy sector) and increasing concerns around inflation has led to recent increases to the Official Cash Rate (OCR). It is assumed that such increases are likely to continue in the medium term in an effort to curb inflation in a strengthening economic environment. An annual interest cost of 6.25% over the first 2 years and 6.5% over years 3 to 10 on borrowings, has been assumed. A higher interest rate would increase the rating requirement. However, Council considers that this assumption carries a low risk as the actual interest rate is likely to vary over the term of the plan, and will be partly offset by interest on investments.

Assumption 5	Level of Uncertainty	Impact on Integrity of LTP
The annual interest cost on borrowings will be 6.25% over the first 2 years and 6.5 % over years 3 to 10.	Medium	Low

## 5 *Central Government changes to policy or legislation*

Council has assumed that Central Government will provide a reasonably stable statutory and policy framework for local government. However, Council is aware that further reform of the Local Government sector may occur in the short to medium term. For this reason the level of uncertainty has been increased to medium-high and the impact on the integrity of the LTP has been assessed as medium.

Successive governments have had a record of imposing additional responsibilities and costs on local government without associated funding, e.g. the planning and auditing processes under the Local Government Act 2002, resource management processes, gaming and prostitution law reform, waste minimisation, land transport management, animal control, emergency management, rural fire control, and the Building Consent Authority regime. On top of that, a global economic recession has resulted in a period of financial frailty, leading to, inter alia, recent and renewed calls from the business sector, reinforced by the Reserve Bank, for local government to maintain rate increases within the annual cost of inflation.

There is always the possibility that some form of amalgamation process will be put forward within the Waikato region over the life of the 2015-2025 Long Term Plan. Depending on the process and outcomes the impact on the District and Council could be substantial. However, given the level of uncertainty surrounding such an event the planning framework assumes Waitomo District Council will continue to provide for community needs in its present form.

Assumption 6	Level of Uncertainty	Impact on Integrity of LTP
Central Government changes to policy or legislation will have minimal impact on local government income or expenditure.	Medium - High	Medium - High

## 6 *Renewability or otherwise of external funding*

### Petrol Tax

Although only a relatively small source of Council revenue (budget \$120,000 in 2014/15), it has been assumed that the same or similar amount of income will continue on an annual basis.

### Water Supplies Capital Assistance Programme (CAP)

The Health (Drinking Water) Amendment Act came into force on 1 July 2008. The Act introduces higher mandatory standards for water supplies that will impact on all of Council's schemes. The financial projections for the necessary capital improvements planned for Council's water supply scheme at Te Kuiti assumes eligibility for Ministry of Health subsidy assistance that was re introduced in December 2010.



WATER SUPPLY AREA	CAPITAL SUBSIDIES
- TE KUITI	\$780,000
<b>TOTAL SUBSIDIES</b>	<b>\$780,000</b>

Assumption 7	Level of Uncertainty	Impact on Integrity of LTP
Government funding will continue at current levels.	Low	Low

## 7 Projected growth change factors

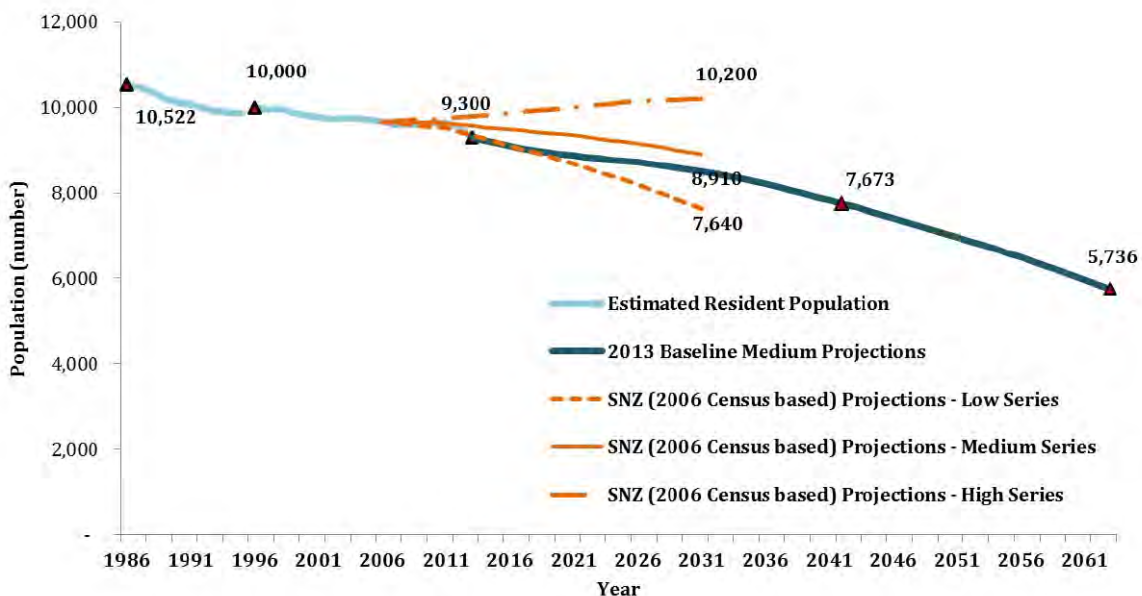
### Population Growth and Structure

The following information has been sourced from a paper prepared by the National Institute of Demographic and Economic Analysis (Waikato University) for the Waikato Regional Council in August 2014. Council has chosen to use these population forecasts for the 2015-2025 LTP as Statistics New Zealand Forecasts for the planning period are not available until 2015.

The graph below presents the 2013-base medium population projection for Waitomo District to 2063, along with historical population estimates from Statistics New Zealand back to 1991. The 2006-base Statistics New Zealand (SNZ) high, medium and low projections (October 2012 update) are also included for comparison.

The NIDEA projections show a continuing trend of declining population for Waitomo District with a projected population of 8,743 in 2025. These projections follow the recent trend in the District's population reasonably closely, with annualised population decline over the period 2013-2025 of 0.5% per year (base year projection is different to actual).

### Baseline Medium Population Projections for Waitomo District and Comparison with Statistics NZ (2012) Subnational Projections



## 8 *Current Pattern of Building and Subdivisional Development*

As in the previous section the population growth for the District is projected to be static and/or in decline. Historic trends of pockets of sub divisional and building activity in the form of modest lifestyle development around Te Kuiti, Waitomo Village, Mokau, and Awakino are also slowing. The sub divisional activity that was occurring in and around the Te Waitere area has slowed in recent years.

Over the last five years there has been an average of 12 new dwellings constructed per year. In terms of subdivisions the average number of lots created over the same period has been 3. Whilst 151 new lots were consented over the last five years only 63 new dwellings were actually consented. While this is partly due to the delay between subdivision approval and building construction, there is also a backlog of undeveloped lots in the District which need to be factored into planning considerations.

### *Future Subdivisional Activity*

From a recent, informal, desktop planning exercise, drawing from development proposals which are known to officers and/or are in the early stages of consent processing, it has been identified that further growth is unlikely to place pressure on the provision of Council services. Indications are the recent trends of development are likely to continue in to the foreseeable future.

The demographic and development trends show that there is no demand for growth related infrastructure at the present time or in the foreseeable future. For the past few years Council has been working on improving the condition of its core infrastructure assets, particularly in the Water Supply and Sewerage activity areas, in order to support public health outcomes and to meet its Resource consent and other legislative requirements. The growth and development trends support an approach which continues to upgrade and maintain existing assets as opposed to the development of new capacity driven infrastructure. There is currently enough capacity in the infrastructure network to allow for minimal growth should it occur.

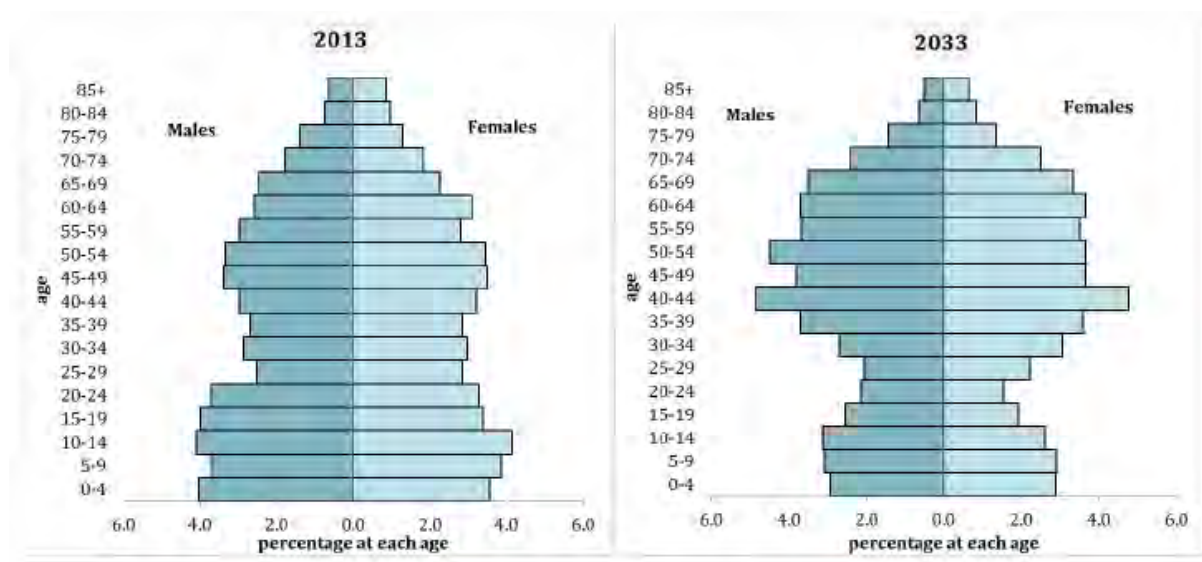
Council does not anticipate any significant land-use changes during the period of this LTP.

<b>Assumption 7</b>	<b>Level of Uncertainty</b>	<b>Impact on Integrity of LTP</b>
The impact of population growth and structure has been adequately provided for in the financial estimates.	Low	Low

### *Potential societal change factors*

The age structure of the Waitomo District is among the more youthful in the Waikato Region (fourth-youngest in 2013) and experiences the least degree of population ageing. In 2013, 14.2 percent of the population is aged 65 years and over, and this is projected to increase to 19.4 percent by 2043. The proportion of the population under 65 years of age is relatively high at 85.8 percent in 2013, 82.8 percent in 2033 and 68.7 by 2063. The ratio of elderly persons to children increases slightly from 0.61 in 2013 to 0.98 in 2033, before increasing markedly to 2.71 in 2063.

## Age-Sex structure for Waitomo District, 2013 and 2033 (medium projection)



The District's population characteristics, which include a high proportion of Maori, can be expected to translate into demand for compatible services, e.g. community infrastructure in the form of increased recreational and cultural facilities. Council considers these changes have been adequately catered for in its 2015-25 LTP. Any departure from this assumption can be addressed during the 3-yearly review of the Plan.

Assumption 8	Level of Uncertainty	Impact on Integrity of LTP
The impacts of societal changes and population structure have been adequately provided for in the financial estimates.	Low	Low

### 9 *Forecast return on investments*

The annual return on Council's investment in ICL is assessed at zero for the first three years of the LTP and thereafter at \$200k per annum over the remaining period. Surplus investment income will be utilised prudently to accelerate retirement of term debt.

Planning for the 2015-25 period assumes that if the forecast income from Council's investment in ICL is not received, then of itself this factor will not have a material impact on the LTP. \

Assumption 9	Level of Uncertainty	Impact on Integrity of LTP
The annual return on investments is assessed at zero for the first four years of the draft LTP before returning to historical levels.	Medium	Low

### 10 *Credit rating of investment organisations*

The recent global recession has highlighted the vulnerability of lending institutions to slumps in the economy of major countries. An understandable reaction at an international level has been a tightening of lending provisions including more stringent assessment of the credit ratings of potential borrowers. In Council's case, its credit rating is secure through its ability to generate an income from rates.

In the case of its term investments, the risk is mitigated by investing with credit worthy counter parties having a Standards and Poors rating of AA- or better, in accordance with its Policy on Investments.

The borrowing options available to Council now include the bank, funding options provided by Bancorp and obtaining funds from the Local Government Funding Agency. Council considers that the risk of its investment portfolio and inability to borrow is minimal.

Assumption 10	Level of Uncertainty	Impact on Integrity of LTP
The risk of Council's investment portfolio and inability to borrow is minimal.	Low	Low

## 11 Resource Consents

Council has assumed that the resource consents it requires for its infrastructural activities will be obtained and/or renewed within the nominated time frames with conditions that can be met within expenditure estimates.

The expenditure estimates have been prepared based on experience and trends with past consent processes and standards. If the consent conditions are more stringent than expected then the levels of rating, debt, capital and maintenance expenditures will be higher and may require compensating reallocation of other expenditure priorities. Similarly, consent application processes that take longer than estimated could result in additional costs due to the need to extend existing operational arrangements.

The financial impact of consent issues is considered to be minor with time delays required to complete consent processes more likely to be a greater issue than additional costs over what has already been allowed for in the financial estimates.

Assumption 11	Level of Uncertainty	Impact on Integrity of LTP
Resource consent acquisition and compliance processes are within estimated timeframes and expenditure estimates.	Medium	Low

## 12 Rating Base

It has been assumed that there will be no increase in Council's rating base over the term of the draft LTP. This assumption is conservative to minimise the risk of understating average prospective rate increases. Any actual increase in the rating base will help to absorb average rate increases.

Assumption 12	Level of Uncertainty	Impact on Integrity of LTP
The size of the rating base will not increase.	Low	Low

## 13 Transfer of ownership of any significant assets

For the purpose of the 2015-25 LTP period Council has assumed that there will be no transfer of ownership of Significant assets, although Council intends to assess its investment portfolio for optimal use as part of its regular management practice.

The owners of the water and wastewater infrastructure at Waitomo Village are currently in the process of finalising their strategic position regarding the future ownership and operation of these assets. The Council is aware and continues to be part of the discussions between the affected parties. The option of Council ownership and operation of these assets is not without merit however a detailed and clear understanding of relevant issues including the future cost to the end users is fundamental to any such decision.

Assumption 13	Level of Uncertainty	Impact on Integrity of LTP
Impact of transfer of significant assets will be minor.	Low	Low

#### 14 *Vesting or disposal of assets*

The scope of Council's infrastructural assets is subject to change over time as a result of vesting of new assets in Council (through subdivision activity), and disposal of redundant assets that have become obsolete or are surplus to requirements. As can be seen from the growth change factors above, the projected increase to Council's asset base due to growth is likely to be at best modest in comparison to the current asset inventory. Based on sub divisional activity over the past 3 years, the number of new lots created averages approximately 12 lots per year. A portion of these lots were located in areas without public water and wastewater services. The additional Council assets arising from this level of development will be in new condition and are not likely to add materially to maintenance and renewal costs over the period of this Plan. Similarly, it is assumed that the level of planned asset disposal will be minor over the period of the 2015-25 LTP.

Assumption 14	Level of Uncertainty	Impact on Integrity of LTP
Changes to the scale of Council's asset inventory will be minor.	Low	Low

#### 15 *Development/ Financial Contributions*

Council has resolved to reconsider the applicability of a Development Contributions Policy as part the review of the District Plan which will commence in the 2015-25 period. It has been assumed that capital outlay to cater for growth will not occur until there is evidence that the assumed growth is taking place. The timing of the capital works and incidence of growth will be reviewed in line with the 3-yearly LTP planning cycle.

Assumption 15	Level of Uncertainty	Impact on Integrity of LTP
The impact of growth related capital expenditure will be offset by revenue from financial contributions.	Low	Low

## **SECTION 7 - FINANCIAL INFORMATION**

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## Structure of Groups of Activities

Council carries out a number of activities or functions in order to meet its statutory responsibilities and in response to the aspirations of its District community. Council's functions are arranged under ten Groups of Activities. These ten Groups of Activities are further organised under three main 'Sustainability Groups'.

<b>Sustainability Groups</b>			
<b>Groups of Activities</b>	<b>Community and Cultural Sustainability</b>	<b>Environmental Sustainability</b>	<b>Economic Sustainability</b>
	Governance: Leadership and Investments	Resource Management	Water Supply
	Community Service	Solid Waste Management	Roads and Footpaths
	Community Development	Stormwater	
	Regulation	Sewerage and the Treatment and Disposal of Sewage	

# Performance Framework

## Purpose

In order to manage and monitor the performance of its activities and the work programmes undertaken by Council and to ensure that its efforts contribute to Council's purpose and Community Outcomes we have developed a Performance Framework. The two key functions of this framework are:

1. To guide Council's efforts and work streams such that the focus is on achievement Council's Purpose and Community Outcomes.
2. To demonstrate to the community what we are trying to achieve, and how our performance will be measured.

<b>PURPOSE OF LOCAL GOVERNMENT</b>
<i>'To meet the current and future needs of communities for good quality local infrastructure, local public services and performance of regulatory functions in a way that is most cost effective for households and businesses'</i>
<b>Waitomo District Community Outcomes</b>
<b>Council's Vision:</b> 'Creating a better future with vibrant communities and thriving business'
<b>Council's Guiding Principles:</b> Financial Sustainability, Affordability and Community Well-being
<b>Council's Business – Groups of Activities</b>
<b>Council's Policy and Planning Framework</b> Council Policies, Bylaws, Activity Management Plans, Financial Strategy, Long Term Plan and Annual Plan.
<b>Levels of Service and Work Programmes</b> Monitoring and Reporting of achievement against Performance Targets



## Elements of the Framework

As shown in the table above, at the highest level of the Performance Framework is Council's Purpose, followed by Community Outcomes.

The Vision statement describes Council's focus and the Guiding Principles aim to set the parameters under which planning will be carried out.

Council's Groups of Activities is the grouping of the various functions and activities that are carried out by Council. All activities need to demonstrate their contribution to the Community Outcomes.

The 'coal-face' of the Performance Framework are the –

**Levels of Service:** what can the community expect Council to provide.

**Performance Measures:** how will success or progress be measured.

**Performance Targets:** what is the level of performance that Council is aiming for.

Further details of service levels, performance measures and targets are contained within the Groups of Activities section.

## Monitoring and Reporting

Progress against agreed performance targets is monitored monthly at a management level and reported quarterly at governance level. The annual achievement against performance targets is audited and communicated to the community and stakeholders in Council's Annual Report.

## Community and Cultural Sustainability Group

### Governance: Leadership and Investments

#### Statement of Service Performance

The Levels of Service and Key Performance Indicators for this Group of Activities are:

Link to Community Outcomes	What we do (level of service)	How we measure success (performance measure)	Performance Target	Annual Report 13/14	Annual Plan 14/15	2015/16	2016/17	2017/18	2018/25
Effective Leadership CO8, CO9	Decision making in compliance with provisions of the Local Government Act 2002.	Number of successful challenges to the decision making process.	0	0	0	0	0	0	0
Effective Leadership CO8, CO9	Consultation is in accordance with the procedures outlined in LGA 2002. Depending on the nature of the consultation, the procedure will either be the Special Consultative Procedure or a process that gives effect to the requirements of section 82 of the LGA 2002.	Number of successful challenges to the decision making process.	0	0	0	0	0	0	0

Effective Leadership CO8, CO9	Effective communication with the community.	Customer satisfaction rating of effectiveness and usefulness of Council communications "good or better".	≥ 50%	89%	≥ 55%	≥ 60%	≥ 60%	≥ 60%	≥ 60%
	<b>Investments</b>								
Effective Leadership CO8	Investments are managed prudently and in a manner that promotes the current and future interests of the community.	Analysis of investment financials and activity including investment company reporting statements are reported to Council and made available to the public as applicable.	2 reports per year	Achieved	2 reports per year	2 reports per year	2 reports per year	2 reports per year	2 reports per year

## Community Service

### Statement of Service Performance

The Levels of Service and Key Performance Indicators for this Group of Activities are:

Link to Community Outcomes	What we do (level of service)	How we measure success (performance measure)	Performance Target	Annual Report 13/14	Annual Plan 14/15	2015/16	2016/17	2017/18	2018/25
Vibrant Communities CO1, CO2 CO3	High quality Parks and Reserves will be provided.	Percentage of community satisfied with the quality of Parks and Reserves in annual and research surveys.	≥ 80%	77%	≥ 80%	≥ 80%	≥ 80%	≥ 80%	≥ 80%
Vibrant Communities CO1, CO2 CO3 Prosperous District CO6, CO7 Effective Leadership CO8	Provision and maintenance of Elderly Persons Housing that meets the needs of the tenants.	Percentage of users satisfied with the provision and maintenance of Elderly Persons Housing in the User Survey.	> 60%	85%	> 60%	> 60%	> 65%	> 65%	> 65%

Link to Community Outcomes	What we do (level of service)	How we measure success (performance measure)	Performance Target	Annual Report 13/14	Annual Plan 14/15	2015/16	2016/17	2017/18	2018/25
Prosperous District CO6, CO7	Quality public amenities will be provided.	Percentage of community satisfied with the quality of public amenities (Public Toilets and Cemeteries).	≥ 80%	84%	≥ 80%	≥ 81%	≥ 82%	≥ 82%	≥ 82%
Vibrant Communities CO1, CO2 CO3 Prosperous District CO6, CO7 Sustainable Infrastructure CO10	Provision of effective pool facilities for the community.	Percentage of community satisfied with the quality of the pool facilities and service in the annual satisfaction survey and research survey results.	≥ 70%	64%	≥ 70%	≥ 70%	≥ 70%	≥ 70%	≥ 75%





# Community Development

## Statement of Service Performance

The Levels of Service and Key Performance Indicators for this Group of Activities are:

Link to Community Outcomes	What we do (level of service)	How we measure success (performance measure)	Performance Target	Annual Report 13/14	Annual Plan 14/15	2015/16	2016/17	2017/18	2018/25
Vibrant Communities CO1, CO2 CO3 Effective Leadership CO8	Provide assistance for community support activities.	Advertisement and administration of all WDC Funding Rounds as per the Community Development Fund Policy.	100% Compliance	Achieved	100%	100% Compliance	100% Compliance	100% Compliance	100% Compliance
Vibrant Communities CO3 Effective Leadership CO8	Support the positive development of youth within the District.	Youth Council makes one submission to Council per year.	1 per annum	Achieved	1 per annum	1 per annum	1 per annum	1 per annum	1 per annum
		Youth Council undertakes two youth related projects per year.	2 per annum	Achieved	2 per annum	2 per annum	2 per annum	2 per annum	2 per annum



Link to Community Outcomes	What we do (level of service)	How we measure success (performance measure)	Performance Target	Annual Report 13/14	Annual Plan 14/15	2015/16	2016/17	2017/18	2018/25
Vibrant Communities CO1 Prosperous District CO6 Effective Leadership CO8	Council will support major District events that build community pride and raise the District's profile.	Number of major District events held on time and to budget.	One Major event (the Muster) and one minor event (the Christmas Parade)	Achieved	One Major event (the Muster) and one minor event (the Christmas Parade)	One Major event (the Muster) and one minor event (the Christmas Parade)	One Major event (the Muster) and one minor event (the Christmas Parade)	One Major event (the Muster) and one minor event (the Christmas Parade)	One Major event (the Muster) and one minor event (the Christmas Parade)
Vibrant Communities CO1, CO2 Effective Leadership CO8	Provision of comprehensive library facilities for the community.	Percentage of community satisfied with the quality of the library facilities and service in the annual satisfaction survey and	≥ 85%	90%	≥ 85%	≥ 85%	≥ 85%	≥ 85%	≥ 85%

Link to Community Outcomes	What we do (level of service)	How we measure success (performance measure)	Performance Target	Annual Report 13/14	Annual Plan 14/15	2015/16	2016/17	2017/18	2018/25
Prosperous District CO6, CO7 Effective Leadership CO8	Council through its membership of the Hamilton and Waikato Regional Tourism Organisation will ensure enhanced presence in national and international markets for the District.	Number of District Promotion opportunities taken by the Hamilton and Waikato Regional Tourism Organisation in key publications and industry events.	> 4	Achieved	> 4	> 4	> 4	> 4	> 4
Prosperous District CO6, CO7 Effective Leadership CO8	Council will encourage and support business expansion and sustainable economic development opportunities within the District.	Economic Development Action Plan developed and implemented.	Economic Development Action Plan developed and implemented	Not measurable	25% of the programmes identified within the District Economic Development Board Strategy are implemented	Economic Development Action Plan implemented by July 2015 and actions advanced as per plan timelines.	Actions implemented as per Economic Development Action Plan	Actions implemented as per Economic Development Action Plan	Actions implemented as per Economic Development Action Plan

## Regulation

### Statement of Service Performance

The Levels of Service and Key Performance Indicators for this Group of Activities are:

Link to Community Outcomes	What we do (level of service)	How we measure success (performance measure)	Performance Target	Annual Report 13/14	Annual Plan 14/15	2015/16	2016/17	2017/18	2018/25
Prosperous District CO6, CO7	All food and liquor retail premises will be inspected and appropriately registered and licensed.	Percentage of registration or licensing of food and liquor retail premises inspected annually.	100%	89%	100%	100%	100%	100%	100%
Prosperous District CO6, CO7	Provision of an effective environmental health service for the community.	Annual Resident Satisfaction Survey Rating on Environmental Health Service.	> 50%	52%	> 50%	> 50%	> 50%	> 50%	> 50%
Prosperous District CO6, CO7	Building consents and project information memoranda issued within 15 working days.	Percentage of building consents and project information memoranda issued within 15 working days.	90%	91%	90%	90%	90%	90%	90%
Prosperous District CO6, CO7	Council will process, inspect and certify buildings work in the Waitomo District.	WDC maintains building control systems and process to meet IANZ Audit requirements.	BCA Accreditation achieved every 2 years.	N/A	N/A	Accreditation Maintained	Accreditation Achieved	Accreditation Maintained	Accreditation Achieved

Link to Community Outcomes	What we do (level of service)	How we measure success (performance measure)	Performance Target	Annual Report 13/14	Annual Plan 14/15	2015/16	2016/17	2017/18	2018/25
Prosperous District CO6, CO7 Effective Leadership CO8	Provision of an effective building control service to the community.	Annual Resident Satisfaction Survey rating on Building Control.	> 50%	48%	> 50%	> 50%	> 50%	> 50%	> 50%
Prosperous District CO6, CO7	Dog owners' properties will be inspected to ensure compliance with the Dog Control Act 1996 and Council's bylaws.	Percentage of dog owners' properties inspected per year.	Urban 100%  Rural 10%	Urban 70%  Rural 2%	Urban 100%  Rural 10%	Urban 100%  Rural 10%	Urban 100%  Rural 15%	Urban 100%  Rural 20%	Urban 100%  Rural 20%
Prosperous District CO6, CO7	High level of customer satisfaction with animal control service.	Annual Resident Satisfaction survey rating on Animal Control.	≥ 50%	46%	≥ 50%	≥ 50%	≥ 50%	≥ 50%	≥ 50%
Prosperous District CO6, CO7	Dog Owners are well informed of their responsibilities and WDC Support.	Number of Dog/Owner Education initiatives.	≥ 2	N/A	N/A	≥ 2	≥ 2	≥ 2	≥ 2

## Environmental Sustainability Group

**Solid Waste Management****Statement of Service Performance**

The Levels of Service and Key Performance Indicators for this Group of Activities are:

Link to Community Outcomes	What We Do (Level Of Service)	How We Measure Success (Performance Measure)	Performance Target	Annual Report 13/14	Annual Plan 14/15	2015/16	2016/17	2017/18	2018/25
Vibrant Communities CO5 Effective Leadership CO8 Sustainable Infrastructure CO10	Users find the recycling facilities safe to use.	Percentage of users rate the safety of Council's recycling facilities as satisfactory or better.	75%	92%	75%	75%	75%	75%	75%
Vibrant Communities CO5 Effective Leadership CO8 Sustainable Infrastructure CO10	Provision of effective waste service for the community.	Customer satisfaction survey rating on waste transfer stations.	60%	78%	60%	60%	60%	60%	60%

Link to Community Outcomes	What We Do (Level Of Service)	How We Measure Success (Performance Measure)	Performance Target	Annual Report 13/14	Annual Plan 14/15	2015/16	2016/17	2017/18	2018/25
Vibrant Communities CO5 Sustainable Infrastructure CO10	The solid waste management facilities feel safe to the user.	Percentage of users rate the District's waste transfer stations safe to use.	70%	90%	70%	70%	70%	70%	70%
Vibrant Communities CO5 Sustainable Infrastructure CO10	Users find the landfill facility safe to use.	Percentage of users rate the safety of Council's landfill facility as satisfactory or better.	75%	94%	75%	75%	75%	75%	75%
Vibrant Communities CO5 Sustainable Infrastructure CO10	The solid waste management facilities are open and accessible to users at advertised times.	Number of complaints per month due to facilities not being open at advertised times.	<1	Achieved	<1	<1	<1	<1	<1

Link to Community Outcomes	What We Do (Level Of Service)	How We Measure Success (Performance Measure)	Performance Target	Annual Report 13/14	Annual Plan 14/15	2015/16	2016/17	2017/18	2018/25
Vibrant Communities CO5 Sustainable Infrastructure CO10	Reduce quantity of recyclables like paper and plastics in bag collection that goes to landfill.	Percentage of reduction per annum leading to 10% reduction by 2016 and 15% by 2025 achieved through continual	1.5%	Not Achieved	1.5%	1.5%	1.5%	1.5%	1.5%
Vibrant Communities CO5 Sustainable Infrastructure CO10	Reduce the quantity of organic waste like food scraps etc in bag collection that goes to landfill.	Percentage of reduction per annum achieved through continual education leading to 10% reduction	1.0%	Not Achieved	1.0%	1.0%	1.0%	1.0%	1.0%
Vibrant Communities CO5 Sustainable Infrastructure CO10	Provision of an effective solid waste service for the community.	Average number of complaints received per month regarding solid waste activities.	≤ 10	Achieved	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10

## Resource Management

### Statement of Service Performance

The Levels of Service and Key Performance Indicators for this Group of Activities are:

Link to Community Outcomes	What We Do (Level Of Service)	How We Measure Success (Performance Measure)	Performance Target	Annual Report 13/14	Annual Plan 14/15	2015/16	2016/17	2017/18	2018/25
Vibrant Communities CO5 Prosperous District CO6 Effective Leadership CO8	Council will ensure that resource consents are processed in a timely and customer friendly manner so as to facilitate district wide development.	Percentage of notified consents processed within 80 working days of receipt.	90%	Achieved	90%	90%	90%	90%	90%
		Percentage of non-notified consents processed within 20 working days.	90%	Achieved	90%	90%	90%	90%	90%
Vibrant Communities CO5 Prosperous District CO6	All premises where resource consent have been issued will be monitored at least biennially to ensure compliance.	Percentage of consented premises visited each year.	50%	Achieved	50%	50%	50%	50%	50%



## Stormwater Drainage

### Statement of Service Performance

The Levels of Service and Key Performance Indicators for this Group of Activities are:

Link to Community Outcomes	What we do (level of service)	How we measure success (performance measure)	Performance Target	Annual Report 2013/14	Annual Plan 2014/15	2015/16	2016/17	2017/18	2018/25
Vibrant Communities CO5 Sustainable Infrastructure C10	Stormwater drainage system is adequate and is sufficiently maintained.	The number of flooding events that occur in the district in a financial year.	Nil (for less than 1 in 2 year event)	NA	NA	Nil (for less than 1 in 2 year event)	Nil (for less than 1 in 2 year event)	Nil (for less than 1 in 2 year event)	Nil (for less than 1 in 2 year event)
		For each flooding event the number of habitable floors affected in a financial year.	≤ 1 per 1000	NA	NA	≤ 1 per 1000 properties	≤ 1 per 1000 properties	≤ 1 per 1000 properties	≤ 1 per 1000 properties
Vibrant Communities CO5 Effective Leadership CO8 Sustainable Infrastructure C10	Environmental impact of Stormwater will be managed effectively.	Compliance with resource consents for discharge from its Stormwater system, measured by the number of:	Nil	NA	NA	Nil	Nil	Nil	Nil
		• abatement notices	0	0	0	0	0	0	0
		• Infringement notices	2	NA	NA	2	2	2	2
		• enforcement orders	Nil	NA	NA	Nil	Nil	Nil	Nil
		• successful prosecutions	Nil	NA	NA	Nil	Nil	Nil	Nil

Vibrant Communities CO5 Sustainable Infrastructure C10	Timely response for flooding events	The median response time to attend a flooding event, (measured from the time that the notification is received to the time that service personnel reach the site)	≤ 180 minutes (3hrs)	NA	NA	≤ 180 minutes (3hrs)	≤ 180 minutes (3hrs)	≤ 180 minutes (3hrs)	≤ 180 minutes (3hrs)
Vibrant Communities CO5 Sustainable Infrastructure C10	Provision of an effective Stormwater drainage system and service to the community.	Number of complaints received about the performance of the Stormwater system in a financial year.	≤4 complaints per 1000 properties	NA	NA	≤4 complaints per 1000 properties	≤4 complaints per 1000 properties	≤4 complaints per 1000 properties	≤4 complaints per 1000 properties

## Sewerage and Treatment and Disposal of Sewage

### Statement of Service Performance

The Levels of Service and Key Performance Indicators for this Group of Activities are:

Link to Community Outcomes	What we do (level of service)	How we measure success (performance measure)	Performance Target	Annual Report 2013/14	Annual Plan 2014/15	2015/16	2016/17	2017/18	2018/25
Vibrant Communities CO5 Sustainable Infrastructure C10	Sewerage System is adequate and is sufficiently maintained.	Number of complaints received in a financial year about ; <ul style="list-style-type: none"> <li>• sewage odour</li> <li>• sewage system faults</li> <li>• sewage system blockages, and</li> <li>• Council's response to issues with the sewage system.</li> </ul>				Total complaints per 1000 connections ≤20	Total complaints per 1000 connections ≤20	Total complaints per 1000 connections ≤20	Total complaints per 1000 connections ≤20
Vibrant Communities CO5 Effective Leadership CO8 Sustainable Infrastructure C10	Environmental impacts of Sewerage systems will be managed effectively.	Compliance with the Council's resource consents for discharge from its sewage system, measured by the number of: <ul style="list-style-type: none"> <li>• abatement notices</li> </ul>				Nil	Nil	Nil	Nil

		<ul style="list-style-type: none"> <li>• infringement notices</li> </ul>				Nil	Nil	Nil	Nil
		<ul style="list-style-type: none"> <li>• enforcement orders</li> </ul>				Nil	Nil	Nil	Nil
		<ul style="list-style-type: none"> <li>• convictions received</li> </ul> <p>received by Council in a financial year.</p>				Nil	Nil	Nil	Nil
Vibrant Communities CO5 Sustainable Infrastructure C10	Timely response and resolution for sewage overflows.	The median response times for attendance in a financial year. (from the time that the Council receives notification to the time that service personnel reach the site)				≤180 minutes (3hrs)	≤180 minutes (3hrs)	≤180 minutes (3hrs)	≤180 minutes (3hrs)
		The median resolution time in a financial year: (from the time that the Council receives notification to the time that service personnel confirm resolution of the blockage or other fault)				≤ 540 minutes (9hrs)	≤ 540 minutes (9hrs)	≤ 540 minutes (9hrs)	≤ 540 minutes (9hrs)

	Provision of effective and reliable sewerage systems and service to the community.	Number of dry weather sewage overflows from the Council's sewerage system in a financial year.				≤ 5 per 1000 connections	≤ 5 per 1000 connections	≤ 5 per 1000 connections	≤ 5 per 1000 connections
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## Economic Sustainability Group

### Water Supply

#### Statement of Service Performance

The Levels of Service and Key Performance Indicators for this Group of Activities are:

Links to Community Outcomes	What We Do (Level Of Service)	How We Measure Success (Performance Measure)	Performance Target	Annual Report 2013/14	Annual Plan 2014/15	2015/16	2016/17	2017/18	2018/25
Vibrant Communities CO5 Sustainable Infrastructure C10	Water supply system is adequate and sufficiently maintained for public health purposes.	The extent to which the Council's drinking water supplies complies with Part 4 of the drinking-water standards (bacteria compliance criteria).	Yes			Yes	Yes	Yes	Yes
		The extent to which the Council's drinking water supplies complies with Part 5 of the drinking-water standards	Yes			Yes	Yes	Yes	Yes
Vibrant Communities CO5 Sustainable Infrastructure C10	Water Supply networks are being maintained adequately.	Percentage of real water loss from the Council's networked reticulation system in a financial year in:							
		<ul style="list-style-type: none"> <li>Te Kuiti</li> </ul>	≤ 25%			≤ 25%	≤ 25%	≤ 25%	≤ 25%
		<ul style="list-style-type: none"> <li>Mokau</li> </ul>	≤ 25%			≤ 25%	≤ 25%	≤ 25%	≤ 25%
		<ul style="list-style-type: none"> <li>Piopio</li> </ul>	≤ 25%			≤ 25%	≤ 25%	≤ 25%	≤ 25%

Links to Community Outcomes	What We Do (Level Of Service)	How We Measure Success (Performance Measure)	Performance Target	Annual Report 2013/14	Annual Plan 2014/15	2015/16	2016/17	2017/18	2018/25
		<ul style="list-style-type: none"> <li>Benneydale</li> </ul> <p>(‘Water Losses’ includes real losses through leaks in the network and apparent losses through metering inaccuracies or water theft. This does not include unauthorised</p>	≤ 15%	N/A	N/A	≤ 15%	≤ 15%	≤ 15%	≤ 15%
Vibrant Communities CO5 Sustainable Infrastructure C10	Timely response and resolution of service requests.	The median response times for attendance for urgent call-outs in a financial year*	≤ 180 minutes (3 hrs)	N/A	N/A	≤ 180 minutes (3 hrs)	≤ 180 minutes (3 hrs)	≤ 180 minutes (3 hrs)	≤ 180 minutes (3 hrs)
		The median resolution time of urgent call-outs in a financial year**	≤ 540 minutes (9hrs)	N/A	N/A	≤ 540 minutes (9hrs)	≤ 540 minutes (9hrs)	≤ 540 minutes (9hrs)	≤ 540 minutes (9hrs)
		The median response times for attendance for non-urgent call outs in a financial year*	≤ 660 Minutes (11hrs)	N/A	N/A	≤ 660 Minutes (11hrs)	≤ 660 Minutes (11hrs)	≤ 660 Minutes (11hrs)	≤ 660 Minutes (11hrs)
		The median resolution time of non-urgent call-outs in a financial year**	≤ 850 minutes (14.1hrs)	N/A	N/A	≤ 850 minutes (14.1hrs)	≤ 850 minutes (14.1hrs)	≤ 850 minutes (14.1hrs)	≤ 850 minutes (14.1hrs)
		<p>* from the time that the Council receives notification to the time that the service personnel reach the site.  ** from the time that the Council receives notification to the time that service personnel confirm resolution of the fault or interruption</p>							

Links to Community Outcomes	What We Do (Level Of Service)	How We Measure Success (Performance Measure)	Performance Target	Annual Report 2013/14	Annual Plan 2014/15	2015/16	2016/17	2017/18	2018/25
Vibrant Communities CO5 Sustainable Infrastructure C10	Provision of effective and reliable water supply system to the community.	The total number of complaints received for:	≤ 5	N/A	N/A	≤ 5	≤ 5	≤ 5	≤ 5
		• drinking water taste	≤ 5	N/A	N/A	≤ 5	≤ 5	≤ 5	≤ 5
		• drinking water odour	≤ 5	N/A	N/A	≤ 5	≤ 5	≤ 5	≤ 5
		• drinking water pressure flow	≤ 5	N/A	N/A	≤ 5	≤ 5	≤ 5	≤ 5
		• continuity of supply	≤ 5	N/A	N/A	≤ 5	≤ 5	≤ 5	≤ 5
		received by council in a financial							
	Median response time to any of these issues within a financial year.	≤ 180 minutes	N/A	N/A	≤ 180 minutes	≤ 180 minutes	≤ 180 minutes	≤ 180 minutes	
Vibrant Communities CO5 Effective Leadership CO8 Sustainable Infrastructure C10	Efficient management of demand for water for the community.	Average consumption of drinking water per day per resident within the district.	≤ 400 litres per person per day	N/A	N/A	≤ 400 litres per person per day	≤ 400 litres per person per day	≤ 400 litres per person per day	≤ 400 litres per person per day



## Roads and Footpaths

### Statement of Service Performance

The Levels of Service and Key Performance Indicators for this Group of Activities are:

Links to Community Outcomes	What We Do (Level Of Service)	How We Measure Success (Performance Measure)	Performance Target	Annual Report 2013/14	Annual Plan 2014/15	2015/16	2016/17	2017/18	2018/25
Sustainable Infrastructure C10 Prosperous District CO7 Effective Leadership CO8	Monitor safety of local roads to assist in planning and prioritising works required to upgrade, maintain or change the condition of the roading environment in order to reach and maintain a specified level of safety.	The change from the previous financial year in the number of fatalities and serious injury crashes on the local sealed road network.	1 (or maintain at 0)			1 (or maintain at 0)	1 (or maintain at 0)	1 (or maintain at 0)	1 (or maintain at 0)
Sustainable Infrastructure C10 Prosperous District CO7 Effective Leadership CO8	Maintain the overall condition of local roads to a specified adequate standard	The average quality of ride on a sealed local road network, measured by smooth travel exposure, in a financial year. (Percentage of measured sealed road lane kilometres not exceeding a NAASRA* roughness count rating of 150 to be at least 90%.)	90%			90%	90%	90%	90%

Sustainable Infrastructure C10 Prosperous District CO7	Maintain the overall condition of sealed roads to a specified adequate standard	Percentage of the sealed local road network that is resurfaced in a financial year.	7% (of total)			7% (of total)	7% (of total)	7% (of total)	7% (of total)
Sustainable Infrastructure C10 Prosperous District CO7	Maintain the overall condition of footpaths to a specified adequate standard	The percentage of footpath network that falls within a condition rating of <b>3</b>	90%			90%	90%	90%	90%
Sustainable Infrastructure C10 Prosperous District CO7	Manage the timeliness and appropriateness of responses to problems and service requests.	The percentage of customer service requests relating to roads and foot paths responded to within 10 working days.	95%			95%	95%	95%	95%

\* NAASRA is a generally acceptable measure of road roughness. A NAASRA count of less than 150 indicate an acceptable level of ride comfort.

**DRAFT**



**ROADS AND FOOTPATHS  
ACTIVITY MANAGEMENT PLAN  
2015 - 2025**

Adopted by Council on 2015

DOCUMENT CONTROL SHEET
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# SECTION 1 EXECUTIVE SUMMARY

## 1.1 Introduction

The Roads and Footpaths Activity Management Plan (AMP) describes the strategies and work programmes for the Roads and Footpaths activity for the Waitomo District Council (WDC) so as to meet the objective of delivering the required levels of service to existing and future users in the most cost effective way. It informs the Council's 30-year Infrastructure Strategy and 2015-25 Long Term Plan (LTP) and contributes to meeting the identified Community Outcomes.

This Plan is an update of the 2012 Roads and Footpaths Activity Management Plan and associated long-term expenditure forecast produced for roading assets owned and managed by WDC. It is planned to review and update this document regularly in line with the 3 yearly planning cycle of Council's LTP to reflect improved decision making techniques, better asset information and changes to customer expectations.

This activity, previously known as "Land Transport", is now known as the "Roads and Footpaths Group" in WDC's 2015-25 Long Term Plan (LTP). For the purposes of consistency, references to "Roads and Footpaths" and "Land Transport" have the same meaning.

The plan covers:

- A description of the activity, including the rationale for Council involvement and any significant negative effects of the activity.
- The strategic environment (Council Vision and future demand drivers) for the activity, the key Activity Management policies and strategies adopted within this environment and the main risk issues identified for the activity.
- A statement of the intended levels of service and performance targets.
- Demand and demand management factors
- Risks and resilience of critical assets
- Information on the scope of assets involved in delivering services, and statements on;
  - the estimated expense for achieving and maintaining the target levels of service;
  - how Council will assess and manage the implications of demand and service provision levels and standards, the estimated costs of the provision of additional asset capacity and how these costs will be met;
  - how the maintenance, renewal and replacement of assets will be undertaken, and how they will be funded;
  - how expenditure will be met and the estimated revenue levels and other source of funds.

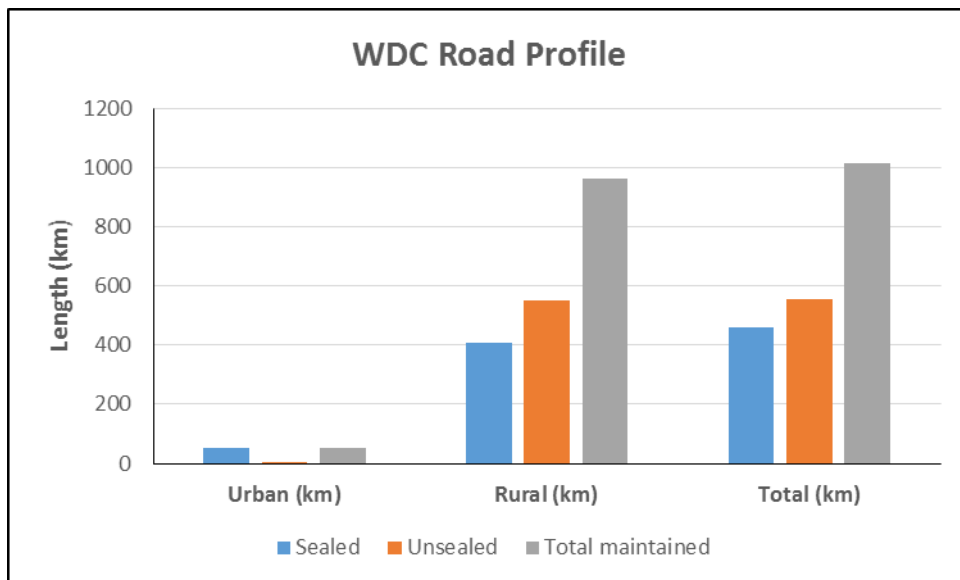
Council has identified in its community outcomes that Waitomo District shall be a place where the economic and lifestyle needs of the District are supported through provision of a safe and reliable transport network that provides access to properties, safe and effective transportation of people, goods and services, and ensures efficient passage of through traffic. Council has recognised that Land Transport is a primary contributor to economic wellbeing and a secondary contributor to social wellbeing.

The provisional 30 year financial forecast for the Roads and Footpaths activity was determined by identifying and the continuation/evaluation of current maintenance levels and renewal strategies within each of the components, i.e. pavements, footpaths, traffic services etc

## 1.2 The Activity

The WDC road network comprises 1,014 km of predominantly rural roads. This AMP covers those roading assets that lie within the road reserve corridor, including pavements, bridges, footpaths, streetlights, signage, parking, kerb and channel and drainage control with a total value of \$291.03 million. It does not include street furniture such as bike racks, rubbish bins, bus shelters, street trees, gardens and berms - they are addressed under the Public Amenities AMP.





The scope of the Roads and Footpaths activity in the Waitomo District is almost entirely related to the management of local road and footpath assets. Council funding is limited to these activities. There are no passenger transport services available other than the national links via the NZ Rail Overlander service and inter-regional bus connections operating on the State Highway network.

### 1.3 Strategic Environment

#### 1.3.1 Vision

WDC’s Vision for the 2015-25 Long Term Plan is

**“Creating a better future with vibrant communities and thriving business”**

#### 1.3.2 Community Outcomes

The Roads and Footpaths Group contributes to the following community outcomes identified in WDC’s 2015-25 LTP:

##### **Sustainable Infrastructure:**

**CO10** A place that provides safe, reliable and well managed infrastructure which meets the District community needs and supports maintenance of public health, provision of good connectivity and development of the District.

##### **Thriving Business**

**CO7** A place where wealth and employment are created through local businesses and tourism opportunities and facilities are developed, facilitated and encouraged

##### **Effective Leadership**

**CO8** A place where the development of partnership for the delivery of programmes and services is encouraged and pursued.

#### 1.3.3 Strategic Goal

Council has developed the following Strategic Goal for this Activity Group:

*The economic and lifestyle needs of the District are supported through provision of a safe and reliable transport network providing access to properties and an effective transportation service, and ensuring passage of through traffic.*

### 1.3.4 Rationale for Service Delivery

This Activity Group exists to provide safe and reliable transport infrastructure (including footpaths) to facilitate the movement of people and goods, consistent with the strategic goal. An efficient, safe and sustainable road network is essential for the economic well being of our District. Roads provide access to properties (together with footpaths), and enable both passage of through traffic, and transportation of goods and services.

## 1.4 Levels of Service

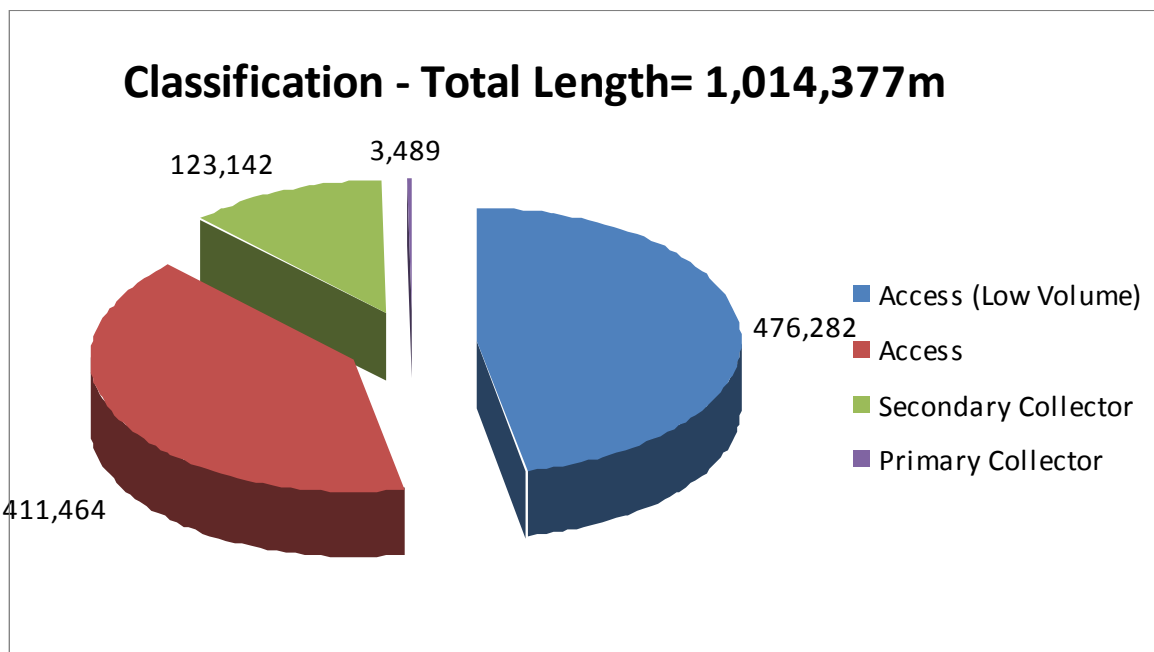
A key objective of this AMP is to match asset performance with technical and customer levels of service expectations. That requires a clear understanding of customer needs, expectations and preferences. Customer satisfaction surveys have been regularly used by Council to help quantify user satisfaction with levels of service provided through Council's roading programmes.

From the above strategic environment, WDC has developed various levels of service which are statements describing what the customer expects to experience from the service.

### 1.4.1 One Network Roding Classification (ONRC)

The ONRC introduces the concept of uniform levels of service for each road classification, nationwide. The intention is that the road user experience should be similar on the same category of road, anywhere in New Zealand. The main pillars of the ONRC are "fit for purpose" roads and the associated customer levels of service, safe journeys and value for money.

The ONRC comprises a six-category roading hierarchy, plus two sub-categories, ranging from National (high volume) roads to Access (low volume) roads. For WDC's roads it means that, using the most practical application of the ONRC, all of WDC's roads fit within the four lowest categories – Primary Collector (0.3%), Secondary Collector (12%), Access (40.6%) and Access (low volume) (40.7%). Eighty per cent of WDC's road network fits within the bottom two categories, with 76% of its unsealed roads having less than 50 vehicles per day (vpd) and 100% having less than 200 vpd. The distribution of WDC's roading network by length under the relevant categories of ONRC is shown in the pie chart below.

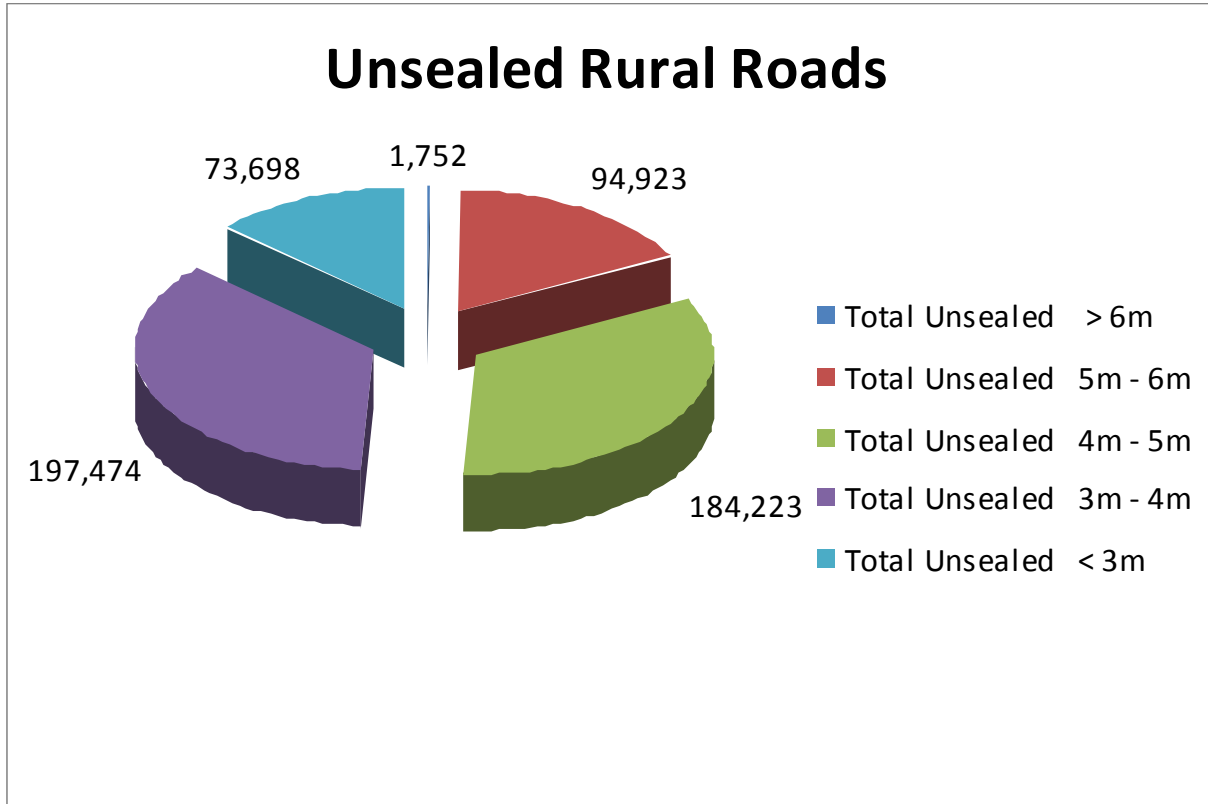


The development of this Activity Management Plan has been based on customer and technical levels of service using internal knowledge and experience of such matters and applied as present practice.

WDC has based the minimum TLoS on NZS4404:2004, which has been adopted by NZTA as the minimum standards for road carriage widths and formations eligible for financial assistance. This has been adapted by WDC to provide a fit for purpose roading network which is a lesser standard than what is in NZS4404:2004.

There are currently 226km of the sealed network and 270km of the unsealed network that do not meet these minimum TLoS.

The graph below illustrates the large proportion of WDC's unsealed roads that are less than a minimum carriageway width of 5.0m. Approximately 274km of 555km of the unsealed road network has a carriageway less than 4.0m wide, equivalent to 1.5 traffic lanes maximum. About 74km of the 274km unsealed roads is less than 3.0m wide.



In addition, the rugged terrain of large parts of Waitomo district has resulted in a roading network that has significant numbers of tight bends which does not meet the dimensional requirements for large truck and trailer configurations (eg 50Max HPMV).

It is intended to improve those parts of the sealed and unsealed network that does not meet the existing set of TLoS over time. The first priority will involve curve widening followed by standardising the road formation width.

The existing LoS has to be assessed against the ONRC LoS to determine any gaps in or differences. The transition from current levels of service to that applying under ONRC will take place over the period 2015 to 2018 using guidelines currently under development. All roads have been assigned the appropriate category of ONRC. A draft transition plan is included in the appendices.

#### 1.4.2 Performance Measures

These are quantifiable / measurable, and measure the Group's performance against the Level of Service. The Levels of Service and Key Performance Indicators for this Group of Activities are:

LEVEL OF SERVICE	PERFORMANCE MEASURE	PERFORMANCE TARGET
<b>Road Safety</b> Monitor safety of local roads to assist in planning and prioritising works required to upgrade, maintain or change the condition of the sealed roading environment in order to reach and maintain a specified level of safety.	The change from the previous financial year in the number of fatalities and serious injury crashes on local roads	Reduction in the number of serious injuries and fatalities compared with the previous financial year= 1 (or maintain at 0 if 0 in the previous financial year).
		Reduction in the number of serious injuries and fatalities = 1 (or maintain at 0 if 0 in the previous financial year).
<b>Road Condition</b> Maintain the overall condition of local roads to a specified adequate standard.	The average ride quality of the sealed roads (measured by smooth travel exposure)	Percentage of measured sealed road lane kilometres not exceeding a NAASRA* roughness count rating of 150 to be at least 90%.
<b>Road Condition</b> Maintain the overall condition of sealed roads to a specified adequate standard.	The percentage of sealed roads resurfaced each year	At least 7% of the total.
<b>Footpaths Condition</b> Maintain the overall condition of footpaths to an adequate standard.	The percentage of footpath network that falls within a condition rating of <b>3</b>	At least 90%.
<b>Response to Service Requests</b> Manage the timeliness and appropriateness of responses to problems and service requests.	The percentage of customer service requests relating to roads and foot paths responded to within 10 working days.	At least 95%

### 1.5 Future Demand

#### 1.5.1 Population

The district resident population has experienced a slight decline over the 2006 to 2013 inter-census period. The future population forecast prepared by the National Institute of Demographic and Economic Analysis (Waikato University) predicts a continuation of this downward trend for the district over the next 50 years. At a micro level, this pattern of population decline is expected to be consistent, more or less, across the

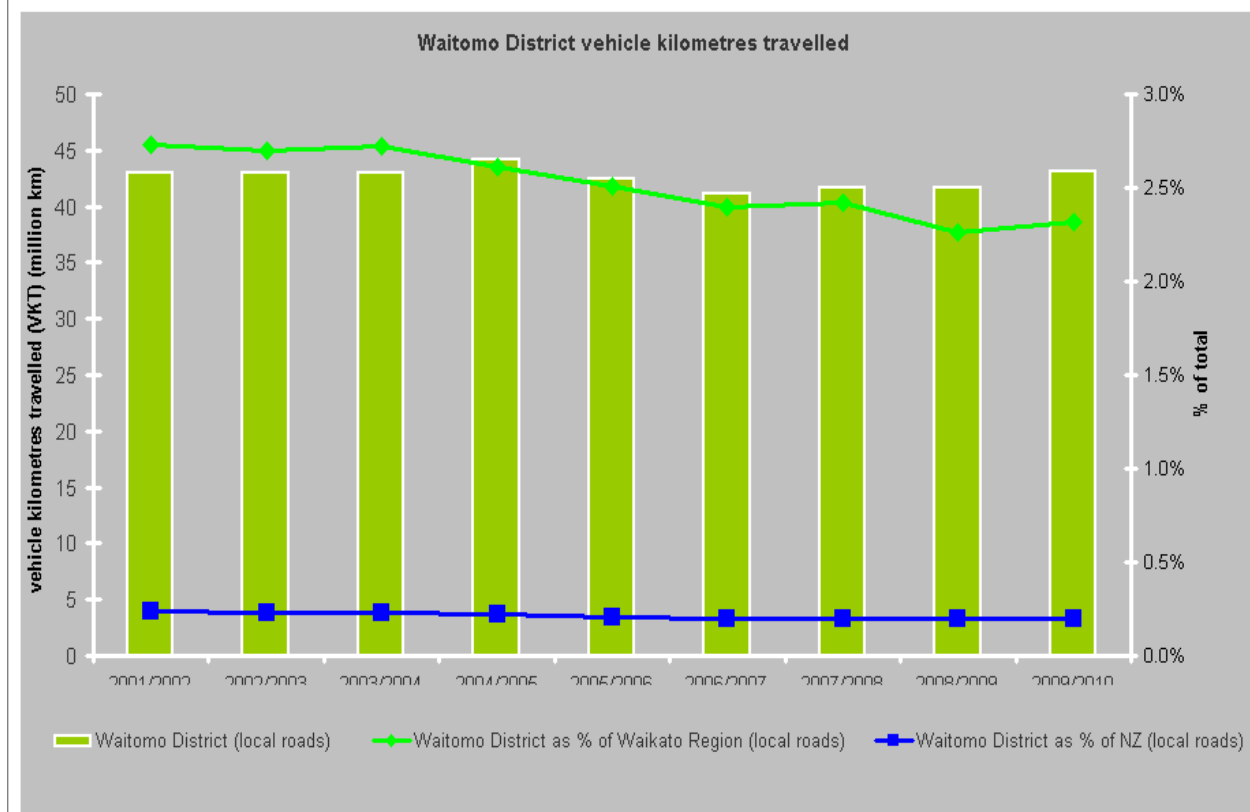
district, including the coastal communities that were previously areas experiencing highest growth and demand. Overall, the demographic and development trends show that there is no population based demand for growth related infrastructure at the present time or in the foreseeable future.

1.5.2 Subdivisional development

From a recent, informal, desktop planning exercise, drawing from development proposals which are known to officers and/or are in the early stages of consent processing, it has been identified that further growth is unlikely to place pressure on the provision of Council services. Indications are the recent trends of relatively slow development are likely to continue into the foreseeable future. It is expected that any increase in demand from residential development over the term of this AMP will be minor and readily accommodated within the existing capacity of the roading network.

1.5.3 Traffic growth

The graph below from NZTA, details the actual total annual vehicle kilometers travelled (VKT) over the 2001 to 2010 period within Waitomo district and compares it with the Waikato district and nationwide.



VKT from 2010 through to 2013 as recorded on the NZTA Intelligence iServer website, show a similar pattern in 2011 and 2012, with VKT increasing to approximately 46,000 in 2013 due to an increase in travel on both rural and urban roads.

Overall, the average traffic growth trend indicates a reasonably static annual traffic volume across the district from locally generated traffic but an increase in heavy traffic servicing primary industry. While levels of service expectations may increase with time, traffic volumes will be easily accommodated within the existing capacity of the road network. Localised, growth related, capacity improvements are likely to be needed including seal and corner widening on WDC access roads in the vicinity of land use activities generating these traffic movements.

1.5.4 50 MAX HPMS

Other demand drivers impacting on the Roads and Footpaths activity include 50 Max High Productivity Motor Vehicles (50MAX HPMVS), and high impact land use activities such as forestry harvesting, quarries and transport activities associated with heavy industry.

50MAX HPMVS and high impact land use activities are route specific. Collectively, they introduce higher demand on pavement strength and road geometry. The following table identifies the key local roads affected by these transport activities.



Road	Route Position	No. of Bridges on Route	Bridge No.	Condition	Major Capital Work required within Next 10yrs	Estimated Remaining Life (Years)
Oparure Rd	0-8000	3	53	Good	No	40+
Oparure Rd	0-8000	3	54	Good	No	40+
Oparure Rd	0-8000	3	56	Average	No	10 to 20
Ruru St (Aria)	0-960	1	79	Average	No	20+
Aria Rd	0-10900	1	82	Good	No	40+
Kaitaringa Rd	0-3300	0	-	-	-	-
Waitahi Rd	0-1000	0	-	-	-	-
Kohua Rd	0-500	0	-	-	-	-
Mangarino Rd	380-12100	1	32	Good	No	40+
Hangatiki East Rd	0-6200	0	-	-	-	-
Somerville Rd	350-2200	1	276	Excellent	No	40+

## 1.6 Lifecycle Asset Management

The Roads and Footpaths activity budgets contained in the draft 2015-25 LTP have been drawn from this Plan. It is intended that WDC will adopt this Activity Management Plan (AMP) as a draft in late 2014 in support of the draft 2015-25 LTP. It will be adjusted following any relevant changes made to the LTP arising from public consultation and after adoption of the final LTP.

This AMP is intended to demonstrate responsible stewardship of roading assets by WDC on behalf of its customers and stakeholders. The Plan also acts as a vehicle for communication with all parties with an interest in WDC's Activity Management practices. It provides a focus within WDC for ongoing development of good Activity Management and demonstrates that the service potential of the roading network is maintained at optimum cost to provide a defined level of service over the long term.

The Roads and Footpaths AMP aims to provide the tactics that will enable Council to achieve its strategic goals most cost effectively, via the LTP process. It is based on existing levels of service, currently available information and the knowledge and experience of Council staff and contractors competent in asset management practices.

The AMP improvement plan has been reviewed and updated, whilst identifying key areas required to improve the quality of both the content and presentation of this document.

### 1.6.1 Maintenance

Maintenance is the on-going day to day work activity required to keep assets serviceable and prevent premature deterioration or failure. Two categories of maintenance are carried out:

**Unplanned Maintenance:** The majority of defects are notified by the public, and a 24 hour call-out service is provided to attend problems. Contract documents specify the timeliness of the response and the actions to be taken. Priority is given to works impacting on safety over cosmetic type work.

**Planned Maintenance:** Work carried out to a predetermined schedule or planned in association with other work.

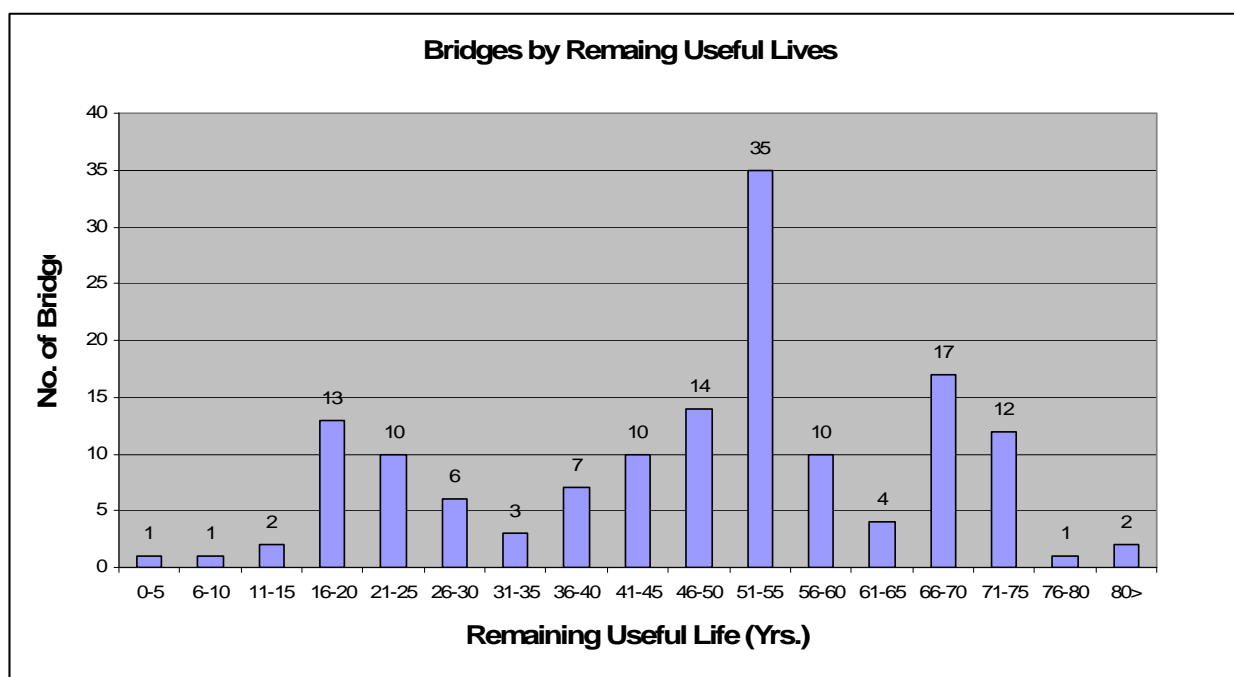
Traditionally, maintenance work has been carried out in conjunction with other programmes. It is planned to refocus maintenance work in the next road maintenance contract to ensure that all roads receive a minimum level of cyclic maintenance treatment, twice a year.

### 1.6.2 Renewals

The renewals programme comprises an essential part of this AMP. Maintaining levels of service is dependent on replacing assets at the end of their useful lives. Renewals planned for significant asset types making up the overall Roads and Footpaths activity are summarised below.

## Bridges

The latest (2014) condition based assessment of remaining useful life of WDC's bridge assets (which include culverts with a cross-sectional area greater than 3.14m<sup>2</sup>) is depicted in the following graph:



There are 3 bridges due for replacement in the next ten years and 33 in the next 30 years, based on age alone. Of these, 15 bridges specifically identified to be replaced prior to 2045.

The bridges scheduled for replacement over the next 10 years are as follows:

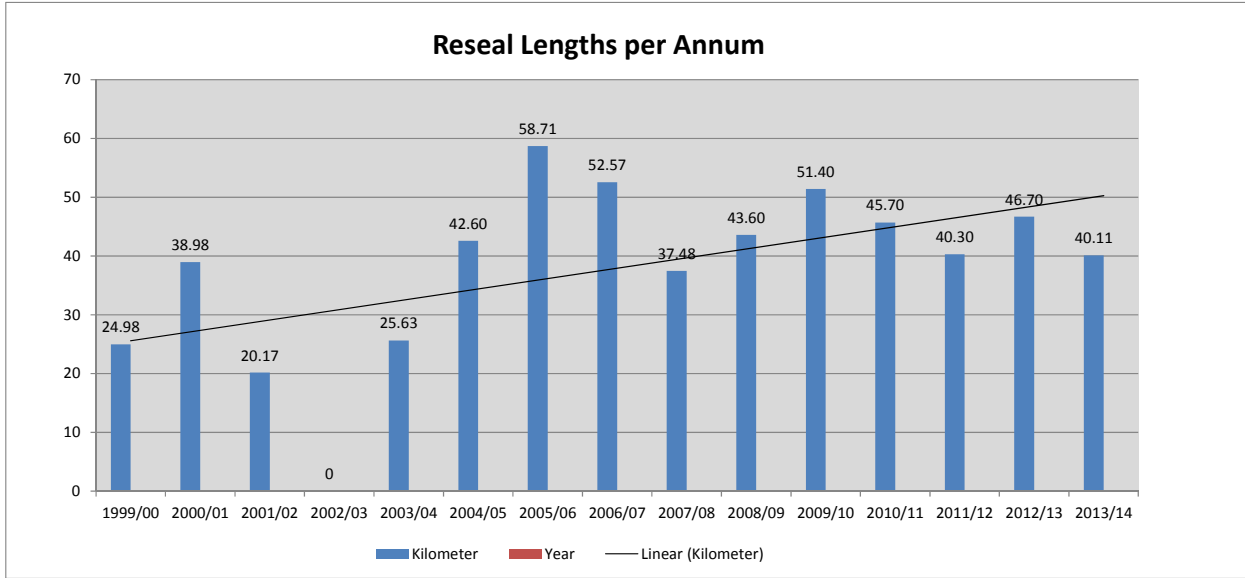
No.	Road	Material	Life	Date of Installation	Notes	Year due for replacement	Budget forecast (\$)
199	Mokauiti	Armco Culvert	10	1984	Corrosion evident	2020/21	250,000
71	Mairoa	Armco Culvert	10 - 20	1979	Corrosion evident	2021/22	250,000
41	Walker	Armco Culvert	10	1981	Corrosion evident	2023/24	300,000

The detailed structural inspection programme may reveal the need for additional, unforeseen works and these will be included in future budgets.

## Reseals

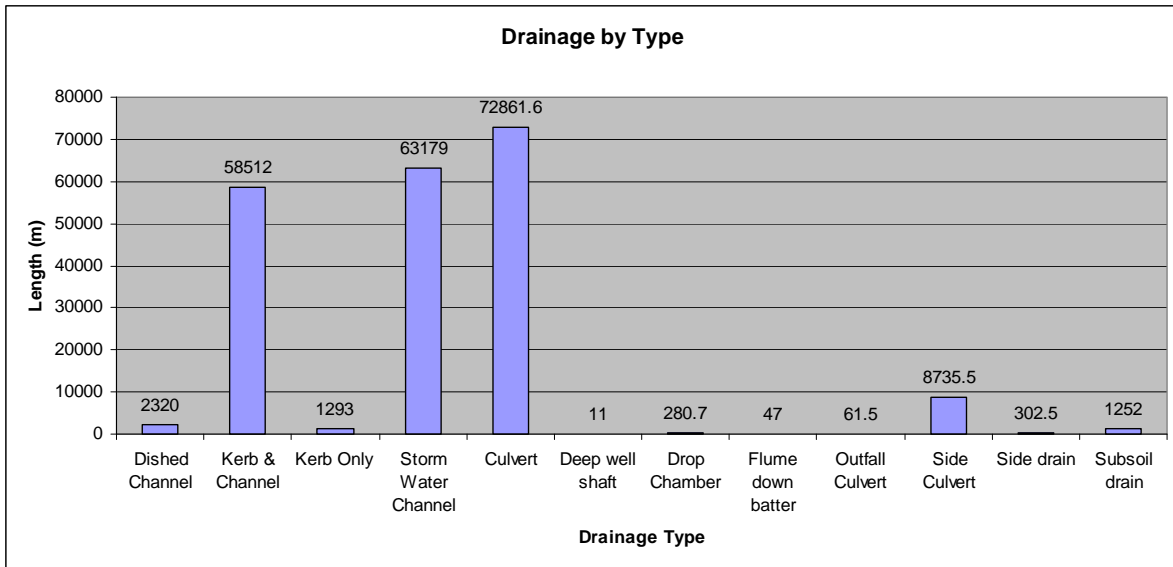
The District roading network comprises 459.26km of sealed road and 554.82km of unsealed road. Assuming an average seal life of 12 years, an annual reseals length of approximately 38km is required to maintain adequate waterproofing and skid resistance service levels and to avoid expensive road rehabilitation treatments. Over the past 15 years ending in 2013-14, the average seal length has been 37.93km per year, which includes no reseal work in 2003 as shown in the figure below. This is achieving 99% of the required amount. If the average is taken over the past ten years to exclude the zero value in 2003, it shows acceptable progress is being made on any backlog of seal overdue for replacement, and the higher trafficked roads and roads carrying high proportions of heavy traffic are receiving their warranted shorter reseal cycle.



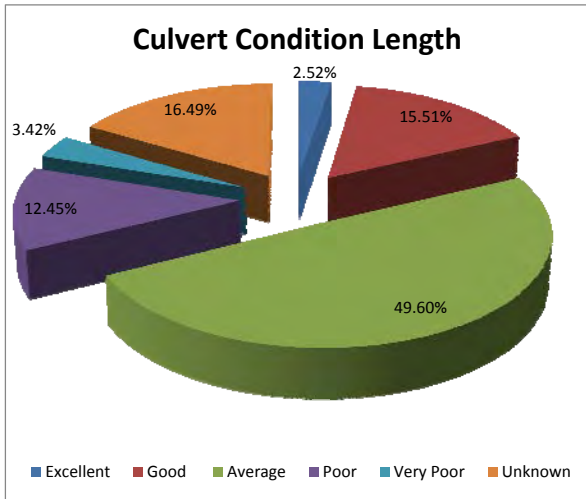
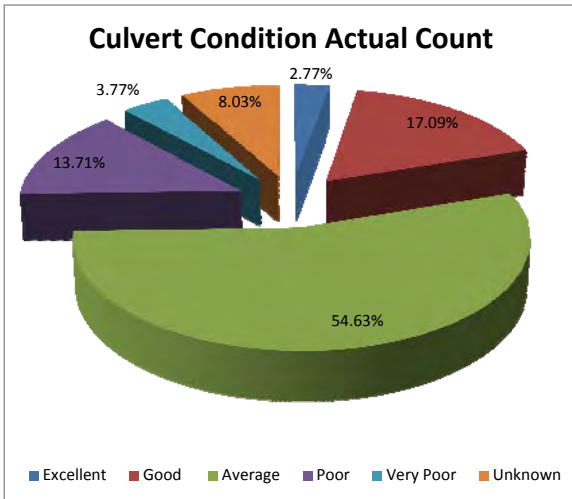


**Drainage**

There are 538 sumps and 5,394 storm water channels in Waitomo District. There are 6,837 culvert structures less than 2m in diameter, with a total length of 83,552m with a total value of 35.27 million. The graphs below illustrate the distribution by length.



Drainage, maintenance and renewal programmes are based on assessed condition and adequacy. Of significant concern is the amount of culverts with no condition data. To this end, drainage condition assessments have been built into Road Maintenance Contracts. Available condition data is graphed below:

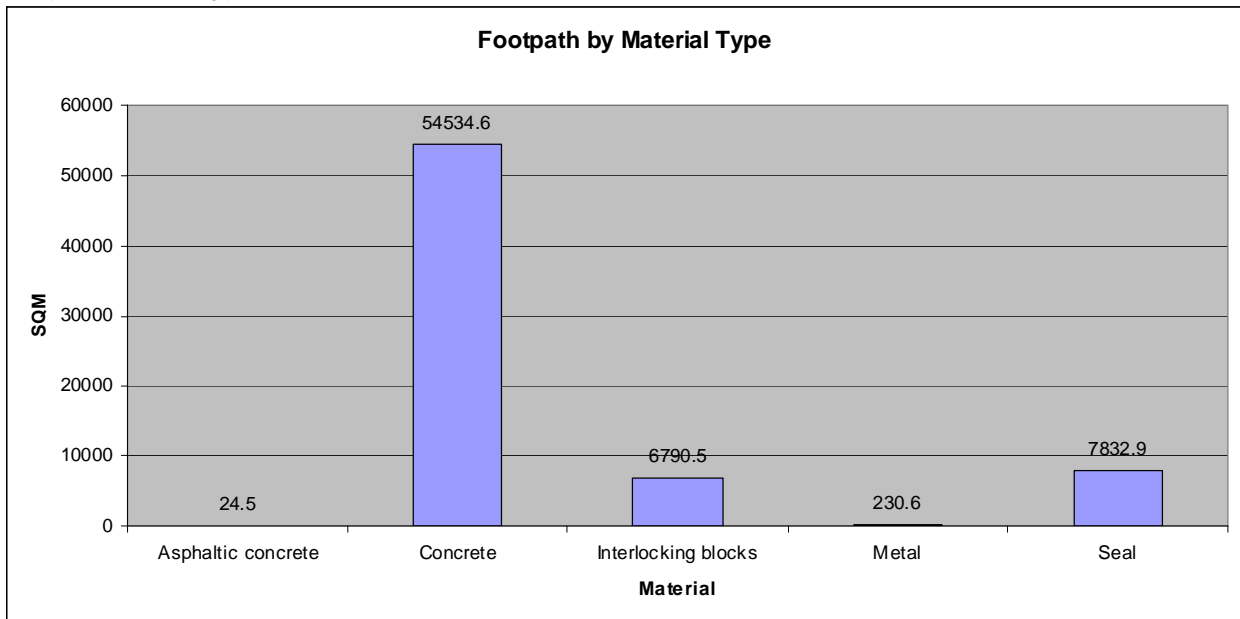


Annual drainage renewals are based on the poor/very poor condition ratings and culverts less than 350mmØ which are considered to be inadequate. After the annual culvert inspection has been analysed, those culverts rated as poor/very poor that require large repairs are put in a programme for remedial works and/or replacement. Further monies are then allocated to replace inadequate culverts with a minimum of a 450Ø culvert. Any culvert that is identified as requiring a 600mmØ culvert or larger will have catchment assessment calculations undertaken to ensure adequacy.

Kerb and channel renewals are undertaken only in conjunction with pre-reseal repairs or capital works projects. There is no renewal programme in place for sumps.

#### Footpaths

There are 47.5 km of footpath of various material types throughout the district with value of \$9.58 million. The predominant type is concrete.



Current Council policy is to uplift and relay existing pavers and to reinstate footpaths as required, utilising concrete due to its superior value for money. Using current market rates and a basic analysis the current replacement programme is insufficient to maintain the current level of service of footpaths. The annual funding level is \$33,075 and projecting that out in today's dollars over the lifetime of the asset results in a \$78,000 shortfall per annum. This is shown below:

	Useful Life	Length (m)	Area (m <sup>2</sup> )	Annual Replacement (Area or Length)	Estimated Cost	Annual Estimated Value
<b>Asphaltic Concrete</b>	35	7	24.5	0.20	\$150.00	\$30.00
<b>Concrete</b>	80	42933	54534.6	536.66	\$150.00	\$80,499.38
<b>Interlocking Blocks</b>	50	1870	6790.5	135.81	\$60.00	\$8,148.60
<b>Metal</b>	18	145	230.6	8.06	\$150.00	\$1,208.33
<b>Seal</b>	18	2584	7832.9	143.56	\$150.00	\$21,533.33
<b>Total</b>		<b>47539</b>	<b>69413.1</b>			<b>\$111,419.64</b>

Due to the current large discrepancy between the required annual funding and the provided annual funding to replace existing footpaths at the end of their life, there are no additional monies to provide more footpaths to achieve the aim of a footpath on one side of every urban street. However by the 2016/17 financial year the footpath renewal budget will have increased to \$114,490 per annum which will be sufficient to maintain the current level of service, but not provide extra footpaths as per Council policy.

#### Other asset types

Other components of the Roads and Footpaths activity include land, street lighting and other traffic services, minor structures, carparks and drainage. The relative value of the asset components is as follows:

<b>Roading</b>	
<b>Total Pavement</b>	<b>\$194,815,276</b>
<b>Total Bridges &amp; Structures</b>	<b>\$44,421,924</b>
<b>Total Footpaths</b>	<b>\$9,583,782</b>
<b>Total Road Drainage</b>	<b>\$35,271,255</b>
<b>Total Road Shoulders</b>	<b>\$2,249,525</b>
<b>Guard Rails</b>	<b>\$1,851,983</b>
<b>Total Streetlights</b>	<b>\$1,521,477</b>
<b>Traffic Facilities</b>	
<b>Total Road Signs</b>	<b>\$1,203,492</b>
<b>Consents</b>	<b>\$110,000</b>
<b>Total Roding</b>	<b>\$291,028,714</b>

## 1.7 Financial Forecast – No inflation

Roads and Footpaths	EAP 2014/15	LTP 2016	LTP 2017	LTP 2018	LTP 2019	LTP 2020	LTP 2021	LTP 2022	LTP 2023	LTP 2024	LTP 2025
<b>Operating Income</b>											
Subsidised Roads	5,911	6,839	7,052	7,335	7,624	7,945	8,299	8,661	9,061	9,501	9,950
Non Subsidised Roads	74	74	75	77	79	81	83	85	88	91	94
<b>Total Operating Income</b>	<b>5,985</b>	<b>6,913</b>	<b>7,127</b>	<b>7,412</b>	<b>7,703</b>	<b>8,026</b>	<b>8,382</b>	<b>8,746</b>	<b>9,149</b>	<b>9,592</b>	<b>10,044</b>
<b>Operating Expenditure</b>											
Subsidised Roads	8,995	9,273	9,332	9,571	9,876	10,166	10,438	10,738	10,994	11,341	11,604
Non Subsidised Roads	306	329	343	359	384	406	429	452	470	486	500
<b>Total Operating Expenditure</b>	<b>9,301</b>	<b>9,602</b>	<b>9,675</b>	<b>9,930</b>	<b>10,260</b>	<b>10,572</b>	<b>10,867</b>	<b>11,190</b>	<b>11,464</b>	<b>11,827</b>	<b>12,104</b>
<b>Net Operating Cost/(Surplus)</b>	<b>3,316</b>	<b>2,689</b>	<b>2,548</b>	<b>2,518</b>	<b>2,557</b>	<b>2,546</b>	<b>2,485</b>	<b>2,444</b>	<b>2,315</b>	<b>2,235</b>	<b>2,060</b>
<b>Capital Expenditure</b>											
Subsidised Roads	4,923	5,500	5,577	5,704	5,841	5,990	6,155	6,331	6,523	6,732	6,952
Non Subsidised Roads	340	315	320	327	335	344	353	363	374	386	399
<b>Total Capital Expenditure</b>	<b>5,263</b>	<b>5,815</b>	<b>5,897</b>	<b>6,031</b>	<b>6,176</b>	<b>6,334</b>	<b>6,508</b>	<b>6,694</b>	<b>6,897</b>	<b>7,118</b>	<b>7,351</b>
<b>Net Expenditure</b>	<b>8,579</b>	<b>8,504</b>	<b>8,445</b>	<b>8,549</b>	<b>8,733</b>	<b>8,880</b>	<b>8,993</b>	<b>9,138</b>	<b>9,212</b>	<b>9,353</b>	<b>9,411</b>
<b>Funded By</b>											
Internal Loans	371	188	357	364	372	381	390	400	411	423	435
Reserves	2,390	2,432	2,072	2,016	2,089	2,081	2,046	2,041	1,925	1,953	1,949
UAGC	186	83	85	87	88	90	91	93	95	97	97
Targeted Services Rate - Rural	26	27	29	30	33	35	37	39	41	42	43
Targeted Services Rate - Urban	206	228	240	252	272	291	309	327	341	354	364
Target Rate - Roads and Footpaths	5,399	5,547	5,663	5,800	5,880	6,004	6,120	6,237	6,398	6,485	6,523
<b>Total Funding</b>	<b>8,578</b>	<b>8,505</b>	<b>8,446</b>	<b>8,549</b>	<b>8,734</b>	<b>8,882</b>	<b>8,993</b>	<b>9,137</b>	<b>9,211</b>	<b>9,354</b>	<b>9,411</b>

## SECTION 2 INTRODUCTION

The Waitomo District occupies a large area extending from the west coast of the North Island between Mokau and Te Waitere through to Pureora forest in the east, and from Mapiu in the south to Waitomo Village in the north. The District is situated within the Waikato Region and comprises 3363.57 sq km of land. The total population is 8,910 (2013 Census), with Te Kuiti the main residential and service center having a population of 4,218. Other towns include Mokau, Waitomo, Piopio, Awakino, Marokopa and Benneydale. The local economy is based on farming, forestry, mining and tourism, all of which are key users of the District's roading network. Shown below is the location of the district.



Council's roading network is made up of a maze of local roads connecting at intersections. These roads serve road users in different fashions. State highways (shown in red above) are usually the preferred route

for through traffic journeying between main population centre's e.g. SH3, and fulfill an important arterial role for local travel even though owned and administered by New Zealand Transport Agency (NZTA). Primary and secondary collector roads are roads with generally better geometry and wider carriageway than local access roads and link local communities or industry within the district. Local access roads are those roads which primarily have a property access function.

## **2.1 Purpose of the Activity Management Plan**

Council is responsible for the management of urban and rural roading assets, other than the state highway network, which have a replacement value (excluding land value) of approximately \$291.03M as at 1 July 2014. This includes the roading network, traffic signs, road markings and posts, parking areas, street lighting, footpaths, bridges, drainage structures, and more.

The size of this investment and the importance of road access to the community demands excellence in the management of these assets. This Activity Management (AM) plan is the tool combining management, financial, engineering and technical practices to ensure that the level of service desired by users is provided at the lowest long term cost to the community. The plan is intended to demonstrate to the District's ratepayers that Council is managing their assets responsibly and to the agreed price / quality trade-offs resulting from alternative levels of service.

### **2.1.1 Benefits of Activity Management Planning**

The main benefits derived from Activity Management Planning are:

- Improved understanding of service level options and standards
- Minimum lifecycle (long term) costs are identified for an agreed level of service
- Better understanding and forecasting of asset related management options and costs
- Managed risk of asset failure
- Improved decision making based on costs and benefits of alternatives
- Clear justification of forward works programmes and funding requirements
- Improved accountability over the use of public resources
- Improved customer satisfaction and organisational image

A fundamental objective of Activity Management Planning is to identify potential opportunities for reductions in asset lifecycle costs.

## **2.2 Scope of Plan**

This plan covers the 10 year period from 1 July 2015 to 30 June 2025, however there is some indicative 30 year information included to support the Infrastructure Strategy.

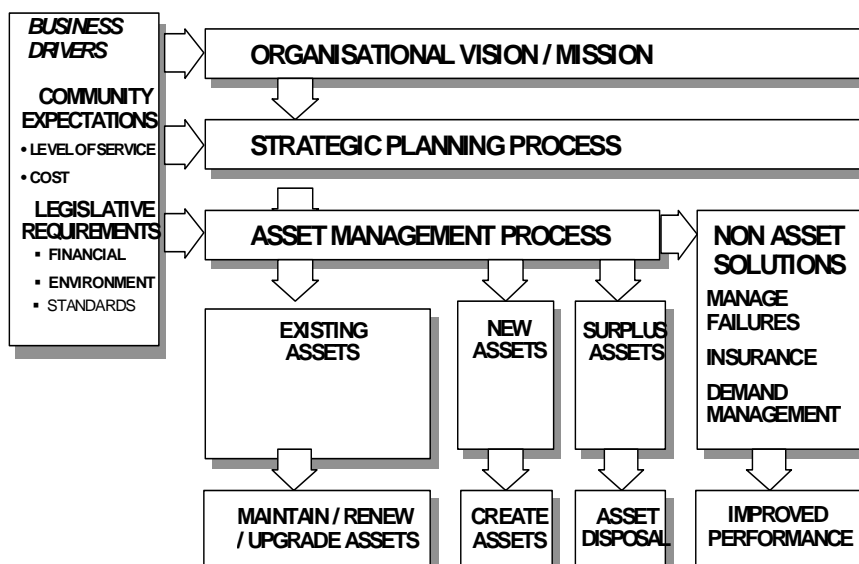
The activity includes the management and development of local roads and car parks, including safety improvements, road marking and signage, street lighting, kerb and channel, cesspits, road culverts and footpaths. The District roading network and associated assets is fundamental to the transport of people goods and services and the use of these assets by private motorists, commercial operators, passenger transport services, cyclists and pedestrians.

Passenger transport services such as buses and taxis are virtually non-existent except for those passing through the District incidental to regional or national long haul service routes. The latter includes the NIMT rail service. Apart from providing a booking and ticketing service through its Visitor Information Centre, the Council is not involved in the delivery or funding of passenger transport.

The Regional Land Transport Strategy recognises the local roading network as being of primary importance to the District's transport needs, but proposes to investigate options for rural passenger transport services, initially targeting Benneydale and Piopio.

## **2.3 Process for Developing the Activity Management Plan**

This plan is the latest version of the Councils Roads and Footpaths Activity Management Plan in a "living" process of continuous updating and improvement. The first version was prepared in 2001 then revised in 2003, 2004, 2006, 2009, 2012 and 2014 for 2015-25 LTP. AMPs are a key components of the Council's planning processes, being prepared within the context of Council's strategic and financial planning. These links, and the key outputs of the Activity Management Planning process, are illustrated in the figure below.



The timing of this version is consistent with the three yearly review of Council's LTP. This AMP is one of several AMP's prepared within the current planning cycle as part of a much larger, organisation wide project.

The AMP will be subject to ongoing review, particularly in relation to changing service delivery standards and expectations, and changes in the demand for and use of services. By monitoring community service delivery requirements, Council will be better able to develop and manage its assets and ensure community demand and service levels are met in the most effective and timely manner.

### 2.3.1 Plan Framework

The sections have been structured to develop the Activity Management Plan in a logical manner as follows:

Section Number	Section Title	Description
1	Executive Summary	A succinct overview of the key issues contained in the body of the AMP
2	Introduction	A summary of all the elements of the roading activity, the rationale for ownership of the asset components, and the reasons for preparing the AMP
3	The Activity	A description of the assets making up the roads and footpaths activity and the potential significant negative effects.
4	Strategic Environment	A discussion on the planning and statutory framework and the context of where the AMP is situated within it.
5	Levels Of Service	The proposed levels of service and the basis for these.
6	Future Demand	Details of growth forecasts and their impacts on the management and utilisation of the roading assets
7	Risk Management	Identifies the risks associated with the activity and the resilience of critical assets to natural disasters
8	Life Cycle Activity Management	A focus on the key activities that take place over the life of an infrastructural asset (creation, maintenance, renewal and disposal) for each asset group to improve the decision making and evaluation of options associated with each asset and to optimise lifecycle costs.
9	Activity Management Practices	The information systems and processes including risk management techniques used to make decisions on how the assets will be managed

<b>Section Number</b>	<b>Section Title</b>	<b>Description</b>
10	Application of Activity Management Practices	Applies the lifecycle management strategies and practices to the key asset components of the activity
11	Financial Information	The financial requirements resulting from all the information in the previous sections
12	Assumptions	The assumptions used and uncertainty in forecasting the expenditure required to achieve the agreed levels of service over the term of the plan
13	Improvement Plan	Details of the plan for monitoring the implementation, effectiveness and improvements of the AMP
14	Appendices	Complementary material referred to in the body of the document



## SECTION 3 THE ACTIVITY

### 3.1 Activity Description

The purpose of the Roads and Footpaths activity is to provide safe, efficient, convenient and orderly transportation throughout the district. It is also necessary in order to secure common law rights of public access, and to maximise District development opportunities. This section sets out the services provided by the Roads and Footpaths activity including:

- A description of the asset used to deliver the activity;
- The rationale for Council involvement and ownership of assets;
- The negative effects of the activity;
- The changes in the activity since the last Plan.

Transportation is generally regarded as the most essential activity associated with enhancing the regions economy and accessibility. Council has identified the roading and traffic network as a whole, including street lighting, footpaths, vehicle crossings, drainage and parking, as a Strategic Asset.

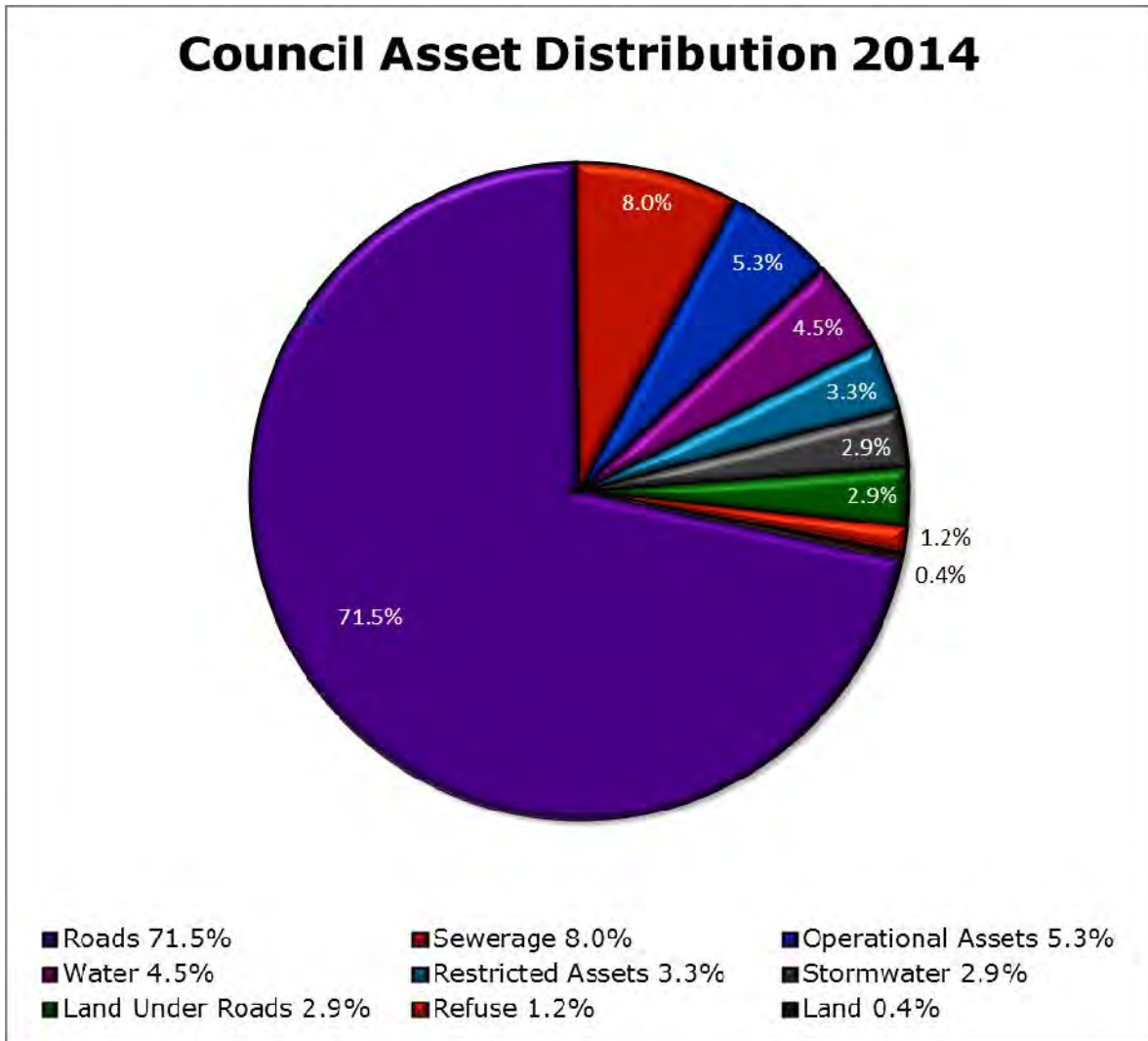
#### 3.1.1 Scope of Assets

The district is largely rural, of moderate size (3,363.57 sq km). State Highways are predominantly the preferred route for through traffic traveling between main population centres and fulfill an important arterial role for local travel. However these roads are owned and administered by New Zealand Transport Agency (NZTA). The majority of local roads, which are owned by Waitomo District Council, carry traffic volumes less than 100 vehicles per day (vpd). The terrain covered by the local roads includes 80km of coast in the west and varies from plains to extensive hill country areas. The underlying geography varies from sands and clay to the dominant material of limestone. WDC's road network encompasses the following lengths of maintained roads:

Roads	Urban (km)	Rural (km)	Total (km)
Sealed	50.22	409.04	459.26
Unsealed	2.75	552.07	554.82
Total maintained	52.97	961.11	1,014.08

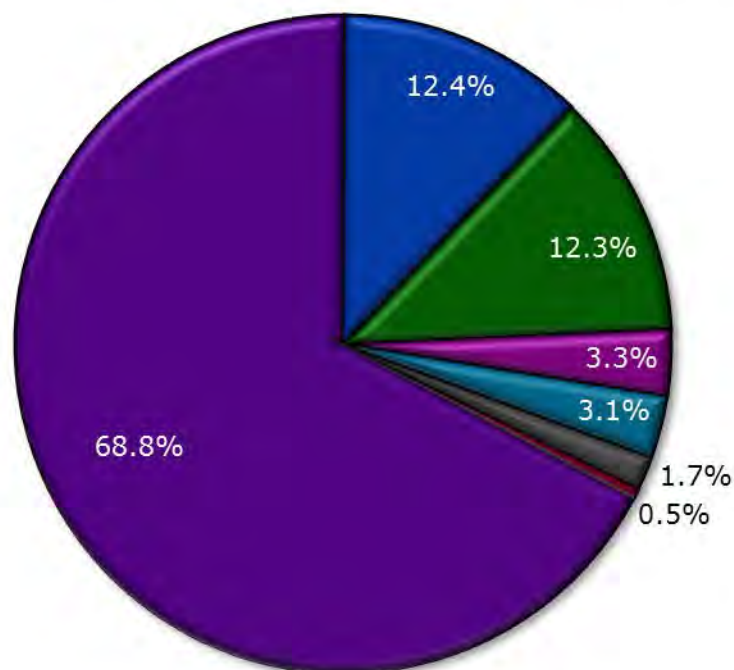
Shown below are two graphs showing Council's asset distribution, based on the 2014 valuation. The first graph clearly shows that roading is the highest single value item of Council (\$291.03M). The value of the land under the District's roads is valued separately at \$9.9M.

## Council Asset Distribution 2014



The next graph below breaks the roading component into its main components by value.

## Roading Asset Distribution 2014



■ Roads 68.8%	■ Bridges 12.4%	■ Drainage 12.3%	■ Footpaths 3.3%
■ Structures 3.1%	■ Traffic Facilities 1.7%	■ Streetlights 0.5%	

There is a relatively high proportion of State Highway network passing through the area (198.2 km equivalent to 20% of the local roading network) including the presence of the major arterials SH3, 4, 30 and 37. The State Highway network, excluding the land beneath the highways within urban areas, is owned and managed by the New Zealand Transport Agency (NZTA).

### 3.2 Management Structure

The Roding Business Unit within Council manages the road and footpath assets. The organisational structure is illustrated in Appendix G

### 3.3 Physical Works and Professional Services Delivery

As required by legislation, Council contracts out all physical works for roads and footpaths that attract NZTA funding assistance. This includes maintenance, renewal and new works. The management of these contracts is largely undertaken by Council's in-house business unit.

Maintenance contracts generally cover the following:

- Procedures, standards and end results are defined, but there is flexibility for the contractor to determine the most appropriate materials and methods.
- Compliance with legislation, e.g., Health and Safety.
- Response times (to routine and emergency work) are defined for notified defects; there are standards set by activity type and road type.
- Inspection programming and reporting requirements.
- Timing and approvals for work programmes.
- Schedule of quantities (except for unsealed roads which are lump sum based).
- Monthly reporting. The contractor must provide data in a computer database format (RAMM Contractor). The data may be used for making claims and for forward programming of work.

Long term activities are currently packaged in contracts as follows:

Contract No	Contract name	Initial Period (Years)	Extension Period (Years)	Commenced	Contractor
500/07/012	Street Light Maintenance	2	3	1-11-2008	Alf Downs Streetlighting
500/11/001	Road Maintenance	3	2	1-10-2011	Downer EDI Works
500/11/015	Bridge Inspections	2.8	3	1-9-2011	Spiire Consulting

Renewal activities are currently packaged in contracts as follows:

Contract type	Let 2013-14	To be let 2014-15
Pavement Rehabilitation	1	1
Bridge Maintenance	2	1
Emergency Works	2	2

Within each contract specification, there is further detailed information on the activity description and relating to management, operational service levels, performance measurement etc.

NZTA sporadically undertakes a technical audit of Councils road and footpath asset. The last audit was undertaken in October 2013 resulting in a favourable report. Recommendations arising from this audit have been largely incorporated in this AMP.

### 3.4 Significant Effects of the Activity

Potential significant effects of the Roads and Footpaths activity are tabled below:

Positive Effects	Negative Effects
Maintaining / improving health and wellbeing by facilitating access via the provision of transport routes to essential services and recreational facilities.	Safety related impacts including loss of life, serious injury and associated financial costs. Road blockages and slips impact on everyday movements of people between home and schools, work and recreation. Possible impact on the quality of life of a particular community (or commercial area) due to improved accessibility and associated increase in vehicle numbers Congestion resulting in travel time delays
Good transport planning and design contributes to efficient use of non-renewable energy resources	The quality and volume of stormwater from roads that discharges into sensitive catchments. Land take for transport infrastructure Environmental pollution including carbon emissions, noise, dust, fumes and consumption of a non-renewable energy resource
Provides access for the effective land transport of people, goods and services. Provides access to locations for tourism related activities.	Cost of compliance with applicable standards. Road blockages and damage can result in delays to the supply of goods and daily access to places of employment. The reverse effect of an efficient land transport network is the regionalisation of employment related opportunities
Land transport system provides access to points of local significance and facilitates traditional community gatherings and events	None identified.

Council is able to mitigate to varying degrees most of these potential negative effects by a mix of asset development work, demand management initiatives and the incorporation of features sympathetic to amenity and environmental values in network designs.

### **3.5 Significant Changes to the Activity**

More emphasis on aligning customer levels of service with a fit for purpose, safer transport environment that provides value for money is provided for in this Plan, consistent with the One Network Roding Classifications. It is expected that as Central Government and WDC policy is further developed in this area that more targeted programmes will be included in future Activity Management Plans.

# SECTION 4 STRATEGIC ENVIRONMENT

## 4.1 Council Vision

Councils Vision for the 2015-25 Long Term Plan is

*“Creating a better future with vibrant communities and thriving business”*

Council’s Roads and Footpaths activity group supports this vision by:

- sustaining economic development as a primary contributor
- assisting to deliver social wellbeing as a secondary contributor

This Plan has been prepared in support of this vision.

## 4.2 Community Outcomes

The Roads and Foothpath Activity contributes to the following community outcomes:

<b>Thriving Business</b>
<b>CO7</b> A place where wealth and employment are created through local businesses and tourism opportunities and facilities are developed, facilitated and encouraged
<b>Effective Leadership</b>
<b>CO8</b> A place where the development of partnership for the delivery of programmes and services is encouraged and pursued.
<b>Sustainable Infrastructure</b>
<b>CO10</b> - A place that provides safe, reliable and well managed infrastructure which meets the District community needs and supports maintenance of public health, provision of good connectivity and development of the District

Road safety is a key focus for Council, being a driver in shaping the Council's ongoing capital works programme. In addition Council has a prioritised list of safety improvement projects that will be undertaken as funds permit. Council promotes road safety education through a part time road safety coordinator, and contributes towards road safety education projects. Council routinely undertakes safety audits of its roading network. Council will continue to work closely with transport management agencies, including NZTA, NZ Police and Waikato Regional Council in order to progress the above community outcomes.

## 4.3 Strategic and Corporate Goals

The vision statement, strategies and corporate goals to be set out in the 2015 - 2025 LTP provide the framework within which this AMP has been developed. The Council’s strategic goals focus on the minimum levels of service necessary to manage the roading infrastructure effectively, safely and sustainably. They take account of the minimum levels of service prescribed by legislation, regulation and conditions of subsidy funding, as below.

Land Transport has been identified as a primary contributor to the economic development of the district.

## 4.4 Rationale for Council Involvement

Council is a “Road Controlling Authority” and is legally responsible for ownership and management of its road network. The legal authority for Council to be involved in the provision of roading and ownership of assets is contained in the Local Government Act 2002 (LGA), specifically Sections 10-11A inclusive regarding the purpose, role and core services of local government, and the Section 101B requirement to prepare an Infrastructure Strategy for its infrastructure assets, including roads and footpaths.

The LGA requires local authorities to act in accordance with the principles set out in Section 14, namely prudent stewardship and the efficient and effective use of its resources, including effective planning for the future use of its assets, and to take a sustainable development approach that takes into account the social, economic, environmental, and cultural interests of people and communities, in the present and for the future.

WDC's road and footpath network as a whole is defined as a strategic asset in its Significance and Engagement Policy. In accordance with the provisions of the Local Government Act 2002, WDC cannot transfer ownership or control of a strategic asset, or construct, replace or abandon a strategic asset unless it has first consulted with the community and included the proposal in its Long Term Plan.

Council intends to continue with its present involvement in road and footpath activities, and this AMP has been developed on this basis. The vision that Council is working to achieve is set out in the community outcomes adopted for the District. Transportation is generally regarded as an essential activity associated with enhancing the District's economic outcomes (primary contributor) and social outcomes (secondary contributor).

Other statutory provisions that mandate WDC's involvement include:

- Part 21 of the 1974 act is retained in the 2002 Act.
- Section 181 empowers Council to construct work on private land that it considers necessary for (inter alia) land drainage, rivers clearance and stormwater drainage
- Section 189 (1), "Power to Acquire Land": empowers Council to 'purchase, or take in the manner provided for in the Public Works Act 1981, any land or interest in land, whether within or outside its District, that may be necessary or convenient for the purposes of, or in connection with, any public work that the local authority was empowered to undertake, construct or provide immediately before 1 July 2003'.

#### 4.4.1 Justification for Ownership

Council ownership of Roads and Footpaths infrastructural assets is justified by the following factors relating to the service;

- Core Business - Council accepts, via its LTP, responsibility for providing essential services. These services include Roads and Footpaths.
- Public Benefit - the service is generally assessed to provide mainly public benefits.
- Funding - Council has access to more favourable financing options than is available to the private sector.
- Exclusivity - it is impractical to exclude customers from utilising the service.
- Monopoly Supply - in practice public roads are a monopoly as customer options are generally not viable.
- Equity - Public funding of roads is equitable, as access for all irrespective of ability to pay is deemed necessary because of the contribution of roads to the health and well-being of both individuals and the community.
- Community Opinion - the public and majority of Councilors have strongly expressed a preference for key infrastructure assets to remain in public ownership.

#### 4.4.2 The extent of Council's responsibility

Council is primarily responsible for the construction, maintenance and repair of the local roads and footpath infrastructure within Waitomo District. Council may maintain the District's transport network as it sees fit, subject to NZTA funding criteria. NZTA is directly responsible for management of state highways within the District.

The activity comprises a number of elements ranging from roads and footpaths to streetlights and bridges. WDC manages these assets and contracts the service delivery of physical maintenance and construction works to outside organisations.

Through the provisions of the Land Transport Management Act, WDC works in partnership with NZTA to undertake projects and maintenance that form part of a National Land Transport Programme. WDC receives funding assistance from NZTA. Council is required to prepare a Land Transport Programme, submitted every three years to the regional council, in accordance with section 13 of the Land Transport Management Act 2003. The programme of works and other activities Council proposes to undertake is reflected in this AMP. Funding comprises a combination of WDC and NZTA funding assistance. The NZTA funding assistance rate (FAR) for WDC in 2015/16 will be 62%, increasing to 71 % over a transition period ending in 2023/24.

The Planning and Statutory Framework as it applies to local government is shown in flowchart format in Appendix L.

#### 4.4.3 Other Relevant Legislation

##### Local Government Act 1974

The Act empowers Council to create, operate and maintain assets for the purpose of roading. The following sections further specify the powers and responsibilities of Council with respect to roading; Part 21 of the Local Government Act 1974 refers:

- Section 316; "property in roads" defined to include all land, soil, and materials, etc. vested in the council or acquired or constructed or operated by or under the control of council.
- Section 317; "Control of roads" places all roads excluding State Highways under the control of Council.
- Section 319; gives council powers in respect of roads.
- Section 331; gives council power to construct footpaths & channels "of such dimensions and materials as it thinks fit".
- Section 332; Gives Council powers to construct cycle tracks.
- Section 334a; Gives Council power to erect streetlights.
- Section 335; Concerns vehicle crossings.
- Section 342; Stopping and closing roads.
- Section 344; Gates and cattle stops across roads.
- Section 353; General safety provisions as to roads.

##### Land Transport Management Act 2013

The Land Transport Management Amendment Act 2013 introduced three main components to the principal act, namely:

- A new planning and funding framework
- Road tolling and public/private partnership provisions
- A new public transport operating model



### Summary Offences Act 1981

Section 12 makes it an offence to place an obstruction or dig a hole or remove any protective fence or sign on a road, with reckless disregard for others.

### Telecommunications Act 2001 / Electricity Act 1992

Council is liable for the cost of trimming trees growing on legal road where they encroach on overhead lines.

### Resource Management Act 1991

The Act requires Council to manage the use, development and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic and cultural well-being and for their health and safety while:

- Sustaining the potential for natural and physical resources to meet the reasonable foreseeable needs of future generations.
- Avoiding, remedying or mitigating any adverse effect of activities on the environment.
- Safeguarding the life-supporting capacity of air, water, soil and ecosystems.
- In managing the use, development, and protection of natural and physical resources Council must recognise the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, Waahi Tapu and other Taonga taking into account the principles of the Treaty of Waitangi in exercising functions and powers under the Act relating to the use, development, and protection of natural and physical resources.
- Complying with planning documents prepared under the Resource Management Act that impact on the management of stormwater assets, which include the Regional Plan issued by the Waikato Regional Council and Council's District Plan.
- Complying with discharge consents issued by the Waikato Regional Council for disposal of stormwater runoff from the roading network.

The Council's District Plan, prepared under the Resource Management Act, makes no provision for minimum roading standards, either directly or by reference, other than in respect of minimum sight distances between intersections/entranceways, and minimum on-site car parking and loading requirements.

### Health & Safety in Employment Act 1992

Council must ensure the safety of the public and all workers (including contractors) when carrying out works.

The Act was substantially amended by the Health and Safety in Employment Act 2002.

### Building Act 2004

Requires Council to ensure all buildings and facilities constructed comply with this Act and its associated regulations.

### Other Relevant Legislation

- Land Transport (Road Safety and Other Matters) Amendment Act 2011
- Litter Act 1979
- Public Bodies Contracts Act 1959
- Public Works Act 1981
- Railways Act 2005
- Bio-security Act 1993
- The Civil Defense Emergency Management Act 2002 (Lifelines)
- The National Land Transport Strategy (replaced by the Government Policy Statement On Land Transport Funding)
- The Building Regulations 1992
- The Heavy Motor Vehicles Regulations 1974

## **4.5 Strategies and Policies**

### Ministry Of Transport Key Strategies and Policies

- Connecting New Zealand
- Safer Journeys
- National Infrastructure Plan - Version 2
- Transport Monitoring Indicator Framework

### Government Policy Statement on Land Transport Funding

In 2009 the government also released the first issue of the Government Policy Statement on Land Transport Funding 2009-12 (GPS 2009-2012). GPS 2015 will come into force on 1 July 2015.

The GPS is issued by the Minister of Transport every three years. It sets the outcomes and priorities the government expects from the investment of the National Land Transport Fund. The GPS describes:

- what the government wishes to achieve from its annual investment of around \$3 billion in land transport through the National Land Transport Fund
- how it will achieve this through certain areas of investment known as activity classes (eg road safety, State highways)
- how much funding will be provided
- how the funding will be raised.

The GPS influences decisions on how money from the National Land Transport Fund will be invested in activity classes, such as State Highways and Public Transport. It also guides the NZ Transport Agency and local government on the type of activities that should be included in regional land transport programmes and the National Land Transport Programme.

The NZ Transport Agency must give effect to the GPS while also taking regional land transport strategies and programmes into account. This means the direction and aims of the GPS have a direct effect on the money that will go to regions and activities.

### Emissions Trading Scheme (ETS)

Under the Kyoto Protocol, New Zealand agreed to reduce its greenhouse gas emissions back to 1990 levels by 2012 or pay for any excess. The NZ Emissions Trading Scheme (ETS) is New Zealand's primary response to global climate change and the Kyoto Protocol. It puts a price on greenhouse gases to provide an incentive to reduce emissions, invest in energy efficiency, and plant trees.

Whilst there are some known effects of the scheme, as the sectors that are directly involved pass their costs on to their customers, (increases in the price of electricity and fuel) at this stage it is unknown what the effects will be to Waitomo District Councils roading network.

### New Zealand Transport Agency (NZTA) Standards for Funding Approval

NZTA has adopted NZS4404:2010 as the minimum standards for road carriage widths and formations eligible for financial assistance. Locally, Council has adopted the Hamilton City Council code of practice for new land development, which includes standards for new roading to vest in the Council. New and replacement bridges are designed to the HN – HO – 72 design load, subject to establishing the minimum benefit cost ratio required for funding assistance on new bridges.

### The Waikato Regional Land Transport Strategy (RLTS) 2011-2041

The RLTS is an opportunity for the Waikato region to examine the land transport outcomes it wishes to achieve, and strategically plan for these outcomes over a 30-year period. The outcomes provide a framework for the RLTS to target transport investment for national and regional benefit. The Waikato Regional Transport Committee is responsible for preparing a Regional Land Transport Strategy under section 78 of the Land Transport Management Act (LTMA) and consult in accordance with section 83 of the Local Government Act 2002. The Regional Land Transport Programme (RLTP) gives effect to the RLTS

### Waitomo District Council Policies and By-laws

Waitomo District Council has the following policies applicable to roading;

- Efficient management of the road network through good maintenance practices that ensure the useful life of the road is maximised. This includes better maintenance practices for unsealed roads including metal placement techniques, greater length of reseals road deterioration and seal widening on tight corners.
- Continued development of the road network with an ongoing programme of pavement smoothing, regular renewals and road alignment improvements.
- Provide safe roads with good traffic management, signage and road markings, street lighting and driver visibility. An improvement in traffic signs and road markings, ensuring district wide consistency, is proposed to meet national best practice guidelines.
- Safe speed environments are to be regulated pursuant to the Local Government Act 2002 and the Land Transport Rule: Setting of Speed Limits 2003, which allow the Council to set speed limits of 20, 30, 40, 50, 60, 70, 80 or 100 km/h in relation to roads or areas under its control. This is managed through the Waitomo District Council Land Transport Bylaw 2010.
- Conduct bridge safety inspections.

- Respond promptly and remedy road failures.
- Optimise government financial assistance to reduce the cost of roads to ratepayers with all improvement projects and road maintenance subsidised by the government funding agency, New Zealand Transport Agency.

#### 4.6 Key Stakeholders

In addition to the general public, there are a number of key users/stakeholders who have an important role in the planning and delivery of service standards for the District's roading network. Regular discourses are held with stakeholders as required to ensure current issues are known. They include:

##### External

- Council's road maintenance contractor
- Waikato Regional Council
- New Zealand Transport Agency
- NZ Police
- NZ Fire Service
- St John's Ambulance
- Road Carriers Association ( forest owners, stock transport companies, rural delivery contractor, courier companies, milk transport companies)
- Crippled Children's Society
- Federated Farmers
- Regional/District tourism organisations

##### Internal

- Councilors
- Chief Executive
- Asset Managers and AM staff
- Road Safety Coordinator
- Leader Information Management Services
- Manager - Financial Services
- Leader Information Technology Services
- Manager Policy and Planning
- Customer Services Staff

#### 4.7 Links to Planning Documents

The key internal planning document influencing this Plan is the Council's 2015 – 2025 LTP which sets out Council's role in maintaining and promoting community well being in the District. This Activity Management Plan is a "tactical" plan in support of and should be read in conjunction with the Council's LTP, with linkages to the Council's District Plan, Structure Plans and Council bylaws pertaining to transport related matters. The District Land Transport Programme, summarised in the LTP, is consistent with this AMP.

The following table summarises the linkages between AM plans and the other key components of the strategic planning and management of Council:

<b>Long Term Plan</b>	The broad strategic direction of Council set in the context of current and future customer requirements, many of which relate to the performance and financial requirements of the assets which are the subject of AM planning. The Activity Management Plan is the means for developing appropriate strategies and policies for the long-term management of Council's assets, and the basis for analysing the impact of Corporate strategic options on levels of service and long term funding needs.
<b>Annual Plan</b>	The Annual Plan is an annual installment of the LTP. The service level options and associated costs developed in the Activity Management Plan are fed into the Annual Plan consultation process.
<b>District Plan</b>	The District Plan regulates the shape and form of sustainable land use and activities pertinent to achievement of the District's environmental outcomes. It identifies and protects anticipated growth areas and formalises urban supply boundaries for utility services. It establishes standards for the construction and protection of the roading network and provides the mechanism for mitigating adverse effects on the natural and physical environment.

<b>Financial Plan:</b>	Financial plans developed in each Activity Management Plan are consolidated into the short and long-term programmes of Council. AM plans improve financial planning by instigating planned long term maintenance and operation programmes and provides justification for works programmes and levels of funding.
<b>Business Plans</b>	The service levels and budgets defined in an AM plans are incorporated into Business Plans as performance measures for each department and individuals.
<b>Contracts</b>	The service levels, strategies and information requirements contained in the Activity Management Plan become the basis for performance orientated Contracts let for service delivery
<b>Corporate Information</b>	Quality AM is dependent on suitable information and data. This requires the availability of sophisticated AM systems which are fully integrated with the wider corporate information systems (e.g. financial, property, GIS, customer service, etc.).
<b>Community Development Plan</b>	Community development relies on essential infrastructure to underpin economic, environmental and social wellbeing.

The Roads and Footpaths AMP has synergies with a number of other Council AMPs. In fulfilling its principal role of supporting the interests of the community, the roading network is pivotal in facilitating access to recreational activities, commercial activities and community facilities and provides the corridor for many underground infrastructural services such as water and wastewater networks. The stormwater AMP is intractably linked to the Roothing AMP, the interface occurring at the point where the roading sump leads connect to the stormwater drain. The levels of service provided to road users can be significantly impacted on by construction and trench reinstatement works associated with stormwater, water supply and sewerage underground pipe networks.

#### 4.8 Regional and national transport strategies

At an external level this Plan is consistent with the National Land Transport Strategy (NLTS), and Waikato Regional Council's Regional Land Transport Strategy 2011- 2041 (RLTS). The District's roads are an integral and important part of the total roading network, connecting with national and regional corridors for the efficient and effective movement of people, produce and goods. With the Waitomo economy strongly reliant on agriculture, forestry, aggregate mining and tourism, the District's roads perform an essential role in enabling transportation of primary products from source to markets, and tourists from national transport routes to destinations. An external linkages diagram is shown in Appendix L.

The RLTS acts as conduit between the NLTS and the District Land Transport Programme (DLTP). The focus of the RLTS is on enhancing strategic transport corridors within the Waikato region - these include road, rail water and air. The strategy recognises that one size does not fit all across the region, noting the variation between transport issues in the cities and larger population centres and the smaller rural areas. The strategy addresses this variation through a structure of regional and sub – regional strategies.

At a sub-regional level, the RLTS identifies that in the Waitomo (and Otorohanga) sub-region, maintaining the local roading networks and improving them where possible is a critical issue. The burden of maintaining the existing network and enhancing it to provide access to more productive land is identified as a key policy issue in this sub-region. The strategic sub-regional packages for Waitomo District are shown below:

#### Demand Management Approach

Mode/Activity	Demand management approach
Land use planning	Integration of land use and transport planning in district plan reviews. Implementation of the Shore Futures Strategy.
Walking and cycling	Development of the Te Araroa walkway in Te Kuiti. Travel planning for schools will be encouraged.
Public transport	Investigate and implement public transport services to rural centres such as Kawhia, Pio Pio and Benneydale.
Rail	Explore opportunities to increase rail freight activity within the sub-region.

## Mode/activity Demand management approach

**Table 27: Strategic sub-regional packages for the Otorohanga and Waitomo sub-region.**

NZ Transport Agency status	Package/group	Strategic package description	Package source
Scoping	WW.01	Local Accessibility Improvements	RLTS scoping phase
<b>WW.01</b>	<b>Local accessibility improvements</b>		
Description	Parts of the west Waikato sub-region have poor access to transport options. This package seeks to connect local communities to their essential services and employment options.		
Objectives	To improve accessibility for local communities and enable them to access essential services.  Monitor changes to local accessibility needs as population demographics change.		
Partners	Otorohanga District Council, Waitomo District Council, Waikato Regional Council.		
Relevant priority regional challenges	<ul style="list-style-type: none"> <li>• Future population growth and demographic changes.</li> <li>• Addressing the need for better access to services for isolated rural communities.</li> </ul>		
Land use and transport elements of the package	<p><i>Relevant strategies</i></p> <p>The Shore Futures Strategy, district plans, Waikato Regional Public Transport Plan.</p> <p>Local demand for access to essential services is likely to grow as local populations age and the centralisation of health, employment and social services continues.</p> <p>This group of activities needs to focus on affordable, long term solutions that are responsive to changing community needs. Specifically this will initially involve coordination of existing transport providers (Waikato Regional Council, Ministry of Education, District Health Board, local providers), and may potentially lead to additional transport services, where demand is strong enough.</p>		
Next steps	This package is at an early stage of development and is not well understood by the project partners. Project scoping and option assessment will be required to determine effective solutions, and will be an initial focus of this package.		

### 4.9 Activity Management Strategy & Policy

Activity Management practices undertaken through contract procurement is reviewed and made more timely and relevant to the requirements of the Roads and Footpaths activity group as time goes.

The Activity Management policies and strategies guide and integrate Activity Management practice for Rooding within WDC. The current roading hierarchy has been classified to match the ONRC based on traffic volumes and prescribed Customer Levels of Service (CloS). Present standards for road formation, traffic services, drainage and ancillary services such as footpaths have not been changed. This will be adjusted if need be when the TLoS associated with the ONRC is available. The Activity Management policy states the overall intention and includes such items of Activity Management as:

- focus on delivering the required level of service to existing and future customers in the most cost-effective way
- legislation, regulatory and statutory requirements will be complied with
- long term stewardship of assets, with planning undertaken for a minimum of 10 years
- commitment to continuous improvement of Activity Management, with consideration to a correlation between the nature and scale of Council assets and Activity Management.
- risk management to support all Activity Management activities
- Activity Management will be directed to the achievement of the Council's Community Outcomes and strategic goals as stated in the Long Term Plan
- Activity Management outputs will be communicated to relevant employees and third parties to ensure they are aware of their Activity Management responsibilities.
- periodic reviews to ensure it remains relevant

# SECTION 5 LEVELS OF SERVICE

## 5.1 Introduction to Levels of Service

The International Infrastructure Management Manual defines levels of service as:

*The defined service quality for a particular activity (i.e. roading) or a service area (i.e. street lighting) against which service performance may be measured. Service levels usually relate to quality, quantity, reliability, responsiveness, environmental acceptability and cost.<sup>1</sup>*

An objective of Activity Management Planning is to match the level of service provided by the asset with the expectations of customers. Activity Management Planning enables the relationship between level of service and cost of service (the price/quality relationship) to be determined. This relationship can then be evaluated in consultation with customers to determine the optimum level of service they are prepared to pay for. Defined levels of service can then be used to:

- Inform customers of the proposed type and level of service to be offered.
- Develop AM strategies to deliver the required level of service.
- Measure performance against these defined levels of service.
- Identify the costs and benefits of the services offered.
- Enable customers to assess suitability, affordability and equity of the services offered.

The first step is to identify the key service criteria for each service area from the customers perspective (the objectives of the services provided) and identify defined levels of performance for key service criteria.

Typical Technical Levels of Service	Typical Customer Levels of Service
<ul style="list-style-type: none"> <li>• (outcome related) measures define what the customer receives in an interaction with an organization)</li> </ul>	<ul style="list-style-type: none"> <li>• (process related) measures define how the customer experience the service)</li> </ul>
<ul style="list-style-type: none"> <li>• Quality</li> </ul>	<ul style="list-style-type: none"> <li>• Intangibles</li> </ul>
<ul style="list-style-type: none"> <li>• Quantity</li> </ul>	<ul style="list-style-type: none"> <li>• Responsiveness</li> </ul>
<ul style="list-style-type: none"> <li>• Availability</li> </ul>	<ul style="list-style-type: none"> <li>• Courtesy</li> </ul>
<ul style="list-style-type: none"> <li>• Legislative requirements</li> </ul>	<ul style="list-style-type: none"> <li>• Assurance (knowledge, trust, confidence)</li> </ul>
<ul style="list-style-type: none"> <li>• Maintainability</li> </ul>	<ul style="list-style-type: none"> <li>• Empathy (understanding, individual attention)</li> </ul>
<ul style="list-style-type: none"> <li>• Capacity</li> </ul>	
<ul style="list-style-type: none"> <li>• Reliability and performance</li> </ul>	
<ul style="list-style-type: none"> <li>• Environmental impacts</li> </ul>	
<ul style="list-style-type: none"> <li>• Cost / affordability</li> </ul>	
<ul style="list-style-type: none"> <li>• Comfort</li> </ul>	
<ul style="list-style-type: none"> <li>• Safety</li> </ul>	
<ul style="list-style-type: none"> <li>• Reliability and performance</li> </ul>	

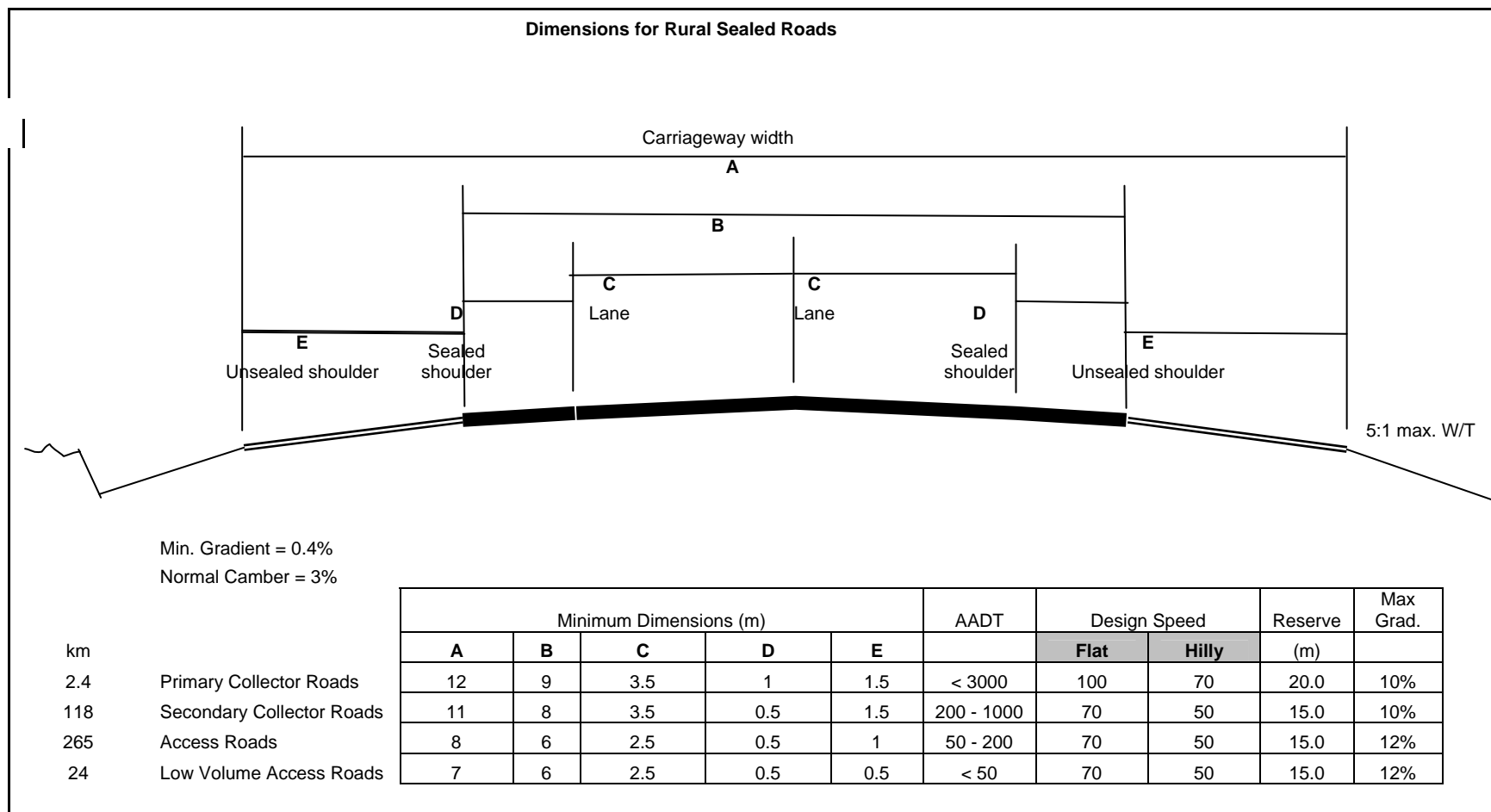
Asset management provides for the planning, implementation and control of both the Technical Levels of Service (TLoS) or outcome related dimensions and the Customer Levels of Service (CLoS). These TLoS and CLoS are not always independent of each other. In some cases a specific technical quality may contribute to higher CLoS or vice versa.

Recognition of the differences and relationships between the TLoS and CLoS is an important part of understanding levels of service.

The development of this Activity Management Plan has been based on customer and technical levels of service using internal knowledge and experience of such matters and applied as present practice.

WDC has based the minimum TLoS on NZS4404:2004 which had been adopted by NZTA as the minimum standards for road carriage widths and formations eligible for financial assistance. This has been adapted by WDC to the table below to provide a fit for purpose roading network which is in fact of a lesser standard than what is in NZS4404:2004.

<sup>1</sup> NAM's Group, International Infrastructure Management Manual, Version 3.0 2006, Page xv

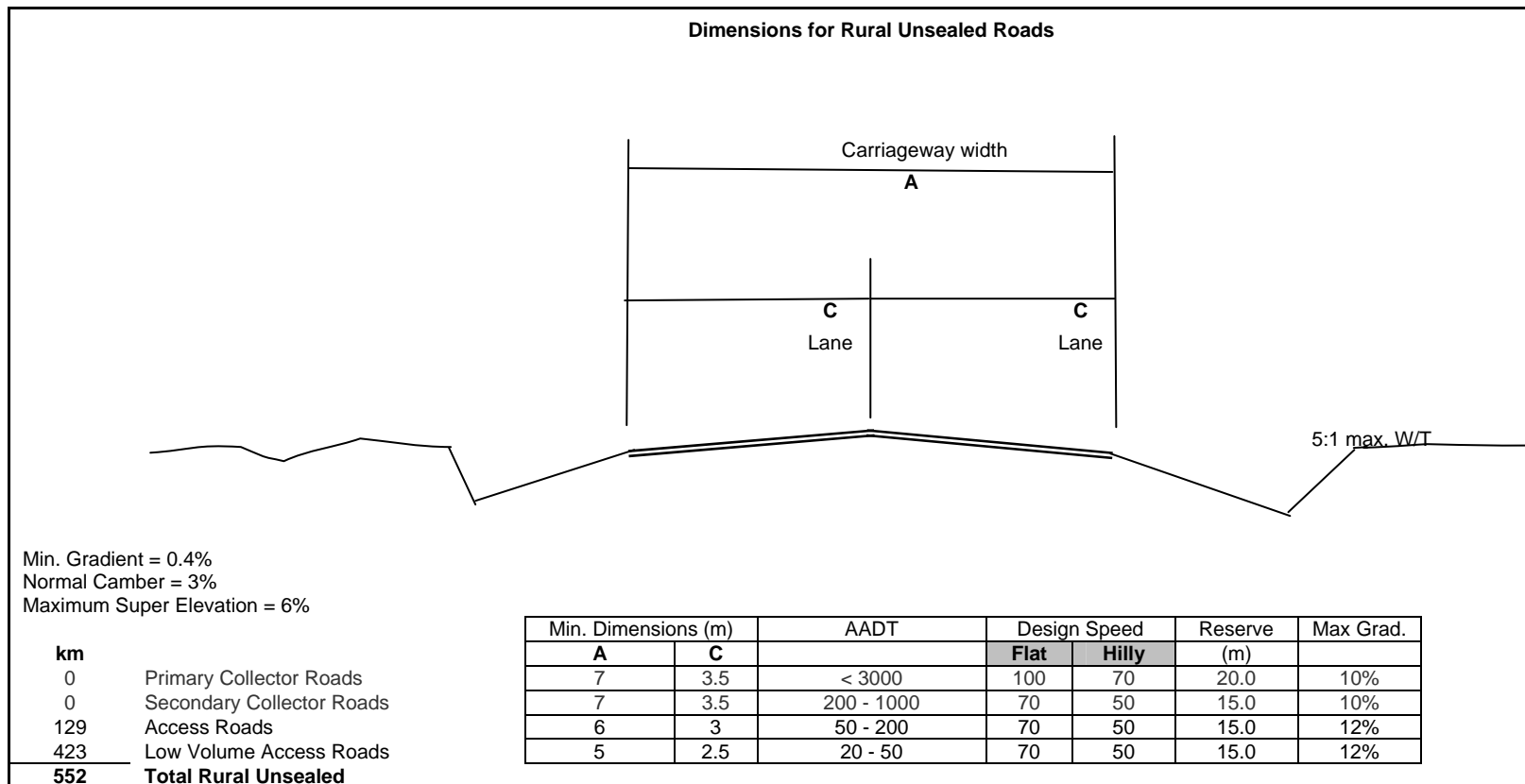


The rugged terrain of large parts of Waitomo district resulted in a road network that has a significant number of tight bends which does not service the development of large truck configurations (50Max).

The following criteria has been developed to change these tight bends in the network to a level where it is fit for purpose servicing these trucks configuration while maintaining a reasonable level of safety for the other road users.

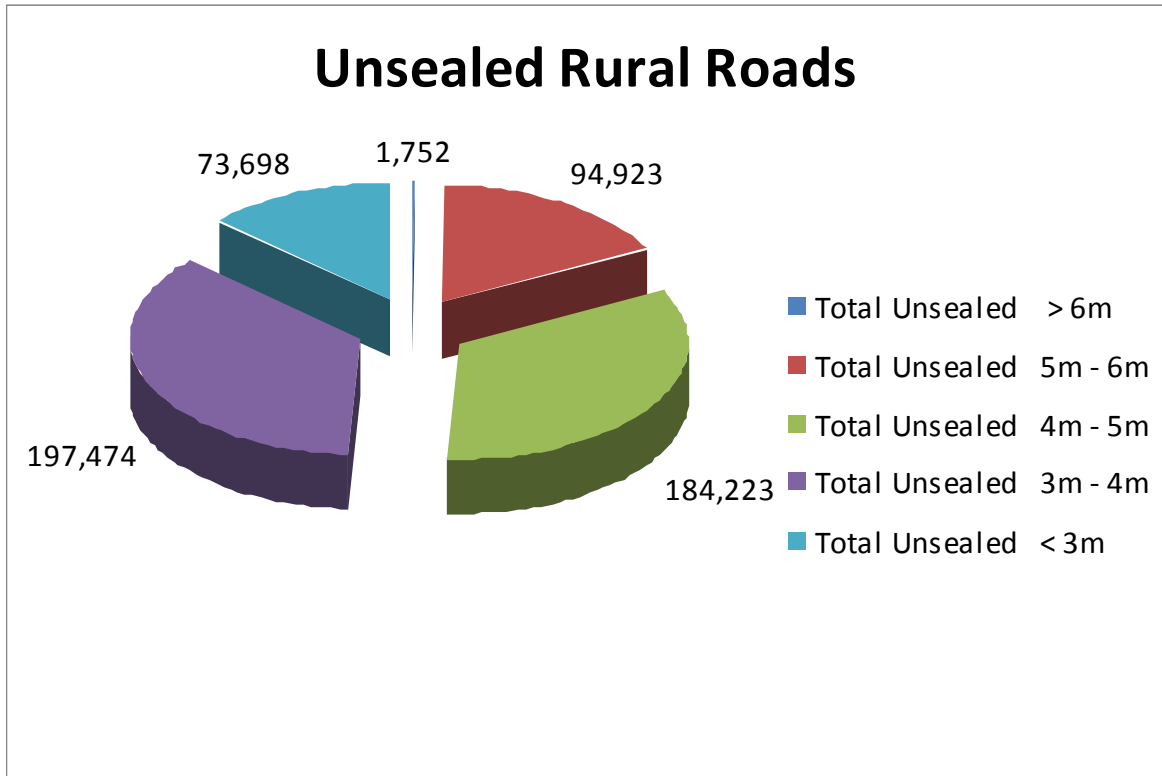


Values for Curve Widening (m)				
Curve Radius (m)	Total amount of widening in meter where the width of two traffic lanes are:			
	6.0m	6.5m	7.0m	7.5m
30 - 50	2	1.5	1.5	1
50 - 100	1.5	1	1	0.5
100 - 250	1	1	0.5	0
250 - 750	1	0.5	0	0



There are 226km of the sealed network and 270km of the unsealed network that do not meet these minimum TLoS.





It is intended to improve those parts of the sealed and unsealed network that does not meet the existing set of TLoS over time.

The first will be widening the curves followed by standardising the road formation width.

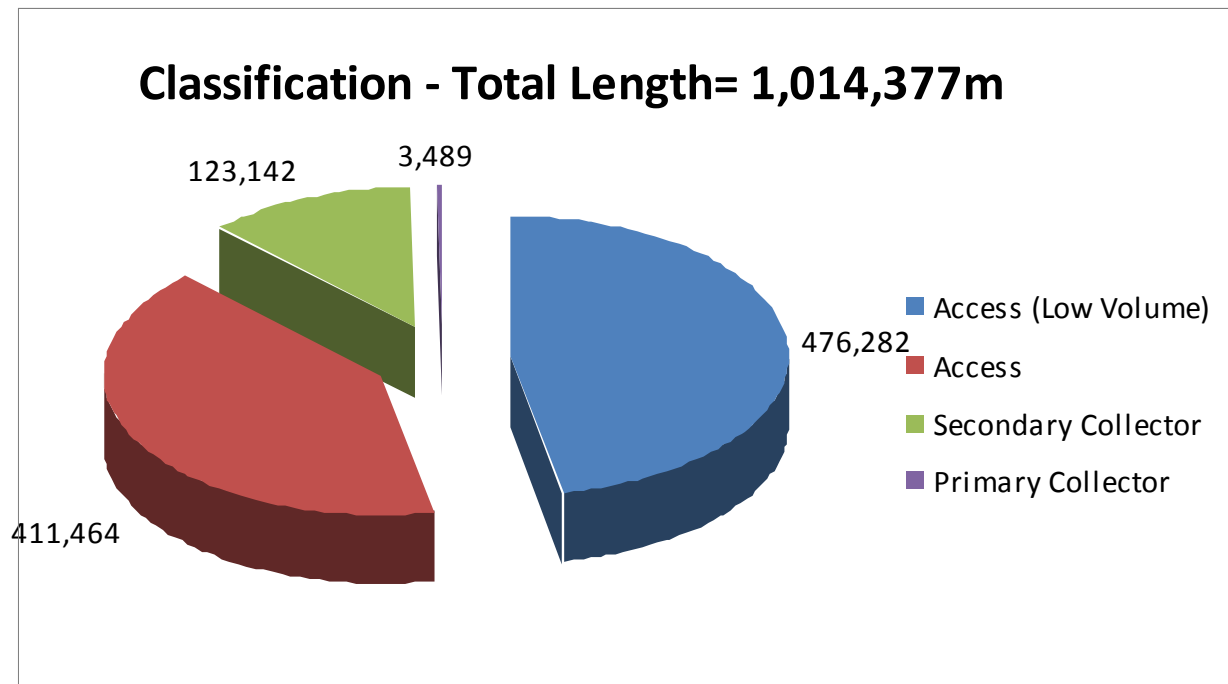
There are parts of the network (about 3.6 km of sealed and 73km of unsealed road) where the geotechnical stability of the terrain is such that it is not economically feasible to bring those roads up to the existing set of TLoS. These roads will continue to be maintained at their present LoS.



## 5.2 One Network Road Classification

NZTA developed and implemented the One Network Road Classification (ONRC) that classified the road network of New Zealand into eight categories. Traffic volumes were used to determine the classification. CLoS associated with the ONRC was developed, the associated TLoS is under development. The CLoS is based on three main criteria, fit for purpose, travel safety and value for money.

Applying the ONRC to the Waitomo network showed that 80%+ of the network fell in the two lowest categories which represent 887.7km of the road network.



The existing TLoS has been assessed against the ONRC TLoS to determine any gaps with any differences to be merged over the period 2015 to 2018.

### 5.3 Roads and Footpaths - Statement of Service Performance

The development of this Activity Management Plan has mostly been based on technical levels of service using internal knowledge and experience of such matters and applied as present practice. The methods of satisfying CLoS are measure through the Key Performance Indicators as shown in the table below:

LEVEL OF SERVICE	PERFORMANCE MEASURE	PERFORMANCE TARGET
<b>Road Safety</b> Monitor safety of local roads to assist in planning and prioritising works required to upgrade, maintain or change the condition of the sealed roading environment in order to reach and maintain a specified level of safety.	The change from the previous financial year in the number of fatalities and serious injury crashes on local roads	Reduction in the number of serious injuries and fatalities compared with the previous financial year= 1 (or maintain at 0 if 0 in the previous financial year).
		Reduction in the number of serious injuries and fatalities = 1 (or maintain at 0 if 0 in the previous financial year).
<b>Road Condition</b> Maintain the overall condition of local roads to a specified adequate standard.	The average ride quality of the sealed roads (measured by smooth travel exposure)	Percentage of measured sealed road lane kilometres not exceeding a NAASRA* roughness count rating of 150 to be at least 90%.
<b>Road Condition</b> Maintain the overall condition of sealed roads to a specified adequate standard.	The percentage of sealed roads resurfaced each year	At least 7% of the total.
<b>Footpaths Condition</b> Maintain the overall condition of footpaths to an adequate standard.	The percentage of footpath network that falls within a condition rating of <b>3</b>	At least 90%.
<b>Response to Service Requests</b> Manage the timeliness and appropriateness of responses to problems and service requests.	The percentage of customer service requests relating to roads and foot paths responded to within 10 working days.	At least 95%

Levels of service reflect the strategic objectives of an organisation and are typically based on the following factors:

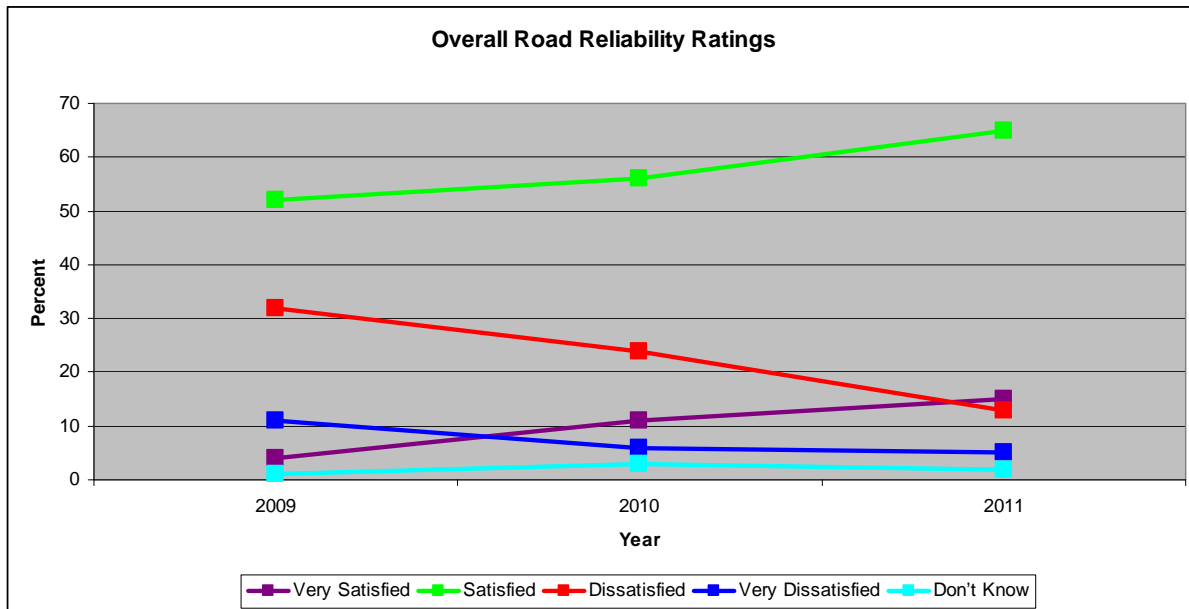
- Customer Expectations: Information both on customer perceptions of current levels of service and also expectations for the future. This information is gathered from annual surveys and direct contact with Council.
- Strategic and Corporate Goals: Councils strategic and corporate goals define levels of service, which the organisation wishes to achieve.
- Statutory and Regulatory Requirements: Environmental standards, Regulations and Acts that impact in the way assets are managed (e.g. resource consents, building regulations, health and safety legislation). These set the minimum level of service.

### 5.4 Customer Research and Expectations

The key to excellence in Activity Management Planning is to clearly understand customers needs and expectations. To date customer contact has been in the form of:

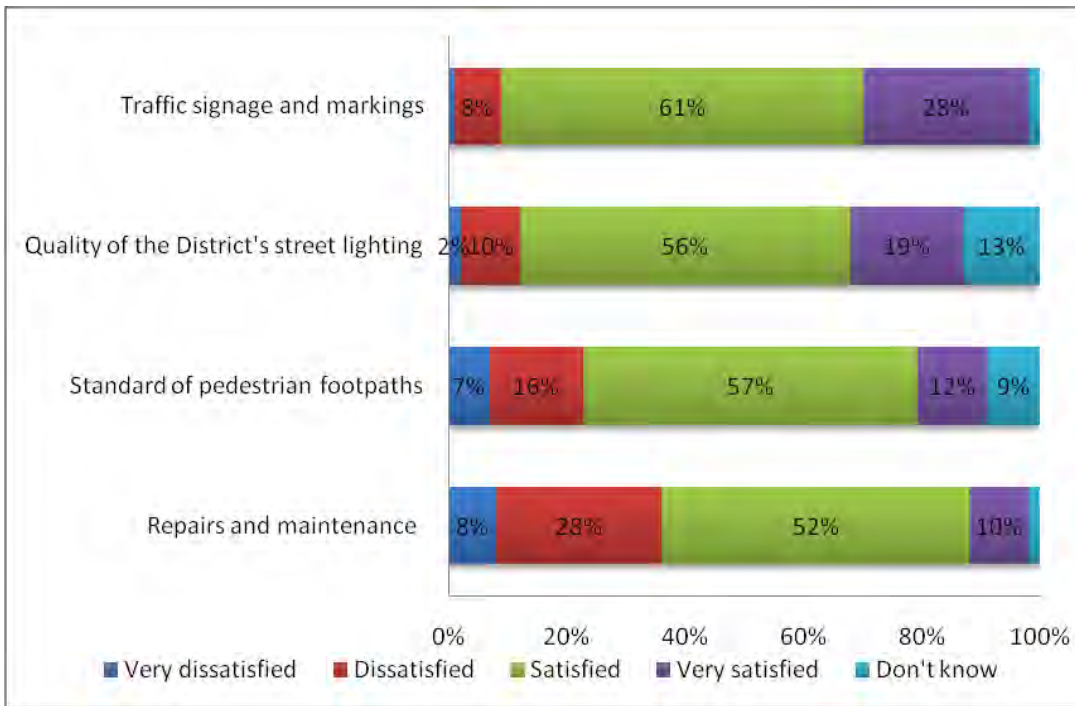
- occasional public meetings
- newsletters and pamphlets
- answering customer enquiries and complaints
- annual customer satisfaction surveys

Customer satisfaction surveys were commissioned annually from 2009. The 2013 survey did not include the roads and footpaths activity. Whilst results prior to 2009 are available they were measured on a different scale and direct correlation with more recent results is not achievable. The results of the surveys from 2009 onwards are tabulated and graphed below.

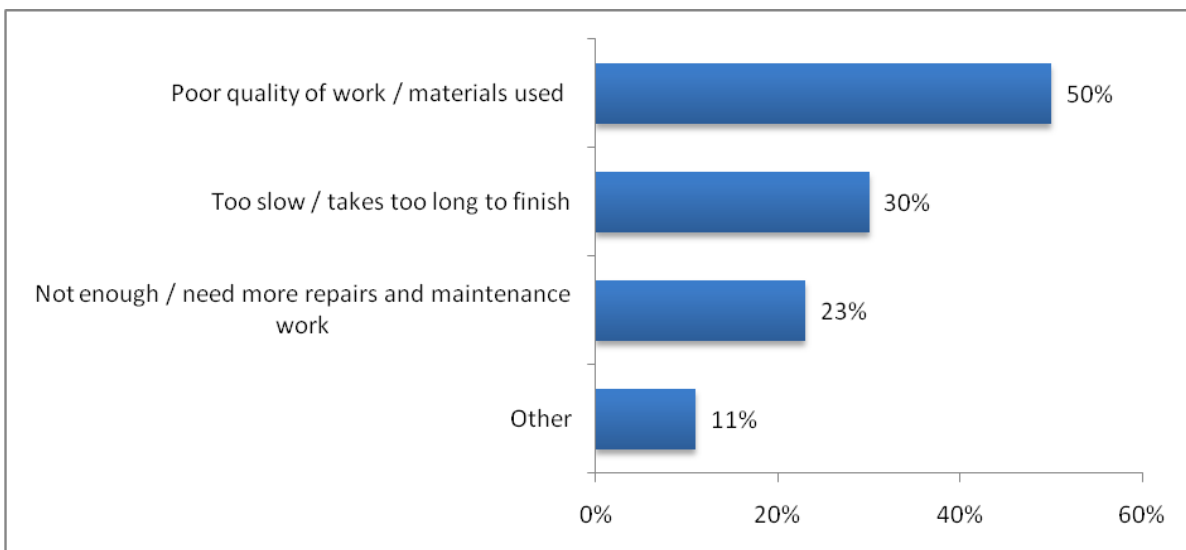


	Very Satisfied	Satisfied	Dissatisfied	Very Dissatisfied	Don't Know	Top 2 Score	Respondents
<b>2011</b>	15	65	13	5	2	80	400
<b>2010</b>	11	56	24	6	3	67	501
<b>2009</b>	4	52	32	11	1	56	502

It is pleasing to note that there was an elevated and upwards trend of satisfied residents throughout the district. The top two score (Satisfied and Very Satisfied) has risen by 24% in the past three years. This closely mimics the overall satisfaction with the provision of Council services, which achieved a top two score of 80%. Residents were also asked to rate their satisfaction on four roading attributes and the results are shown below:



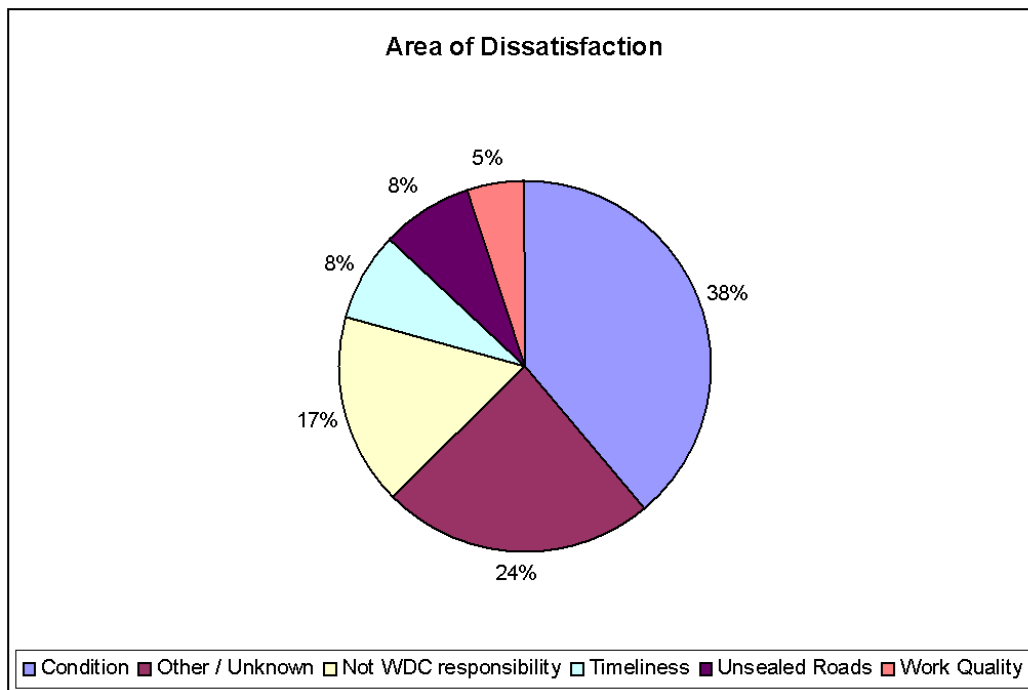
WDC's benchmark for resident satisfaction is set at 65%. Council has exceeded this mark in all areas surveyed, except for repairs and maintenance. The reasons for dissatisfaction with road repairs and maintenance are graphed below:



### Gap Analysis

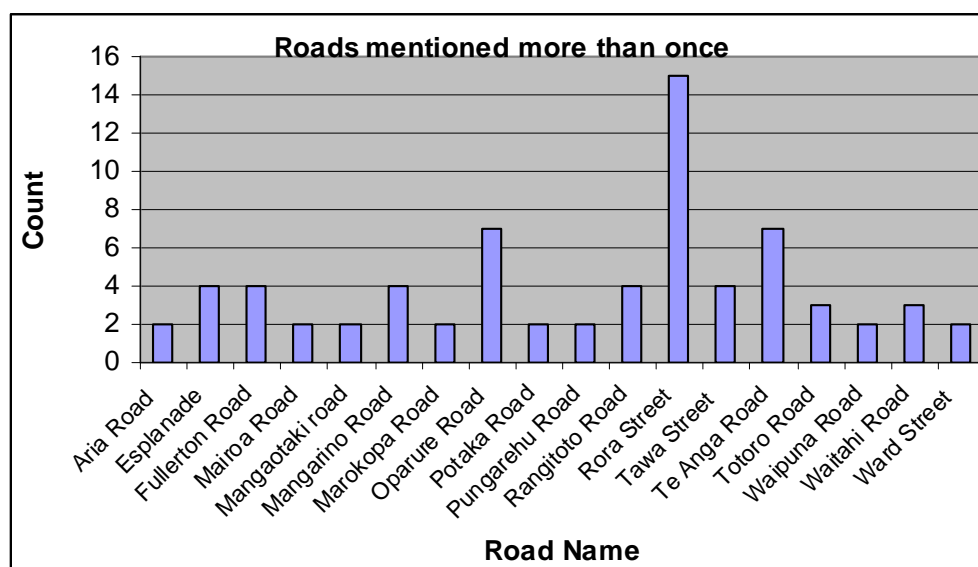
The results of the dissatisfaction shown above are not unexpected by Council staff. The poor quality of work and length of time to undertake repairs had already been identified. A significant amount of time is invested in writing the technical specifications for the new road maintenance contract to address these issues. Council staff expects that the additional detail in the technical inspections and improved contractor monitoring will improve the quality and timeliness of the work undertaken and lift this score to more acceptable levels in the future.

139 specific responses were received in 2011 in regards to actual dissatisfaction with Council's roading network. The results of the analysis are shown below:



The majority of the responses related to condition. This included responses for potholes on sealed roads, slips, stormwater issues, road width and uneven surfaces. Unknown issues resulted from respondents stating roads had issues were but not which issues. The main components of roads outside of WDC responsibility were concerns relating to State Highways or railway crossings. 8% of respondents felt that the timeliness to resolve issues were a problem. Another 8% requested that their road was sealed or that there was outstanding maintenance on the unsealed roads. 5% felt that rework or the quality of completed work was an issue.

106 WDC roads were specifically mentioned. Examining roads mentioned by more than one respondent (18 Roads, 71 responses) shows a correlation between customer levels of dissatisfaction and Waitomo District Councils planned remedies through its annual work programmes. For example, sections of Rora Street and Te Anga Road were rehabilitated in the 2010-11 financial year. These two roads and Oparure Road were also rehabilitated in the 2011-12 year. Other sections on these roads were resealed in 2011-12. Half of the roads (9) mentioned more than once were resealed in the 2011-12 year, with a further two planned for the following year. This leaves a total of four roads from the 18 that had no specific rehabilitation work programmed over the next two years. Three of these had emergency work sites in progress, a likely cause of the dissatisfaction (Fullerton Road, Potaka Road and Tawa Street). The remaining road issue was two requests to seal Waipuna Road.





Customer satisfaction surveys tend to be of limited use in Activity Management Planning because of their subjectivity and lack of specific feedback on levels of service, priorities, generalities about location and willingness to pay. With this in mind, a separate level of service survey was carried out in August 2008 with the view to improving a number of these shortcomings by targeting part of the survey audience to include key users and stakeholders. The key users/stakeholders targeted as part of this survey included:

- Courier contractors
- Rural Delivery contractors
- Roothing Contractor (Downers)
- Bus Companies:
  - Perry Buses, Dobson Buses, Piopio Buses
- Emergency services:
  - Fire, Police, Ambulance
- Stock Truck Contractors
  - Progress Transport, PGF Transport, Lime Haulage, Otorohanga Transport, Freight Lines
- Waikato Regional Council
- New Zealand Transport Agency (technical roading standards)
- Ministry of Transport
- NZTA

The results of this survey were then used to define, evaluate and plan how the gaps between current and desired levels of service, as agreed by Council, could be dealt with over the term of the last LTP.

Roading Service	Rating			
	Excellent	Average	Very Poor	Don't Know
Quality of roads	18%	47%	34%	1%
Consistency of roading standard	15%	46%	35%	4%
Road width adequacy	24%	49%	25%	2%
Road safety	32%	44%	24%	0%
WDC responsiveness to complaints/queries	20%	27%	18%	36%
Maintenance standards	21%	34%	40%	4%

The respondents who rated the levels of service as poor or worse (score of 1 – 4 out of 10) mostly gave reasons of poor condition, constantly needing repair or not repaired quickly enough. This mirrors the responses given in the 2011 resident survey.

From other similar, specific comments, customers do not distinguish between the ownership of State Highways versus local roads. The District roading network comprises both types of road hence Council's role in respect of the condition of roads that are State Highways is about Council advocacy.

Further details from the resident satisfaction survey for 2011 for traffic signage, street lighting, footpaths and repairs and maintenance is discussed under the relevant assets.

#### Expectations versus current levels of service

Overall, the user rating of the current roading network level of service was high, with 80% of respondents rating the Council as meeting or exceeding their expectations for servicing of the roading network.

The relationship between agreed levels of service, customer expectations and willingness to pay are important to the management of the assets. For this reason, a full service delivery review across the complete range of Council activities over the next few years would provide a basis for comparing the relative acceptance of different levels of service with cost. It could include:

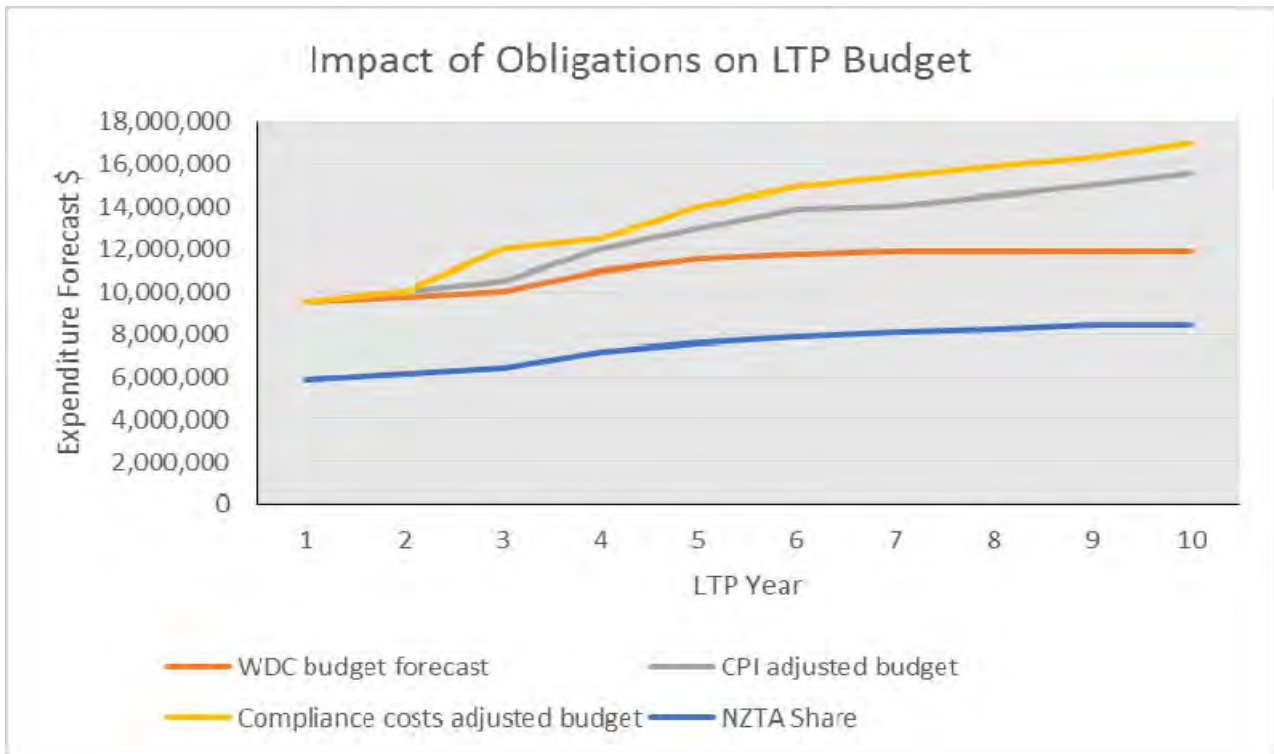
- The aspects of roading services most valued by customers.
- The special access and user needs of groups such as the disabled.
- The level of service appropriate for these services.
- How well customers perceive Council's performance in delivering these services.
- How much customers are prepared to pay for enhanced services.
- The relative importance of roading compared with other Council services.

### **5.5 Impact of Statutory, Bylaw and Policy Obligations on LOS**

The statutory background against which roading services are delivered goes beyond simply enabling WDC to provide and maintain public roads. Either directly (e.g. the Resource Management Act) or indirectly (e.g. through consultation required with key organisations under the Land Transport Management Act 2003)

minimum levels of service can sometimes be imposed beyond those identified by the community. The ensuing cost of compliance with statute and regulation (e.g. Health and Safety in Employment Act requirements) is transferred back onto the ratepayer through contract rates at the time of road maintenance and construction.

The impact of changes in funding allocations either externally (GPS, upcoming Base FAR reviews) or internally (Council budgetary restraints) also has a significant impact on maintaining current LOS. The level of funding subsidies from central government, with corresponding increases in responsibility and management being divested to local government, combined with a resistance to rates increases, indicate mounting pressure for a decreasing LOS.



The following definitions apply to each forecast shown in the above line graph:

WDC budget forecast	The budget forecast to meet the current level of service
CPI adjusted budget	BERL forecasts of price level change adjustors applied to WDC budget forecast – September 2013
Compliance costs adjusted budget	Estimated additional cost to comply with increases in statutory, bylaw and policy obligations
NZTA Share	Funding share provided from NLTF

Whilst most of these figures can be accurately estimated, the increase due to compliance costs cannot and as such has been estimated at 1% per annum.

The above graph assumes a static level of service and shows the financial impact that the changes previously discussed will have on the Waitomo network. To keep the current level of service, additional funding to cover the shortfall between Council budgets and CPI adjustments and increasing compliance costs must be found. This could be funded by increases in rate charges.

The only other available option available is to decrease the current level of service. The current level of service is already considered to be the bare minimum required to achieve intergenerational equity. Significant discussion would have to be held to determine where and how lowering the service would be acceptable to stakeholders. Considerable care would also have to be taken to ensure that lowering the level of service does not increase future maintenance or capital costs.



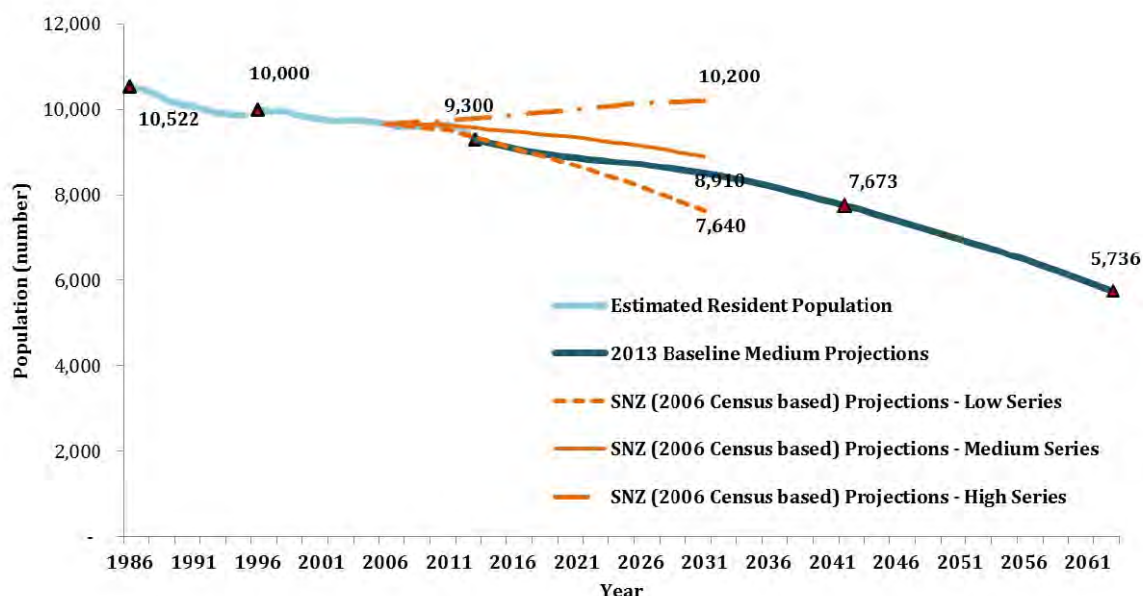
## SECTION 6 FUTURE DEMAND

The main drivers of demand for roading infrastructure are:

- Population changes and new residential activity
- Land use activities (e.g. agriculture, forestry, mining, tourism and coastal settlements)
- Community expectations
- Oil prices
- The need to upgrade services in the parts of the network where gaps exist between existing and specified level of service.

### 6.1 Population Drivers

There has been a general trend of decline in both the rural and urban areas of the District over the past 15 years. It is predicted that over the next ten years the overall population of the District will continue to gradually decline. The graph below presents the 2013-base medium population projection for Waitomo District to 2063, along with historical population estimates from Statistics New Zealand back to 1991. The 2006-base Statistics New Zealand (SNZ) high, medium and low projections (October 2012 update) are also included for comparison.



**Fig.: Baseline Medium Population Projections for Waitomo District and Comparison with Statistics NZ (2012) Sub national Projections**

### 6.2 Urban infill and residential expansion

In so far as road capacity is concerned, increased traffic movements due to the additional number and distribution of dwellings has a much greater impact than population change. With each "rural" dwelling generating between 5 – 7 vehicles per day (vpd) in rural areas, and 7 – 10 vpd in urban areas, the average trend indicates an additional annual traffic volume of between 93 and 180 vpd can be expected across the District from locally generated traffic.

The District plan allows for smaller lot sizes in the residential zone where sewerage services are available, defined by minimum yard separation distances and maximum building site coverage of 35%, without resource consent. Otherwise, a minimum lot size of 2500m<sup>2</sup> is required.

With reticulated sewerage in place, infill development can occur in residential areas as a permitted activity, with minimum lot sizes reducing to 300m<sup>2</sup>. In a "Greenfield" residential development with reticulated sewerage, the minimum lot size is 600m<sup>2</sup>. No similar restriction applies in the case of water supply

availability, although the absence of a reticulated water supply at towns such as Awakino, Te Waitere and Marokopa is expected to be inhibiting development at these locations.

The absence of reticulated sewerage services in the coastal settlements of Mokau and Awakino is restricting residential development in these locations. The minimum lot size in these residential areas is currently 2500m<sup>2</sup> due to the absence of reticulated sewerage services

The recent completion of the Piopio sewerage scheme in 2012 will enable further residential infill development down to minimum lot sizes of 300m<sup>2</sup>. The rate of development though, is minor, partly because of the high connection costs of the scheme, the decline in normally resident population in the district, and the slow economic recovery.

Historic trends of pockets of sub divisional and building activity in the form of modest lifestyle development around Te Kuiti, Waitomo Village, Mokau, and Awakino are also slowing. The sub divisional activity that was occurring in and around the Te Waitere area has slowed in recent years.

Over the last five years there has been an average of 12 new dwellings constructed per year. In terms of subdivisions the average number of lots created over the same period has been 3. Whilst 151 new lots were consented over the last five years only 63 new dwellings were actually consented. While this is partly due to the delay between subdivision approval and building construction, there is also a backlog of undeveloped lots in the District which need to be factored into planning considerations.

From a recent, informal, desktop planning exercise, drawing from development proposals which are known to officers and/or are in the early stages of consent processing, it has been identified that further growth is unlikely to place pressure on the provision of Council services. Indications are the recent trends of relatively slow development are likely to continue into the foreseeable future.

The demographic and development trends show that there is no demand for growth related infrastructure at the present time or in the foreseeable future.

For the past few years Council has been working on improving the condition of its core infrastructural assets, particularly in the Water Supply and Sewerage activity areas, in order to support public health outcomes and to meet its Resource consent and other legislative requirements. The growth and development trends support an approach which continues to upgrade and maintain existing assets as opposed to the development of new capacity driven infrastructure. There is currently enough capacity in the infrastructure network to allow for minimal growth should it occur.

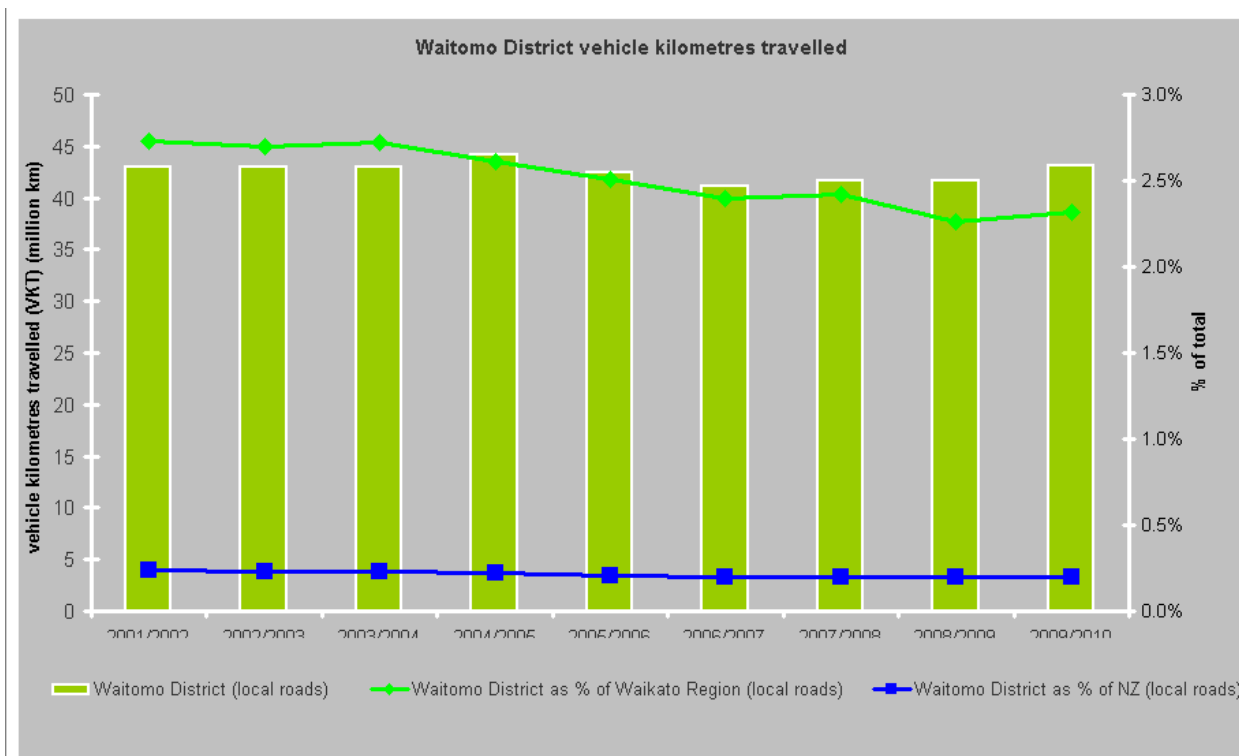
It is expected that any increase in demand from residential development over the term of this AMP will be minor and readily accommodated within the existing capacity of the roading network.

### 6.3 Traffic growth rates

New Zealand Transport Agency's Project Evaluation Manual recommends the following traffic growth rates for the Taranaki and Waikato Regions:

REGION	URBAN		RURAL	
	Arterial	Other	Strategic	Other
Taranaki	1.5	1	1.5	0.5
Waikato	2	1	3	2.5

Notwithstanding the above, the below graph from SmartMovez - an NZTA website, details the actual total annual vehicle kilometers traveled (VKT) over the 2001 to 2010 period within Waitomo district and compares it with the Waikato district and nationwide.



VKT from 2010 through to 2013 as recorded on the NZTA Intelligence iServer website, show a similar pattern in 2011 and 2012, with VKT increasing to approximately 46,000 in 2013 due to an increase in travel on both rural and urban roads.

The average trend indicates a reasonably static annual traffic volume across the District from locally generated traffic but an increase in heavy traffic servicing primary industry. While levels of service expectations may increase with time, in part due to the pattern of lifestyle development and the potential for increased housing at the beach settlements, the traffic volumes will be easily accommodated within the existing capacity of the road network. Localised, growth related, capacity improvements are likely to be needed including seal and corner widening on Council access roads in the vicinity of the above developments.

On sealed roads, maintenance attention to and RAMM reporting of incidents of edge break may lead to an increase in localised seal widening programmes on selected collector and arterial routes over time. A nominal allowance for this type of additional asset capacity has been included in the forward programme during the 2015-25 planning period.

## 6.4 Changes to expectations

Increasing standards and community expectations will have an influence on the nature and design of future transport facilities. Furthermore, environmental issues can be expected to be increasingly important in decisions about the mode and form of future transport infrastructure. These environmental and social issues are identified and addressed in the New Zealand Transport Strategy.

### 6.4.1 Community Expectations

Changing community expectations relating to the Roads and Footpaths activity as identified in community surveys and recent regional and nationwide strategies include:

- Higher standards for pedestrian and cyclists safety and convenience
- Improved living qualities of residential streets and neighbourhood precincts
- Encourage alternative transport methods
- Better design standards, including road widths and road reserves
- Improved road safety, including access to schools
- Better integration of road user needs
- Increased expectation for seal extension
- Increased consultation expectations both from the community and under relevant legislation

While the predicted demand for additional road capacity is relatively low, there remains a need to manage the existing assets efficiently. Demand management strategies, are the first order non-asset solution to this issue.

Of the 555km of WDC's unsealed roads, 274km has a carriageway less than 4.0m wide, Of that, about 74km of the is less than 3.0m wide. A programme of increasing the minimum width of these roads to provide for safe passing of approaching traffic has been planned.

#### 6.4.2 Environmental Expectations

The effects of transport demand on the environment are considered in planning and developing the transport system. This is partly driven by the increasing public awareness of environmental issues and intolerance of pollution. Another major driver is the increasingly stringent discharge consents imposed for the quality of effluent from the stormwater system, including a possible requirement for treatment prior to discharge. The most significant environmental impacts are:

- Intensifications of water runoff due to road construction
- Water run-off pollution from road traffic
- Air and dust emissions from road transport
- Traffic noise, odour and vibration, particularly from heavy road vehicles
- Land take for transport corridors

#### 6.4.3 Technical trends

The continued development of the RAMM database in conjunction with pavement assessment and economic analysis techniques will allow Council to generate savings through more effective optimisation of maintenance and renewal programmes. Technological advances in engineering practices and recycling of roading materials are continuing to develop and may reduce the rate of increase of maintenance, renewal and new road works.

#### 6.4.4 Economic trends

In the long term, the effects of the draft Government Policy on Land Transport (2015/16 – 2024/25) are expected to have important implications for demand management on road networks throughout New Zealand. Policy consideration by Government will involve changes to the ways in which users pay for their use of the network in the long term, with a more direct linkage being established between the price paid and the costs imposed by users on others. Users of heavily congested networks where the marginal cost of increasing capacity is significant can be expected to pay more per kilometer than users of low volume roads.

The increasing price of fuel also has an impact on vehicle usage. Over time it is expected that 'peak oil prices' will have a direct correlation with vehicle kilometers traveled.

### 6.5 **Traffic loading and pavement/structural capacity**

Corner widening to accommodate the 50Max-HPMV trucking configurations used to service primary industry will be needed in the future. Current bridge capacity along the designated 50Max\_HPMV routes has been assessed and has shown that the additional vehicle load will have zero impact on the affected bridges, as shown below:

Road	Route Position	No. of Bridges on Route	Bridge No.	Condition	Major Capital Work required within Next 10yrs	Estimated Remaining Life (Years)
Oparure Rd	0-8000	3	53	Good	No	40+
Oparure Rd	0-8000	3	54	Good	No	40+
Oparure Rd	0-8000	3	56	Average	No	10 to 20
Ruru St (Aria)	0-960	1	79	Average	No	20+
Aria Rd	0-10900	1	82	Good	No	40+
Kaitaringa Rd	0-3300	0	-	-	-	-
Waitahi Rd	0-1000	0	-	-	-	-
Kohua Rd	0-500	0	-	-	-	-
Mangarino Rd	380-12100	1	32	Good	No	40+
Hangatiki East Rd	0-6200	0	-	-	-	-
Somerville Rd	350-2200	1	276	Excellent	No	40+

The current pastoral based economy is expected to remain dominant in the District, with growth very dependent on economic conditions and export opportunities. Industrial growth, which will impact on demand for roading, is dependent on new development of local resource and/or attracting new industries.

Harvesting of forestry within the District can have a marked effect on roading as saw logs are transported to the State Highway system over local roads. Consultation is maintained with forestry owners as to the predicted location and timeframes of their harvests. Most responses received generally indicate small areas to be harvested over the term of this AMP, with short term loading impact on affected local roads.

Changes to legislation have resulted in increased maximum gross vehicle weights, with dedicated routes for 50Max-HPMV loads an example of this. The number of oversize/overweight loads has also increased with specialised plant and equipment being transported as complete as possible to enable rapid deployment. Bigger or more complete machines are traveling from site to site and increased size is seen as a competitive edge.

Minor changes to levels of service on smaller rural roads could be forced by the trend of beef/sheep farm conversion to dairy, with an associated increase in heavy vehicles. Access for construction to new developments such as wind farms should not have an impact on Council as access costs would be met by the developer.

Tourism is a major economic activity in the District, with Waitomo Village being a tourism site of national and international repute. Scope exists for developing opportunities for adventure tourism, building on Waitomo Village as the major tourism hub. The infrastructure at the Village is held under private ownership with the treatment plants and reservoirs on private or leased land. The water scheme was installed to service the selected commercial properties within the Village and has been allowed to expand in an unstructured informal way.

The immediate impact of tourism on the District's roading network requires an adequate level of destination and information signage. There is a safety element to this too, with the visitor industry often not familiar with driving on unsealed, winding roads, particularly during hours of darkness. Advisory speed signage, chevrons, edge marker posts and edgeline/centreline marking (sealed road corners) on tourist routes is important and a maintenance allowance for these has been included in traffic services budgets forecasts.

The district is rich in minerals, namely aggregate. Quarry sites and aggregate haulage routes are already known and road maintenance programmes in place in respect of these routes.

Coal resources are also present in Benneydale and other parts of the district and coal mining activities in the future are possible. The activity would almost certainly generate demand for additional structural capacity on affected roads, depending on the location. It has been assumed that any future coal mining will take place outside the planning period of this AMP.

## **6.6 Demand Management Strategy**

The almost singular reliance on roading as the primary means of land transport, combined with the absence of traffic congestion or high traffic volumes on the District's local roads, reduces the need for demand management techniques, and this situation is unlikely to change within the foreseeable future based on population projections and current development trends. Even in the absence of detailed provisions in the District Plan, demand management is therefore low risk and low priority for the District.

The strategic transport corridors through the District (SH 3, 4, 30, 37 and the NIMT rail) are the main routes impacted on by travel growth issues, and a number of initiatives have been identified in the Regional Land Transport Strategy (RLTS) to make better use of the capacity of these corridors, such as modal shift, at both a regional and sub-regional level. Details of the region's demand management strategy can be found in the Part 3 and 4 of Waikato Regional Council Regional Land Transport Strategy

Isolation, low take-up of information technology, regionalisation of some social services, low median income and the absence of public transport other than national service links (e.g. the Overlander) accentuate the importance of the private motor vehicle to local residents and the need to provide a mix of additional transport options.

A summary of non-asset demand management options relevant to WDC through policies, actions and implementation measures in RLTS to promote modal shift are:

- expand passenger transport network throughout region
- expand total mobility services throughout region

- expand cycling and walking networks throughout region (particularly in urban areas)
- provide passenger transport and cycling facilities
- promote the transfer of freight from road to rail and other alternatives such as barging
- investigate the long-term feasibility of passenger rail transport in the region
- integrated land use and transport planning.

Development, especially commercial/industrial within Te Kuiti and tourism at Waitomo Village will need to be managed to avoid traffic conflict. Heavy industrial development such as forestry and mineral extraction needs planning and control to ensure adequate infrastructure is in place to support the high vehicle weight loadings associated with these industries.

External demand management of an indirect nature impacting on travel demand relates to crude oil prices. As the price of petrol and diesel increases, the incidence of use of private motor vehicles is expected to decrease

The increasing community demand for improved environmental outcomes generally, and in the case of rural roading, reduction of road dust in particular, has previously led to a programme of seal extension. This type of discretionary activity has been curtailed in light of the CDC's financial position, past funding policy, and a new approach to prioritisation of capital works, as the Council adheres to a more sustainable financial strategy to be reinforced in the context of its 2015 LTP.

The growth related component of the capital cost of providing additional assets or increasing the capacity of existing council infrastructure, will be apportioned using Council's financial contributions policy. A proposal to introduce a development contributions policy may be considered in the future, assuming that growth generates sufficient demand new capital works to meet that demand.

New roads are generally put in place by developers and then vested in Council's ownership for future management and maintenance responsibility.

# SECTION 7 RISK MANAGEMENT

## 7.1 Context

A pragmatic approach has been taken to risk management, utilising the risk standard AS/NZS ISO31000-2009 as the reference framework, in identifying risk events they have been grouped into:

- Natural events, where there is no real control over the timing or extent of the event, although probabilities may be understood, e.g. floods, lightning strikes, slips, earthquakes.
- External impacts, where other service providers are not providing services which impact on the organisation or individuals, e.g. power supply failures, material supply failures.
- Physical failure risks, where condition or performance of the asset could lead to failure.
- Operational risks, where management of the asset or Activity Management activities may impact adversely on the asset.

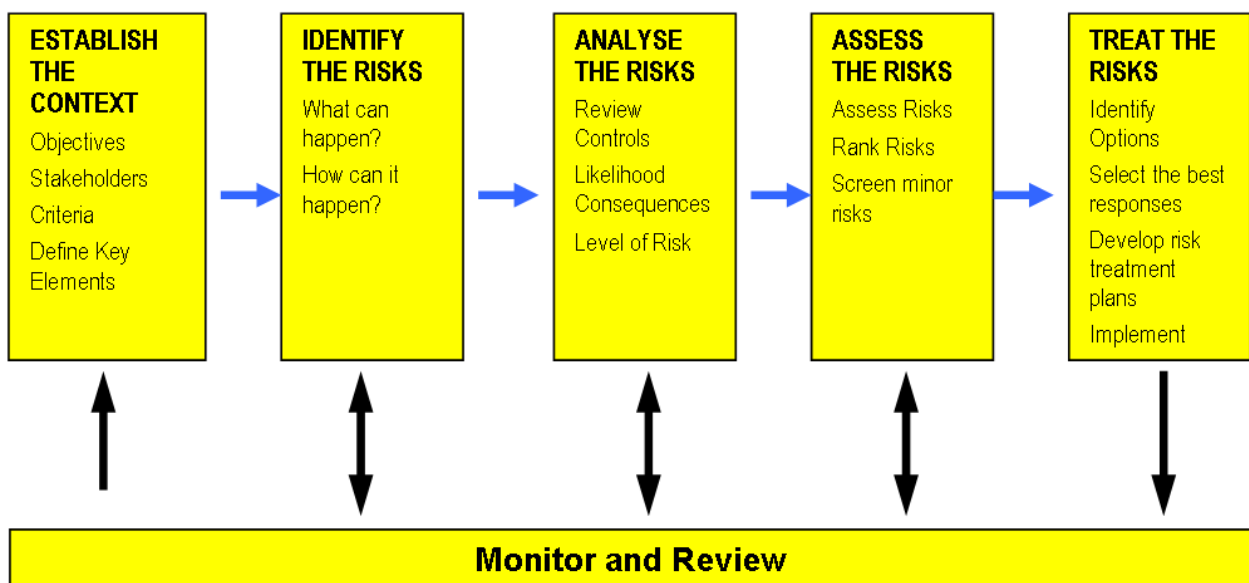
The roading network is an essential component of the Community's lifelines. Along with water, wastewater and energy/communications, it provides an essential service necessary for a community to continue to function during and after a natural disaster. The roading network is often the only means of access to these other infrastructural assets. As well as direct impacts on assets, the risk events will usually pose a risk by impacting directly or indirectly on customers and possibly others.

The legal liability for nuisance, negligence and third party damage needs to be recognised. Consequences of failure are linked to the asset types and include:

- Repair costs
- Loss of income
- Loss of service
- Loss of life, or injury
- Health impacts
- Damage to property
- Failure to meet statutory requirements
- Third party loss
- Loss of image

The probability of physical failure of an asset is related directly to the current condition of the asset, hence the importance of realistic and accurate condition assessment. Also the effort put into assessing and managing risk needs to be proportional to the risk exposure.

### Risk Management (Refer AS / NZS 4360)





## 7.2 Risk Issues

A formal risk analysis and mitigation plan for the road and footpath assets has not been undertaken as detailed in SECTION 7 RISK MANAGEMENT. Some key risks have been identified and consideration has been given to developing a plan when capacities and capabilities allow. Known risks are discussed under specific asset information categories within this plan. Overarching risks are listed below:

- Difference between planning and actual demand in the current uncertain economic and social environment
- Pressure on funding due to reallocation of national funding to major metropolitan centers or significant national capital works packages e.g. RON's
- Overloading of pavements due to a higher growth in heavy vehicle use
- Works not undertaken in a timely manner to improve horizontal alignment and sight distances for long loads associated with 50Max-HPMV loads including logging operations
- Poor road geometry and skid resistance contributing to serious injury/fatal accidents
- Bridges, culverts and structures are at risk from natural events such as earthquakes and floods
- Poor road pavement reinstatement after utility installation resulting in deteriorating network pavement condition and reduced pavement effective life.
- Topographical restrictions on roading geometric design and increased construction costs due to the rough terrain
- Increased timeframes and costs incurred with more stringent regulatory and statutory requirements

## 7.3 Risks Tabulation

The methods for these Risk Identifications are based on a recognised **five step** process that involves identifying and assessing the hazards and risks and implementing control measures.

The procedure used is as follows:

- Step 1** Identify the Hazards (Exposed Dangers)
- Step 2** Identify the Risks associated with the hazard (chance of loss arising from exposure to hazard)
- Step 3** Assess each Risk using the tables shown in **Error! Reference source not found.**, to generate a Hazard Rating Number (HRN)
- STEP 4** List existing control measures
- STEP 5** Identify further control measures with timetable for implementation

The results of the risk analysis are shown in Appendix F

## 7.4 Mitigation Measures

Mitigation measures typically include design and engineering measures to strengthen the ability of the asset to withstand the hazard event or to lessen the impact of the consequential failure.

When an asset has failed or is expected to fail in the future strategies can then be developed to avoid or react to the failure. If the failure mode of an asset is critical to the organisation, failure avoidance is likely to be more effective than reactive activities. Depending on the failure mode, the strategies may include: changed maintenance activities, rehabilitation works, replacement works, or abandonment of the asset. These Strategies can provide a list of works, which may be further broken down into:

- 'Should Do' – Complete within 5 years
- 'Could Do' – Works which may possibly be deferred for 5 years
- 'Defer' – Works which can be deferred for 5 years

Based on the risk rating matrix the table below gives guidance on mitigation measures.



Risk	Action
Extreme	Immediate Action Required to reduce risk
High Risk	Treatment options must be reviewed and action taken to manage risk
Significant Risk	Treatment options reviewed and action taken dependent on treatment cost
Low Risk	Manage by routine procedures

**Table: Risk versus Action**

## 7.5 Crash Data

The Waikato Region has a normally resident population of approximately 403,000, (9.5% of the national total) of which approximately 35% live in Hamilton. Road safety in the region is a nationally significant issue, with road deaths and serious injuries accounting for approximately 20% of the national toll each year.

In Waitomo District, approximately 75% of fatal and serious road accidents occurred on the state highway network over the 2007-2011 period. While the 198.2km of state highway within the district is approximately 20% of the 1,014 km of local roads, the higher traffic volumes and vehicle speeds on the highway network account for the higher incidence of traffic accidents on those routes.

Of the crashes reported in Waitomo district over 2007 – 2011, weather and road conditions, poor handling and driving too fast for conditions were the dominant contributing factors, and in that order. Similar dominant factors were evident across the region as a whole. Fatal and serious injury crash types were over-represented by loss of control on bends, followed by overtaking/head-on collisions.

Over 75% of serious and fatal accidents occurred during daylight hours, and over 50% on a dry road. This compares with approximately 66% during daylight for the rest of the region, and a similar percentage on a dry road.

Approximately 80% of accidents occurred mid-block between intersections, with most involving a single vehicle. A similar pattern was recorded for the rest of the region. Nearly 2/3rds of accidents involved cars.

An initiative called KiwiRAP (road assessment programme) was first released in 2008 in which the state highway network was assessed and rated for road safety. In Waitomo District, SH 37 from Hangatiki to the Waitomo Caves was identified as the road having the highest “personal risk” (which takes account of annual km traveled on each section of road) in the region and the second worst in the country. SH30 between Te Kuiti and Atiamuri was ranked the sixth worst.

The KiwiRAP assessment was last updated in 2012, covering the period 2007-2011. The same section of SH37 was rated as the third highest risk, with SH 30 from Te Kuiti to Atiamuri rated eighth highest.

The Waikato Regional Council has prepared a Regional Road Safety Strategy (RRSS) for the period 2013 – 2016 aimed at reducing serious and fatal accident trends across the region. WDC is a member of the Waikato Regional Road Safety Steering Group that helped develop the strategy. The goal is to halve the annual number of road fatalities in the region by 2040.

Excessive speed and the incidence of accidents on rural roads will be key areas targeted by the strategy. From the Waitomo based statistics, both issues will be relevant to the predominant causes of accidents on rural roads.

However, the main contributing factors to road accidents are often more to do with driver behaviour than road condition, with programmes to improve driver education and awareness sometimes a more effective “demand management” tool ahead of costly asset based solutions. To this end Council employs a road safety coordinator under a joint services arrangement with Otorohanga District Council, co-funded by NZTA. The key road safety programmes include:

- Driver licensing – an estimated 25 – 33% of local drivers are unlicensed. Licensing inherently increases driver knowledge of traffic regulations designed to uphold traffic safety.
- Use of child restraints
- Driver fatigue – SH3 and 39 have high accident rate attributed to driver fatigue. SH 3 and 4 are recognised ski routes from Auckland to Mount Ruapehu during winter months
- Traffic signage – targeted at intersection control, rail crossings (due to influence of NIMT) and school crossings.

## 7.6 Critical Assets

Critical assets are defined as those having the highest consequences in the event of failure



Critical assets include the following:

- All bridges where no alternative route is available are classified as critical assets because when these assets fail they usually cannot be replaced for several weeks
- All no exit roads with homes or businesses on them and where no alternative route is available
- All assets that come out of the Risk Assessment with a high risk or higher can be considered critical
- School bus routes
- Other critical assets are listed under their appropriate asset information section.

## 7.7 Natural Hazards

The natural hazard events considered relevant to this AMP are those most likely to impact on lifelines as defined in the Civil Defence and Emergency Management Act 2002.

### 7.7.1 Climate change

Climate change is expected to cause sea-level rise and increased frequency and intensity of storm events. The associated flooding would increase the risk of road closure or failure at culverts and bridges and that may make current roading standards obsolete. As the authority responsible for the local road network, WDC is required to assess and manage risks to the transport network as well as ensure its sustainability.

WDC recognises it is prudent to consider climate change impacts in the design and planning of all major long-life infrastructures such as bridges and culverts that could be affected by climate change impacts within the structures' working life.

WDC's current approach is to focus on structures with a design life of 25 years or longer and where other indicators designate renewal or replacement. The approach encourages consideration of existing natural hazards likely to be exacerbated by climate change, in particular the risk to infrastructure with the longest life. During the design phase, it is recommended that consideration be given to future-proofing the design so that later retrofits are both feasible and cost-effective. When looking at construction and maintenance it is important to consider infrastructure that is at risk from the cumulative effects of multiple climate change impacts.

Climate change impacts to stormwater design will initially be monitored through the NIWA's High Intensity Rainfall Design System (HIRDS). HIRDS is designed to estimate rainfall depths for hydrological design purposes and to assess the rarity of observed storm events

The Ministry for the Environment provides a series of guidance manuals to help local government assess and manage the impacts of climate change in their planning and decision-making processes, as well as infrastructure and Activity Management. The most recent MfE guidance on climate change for New Zealand has been referenced in the Council's assessment of the potential impacts of climate change.

Climate change is expected to influence:

- the frequency and intensity of extreme rainfall. The intensity of extreme rainfall may increase by up to 8 per cent by 2040 and up to 16 per cent by 2090.
- average annual rainfall. In the Waitomo District average annual rainfall is expected to increase by up to 2.5% by 2040. Seasonally the district could expect increases in winter rainfall and decreases in spring rainfall.

Increased frequency and intensity of extreme rainfall events may contribute to reduced ability of roading stormwater systems to cope, particularly at those beach communities where stormwater outlet points are within tidal zones, where it is likely there will be additional pressure from rising sea levels, increased storminess and coastal erosion, and at Te Kuiti due to high river levels during high rainfall events. Higher intensity rainfall events will increase runoff and could impact on existing road drainage capacity. Consideration has been given to catchment assessment studies to be completed for the main urban areas.

There is much uncertainty about the extent of climate change and about social, economic and environmental change. That makes it necessary to consider a range of possible futures when assessing climate impacts, and whether adaptive responses are needed. A precautionary approach requires action based on our current understanding of the effect of climate change on flood risk. An overestimation of the impacts of climate change may result in unnecessary expenditure. However an underestimation could impact on the Council through the need for emergency project works. Either scenario would affect ratepayers. Therefore decisions need to be based on a combination of advice from the best expertise and information available at the time, balanced with council funding and planning processes and priorities. Responses should be flexible enough to take into account further improvements in understanding of climate change and not lock in options that minimise the ability to adapt at a later date.

This Activity Management Plans for Roading and Footpaths has considered the longer term consequences of Climate Change, especially in consideration of new capital works in areas with potential to be affected. While limited population growth and land use change is expected in the current AMP period, the Resource Management activity does consider the longer term consequences of Climate Change as part of the resource consent process.

Given the initiatives already in progress to address the potential effects of Climate Change, it is considered there will be minimal impact over the period of this AMP. However, a distinguishing feature of climate change-related risks is that the underlying risks themselves change over time. In addition, ongoing research will continue to add to the understanding of the potential impacts of climate change. This means that from time to time the Council may need to reconfirm that our infrastructure and services will perform in the future climate.

#### 7.7.2 Seismic event

A major earthquake with a shaking intensity of MM9 (return period of 1,000 years) would pose a major threat to the lifelines, critical assets and interdependencies of WDC's roads and bridges.

#### 7.7.3 Flooding

A flood equivalent to a 1 in 100 year event would threaten road and bridge structures, cause slips and incur significant disruption to normal land transport access.

#### 7.7.4 Volcanic eruption

An eruption of Mount Ruapehu with a 12km high ash column

### 7.8 **Resilience to natural hazards**

The main risks to the critical Roads and Footpaths assets resulting from natural hazards relates to a significant earthquake, or flooding.

Bridge inspections are completed every two years and structural assessments completed every 5 years to mitigate the risk of structural failure. Alternative routes are maintained for collector roads.

### 7.9 **Impact of risks on programme funding**

The local share funding of measures to protect roading and footpath assets from high risks will impact on current budget provisions. That in itself introduces a further risk; that asset condition may decline in the short term because of the diversion of funding away from core maintenance and renewal programmes in the absence of additional funding.

Further analysis of risk criticality and mitigation measures will be carried out over the next three years as part of the AMP Improvement Plan to quantify and prioritise priorities within available budgets.

#### **7.10 Risks and Resilience improvement plan**

Aspects that require further development include:

- Further investigation and better information about the impact of natural hazards.
- Further assessment of risk and programmes to mitigate risk in the light of the above investigations
- Development a more advanced approach to identifying critical assets that incorporates rating and other dimensions of criticality.
- Further assessment of current levels of resilience
- Develop a more comprehensive method of assessing resilience using risk based evaluation and optimised decision making tools to assist decision making around the desired level of resilience
- On-going review of the risk register

## SECTION 8 LIFECYCLE ACTIVITY MANAGEMENT

Lifecycle Activity Management focuses on the key activities that take place over the life of an infrastructural asset (creation, maintenance, renewal and disposal) for each asset group to improve the decision making and evaluation of options associated with each asset and to optimise lifecycle costs.

WDC ensures it delivers to and takes into consideration the strategic framework to achieve good quality Infrastructure Activity Management.

Infrastructure Activity Management is as defined by NAMS:

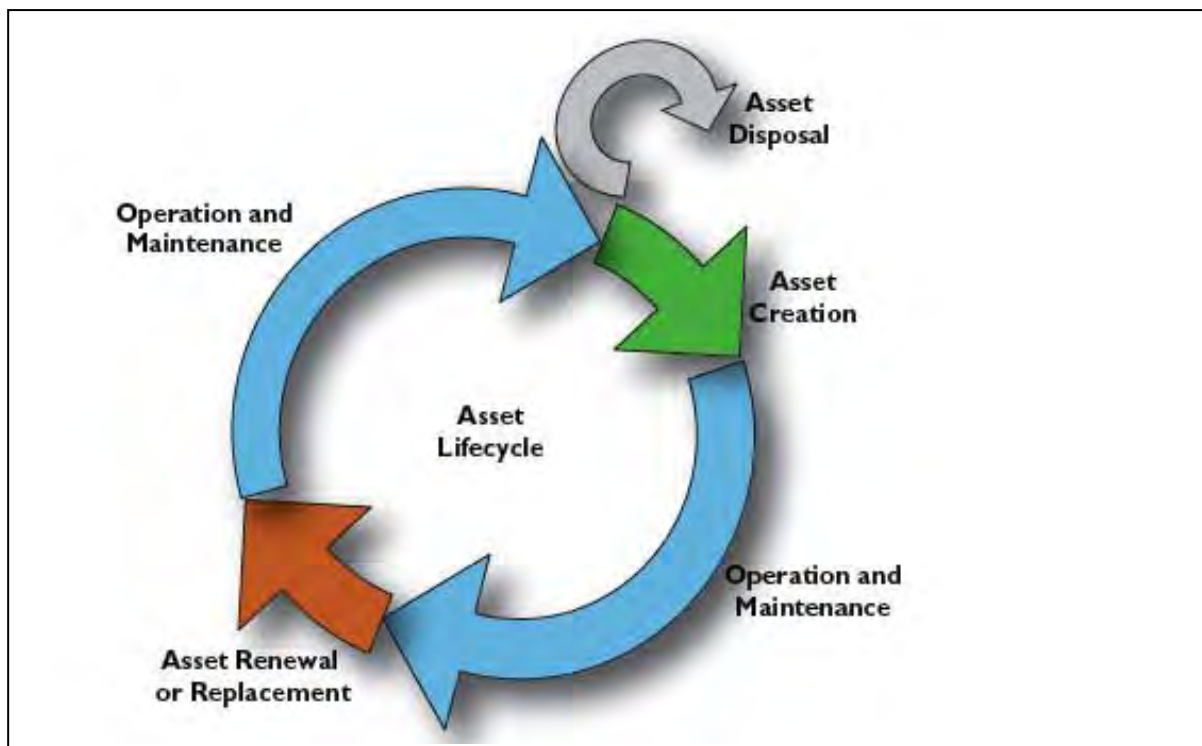
*The goal of infrastructure activity management is to meet a required level of service, in the most cost effective manner, through the management of assets for present and future customers.*

The key elements of infrastructure activity management are:

- Taking a lifecycle approach
- Developing cost-effective management strategies for the long-term
- Providing a defined level of service and monitoring performance
- Understanding and meeting the impact of growth through demand management and infrastructure investment
- Managing risks associated with asset failures
- Sustainable use of physical resources
- Continuous improvement in Activity Management practices

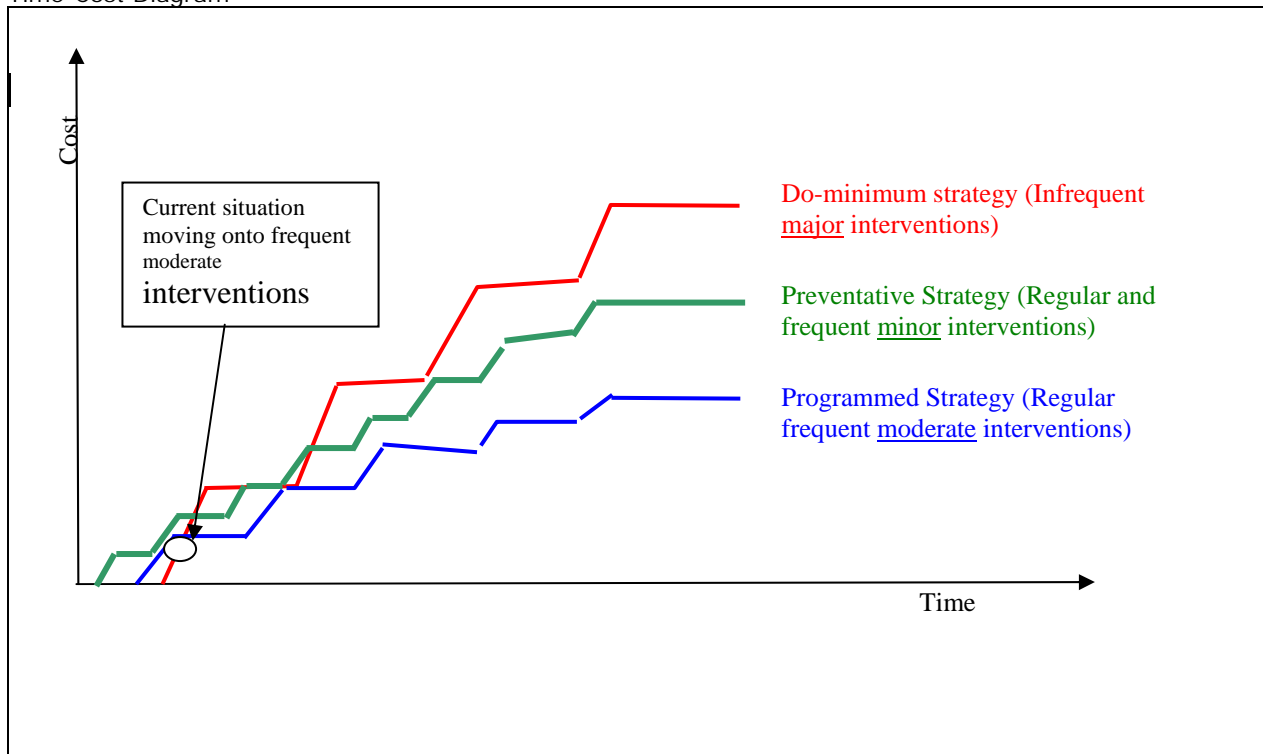
Good management of infrastructure assets is essential in order to provide services in the most cost-effective manner, and to demonstrate this to customers, investors and other stakeholders. The benefits of Activity Management are improved governance and accountability, enhanced service and customer satisfaction, better quality risk management, improved financial efficiency and more sustainable decision making over the life of the asset.

### 8.1.1 Asset Life Cycle Phases



Good Activity Management, of which maintenance and operational costs forms a significant component, can basically be summarised as achieving optimal 'Whole of Life' costs. Whole of Life is a technique to establish the total cost of ownership. It addresses all the elements of this cost and can be used to produce a spend profile of the service over its anticipated life-span. It is a valuable comparative tool for managing long term asset lives. It comprises the costs to develop, acquire, own, operate and dispose of assets. It also includes personnel costs to as well as the costs of higher organizational structures. The graph shown below is an industry accepted example of how Activity Management using a Programmed Strategy can produce valuable cost savings over time compared with a Do-minimum Strategy.

Time-Cost Diagram



The aim of the well performing road maintenance contract is to achieve as much work as possible within the programmed and preventative strategies, thereby reducing the capital spend on upgrade and renewal works. Past funding decisions by WDC and the resultant effect of deferred maintenance have heavily impacted upon the ability to generate programmed and preventative strategies. As noted on the graph above the Roding Business Unit (RBU) believes WDC are currently in an ineffective strategic position. The changes to be introduced into the new road maintenance contract are undertaken to enable a shift to a programmed and preventative strategic environment.

## 8.2 Asset Operations

### 8.2.1 Background

Asset operational activity is work or expenditure which has no effect on asset condition but which is necessary to keep the asset functioning, such as the provision of staff, consumable materials, resource consent applications and compliance, monitoring, and investigations. Asset operational activities exclude maintenance work. Operational requirements and procedures for:

- contract management
- technical specifications (ex Hamilton City Council)
- consultancy services brief template
- project management
- temporary road closure
- fence encroachment
- safety management systems
- resource consent register

are well documented on the Council's intranet. Decision-making is based on a combination of local knowledge and the judgement of experienced staff together with adopted analytical procedures.

### 8.2.2 Operational Strategies

- Prepare quality Activity Management Plans based on a sound knowledge of customer needs and preferences,
- Optimise Activity Management practices and decision-making:
  - Continue with RAMM implementation, a computer based Activity Management system.
  - Document existing, and develop new business processes.
  - Continue to collect AM data (physical attributes, asset performance/ condition, and costs).
    - Determine the condition and decay rates of roads by analysing condition reports provided by Contractors and/or works staff during the day to day operation of roading assets and, as necessary, carrying out material testing.
    - Operate roading assets in accordance with current Resource Consents.
- Minimise asset ownership costs by:
  - considering all life cycle costs, including operational costs, when evaluating asset renewal/ acquisition options.
  - identify, evaluate and introduce new technologies that may improve operational and management efficiency and modify standards as appropriate.
  - continue to observe competitive tendering procedures for asset maintenance, renewal, and construction works.
- Resource Consents:
  - Discharge consent applications will propose standards for rainwater run-off quality, disposal method and operation, which reflect community wishes with respect to environmental protection, public nuisance and affordability.

### 8.2.3 Operational Standards and Specifications

Operate assets in compliance with:

- this Activity Management plan
- defined processes and procedures
- resource consents
- statutory requirements.

## 8.3 **Asset Maintenance**

### 8.3.1 Background

Maintenance can be defined as that group of activities that preserve an asset in a condition, which allows it to perform its required function. Maintenance is the regular work and immediate repairs necessary to keep the asset operational. The ongoing efficiency of routine maintenance is critical to achieve optimum asset life cycle costs that best suit the desired levels of service. Maintenance falls into two categories, planned and unplanned, each having quite different triggering mechanisms and objectives.

**Unplanned maintenance:** Corrective work carried out in response to reported problems or defects with the roading system (e.g. pothole repairs, collapsed or blocked pipes, etc.).

**Planned maintenance:** Preventative maintenance carried out to a predetermined schedule with the aim of ensuring continuity of service, preserving asset design life and, if economic, extending asset life (e.g. annual resealing and area wide pavement treatment programmes).

On-condition maintenance carried out as a result of condition or performance evaluations of assets and asset components (e.g., spraying, sign cleaning).



A key element of Activity Management Planning is determining the most cost effective blend of planned and unplanned maintenance, as illustrated below:

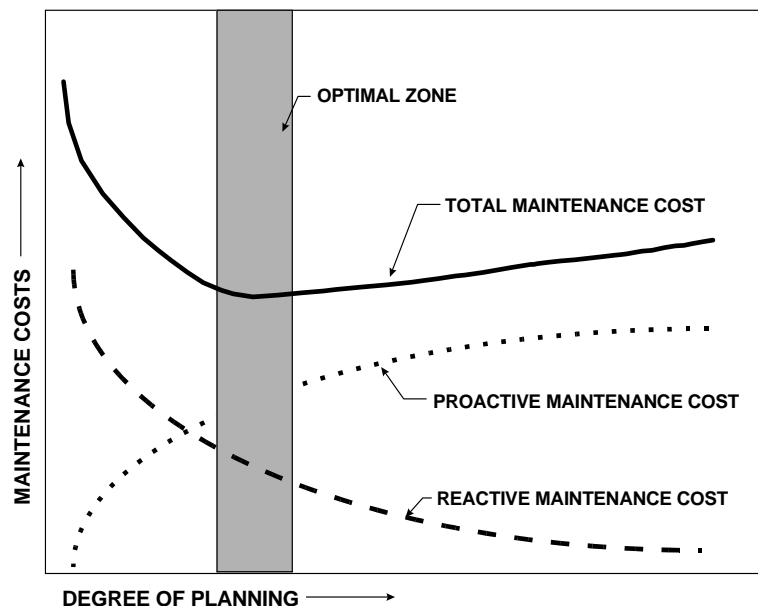


Figure: Balancing Proactive and Reactive Maintenance

NZTA divides maintenance into *Operational Maintenance, Renewals and Capital* for funding purposes.

#### 8.4 Asset Renewals or Replacements

##### 8.4.1 Renewals

Asset renewal is major work, which does not increase the assets original design capacity but restores, rehabilitates, replaces or renews an existing asset to extend its economic life and/or restores the service potential. Work which increases the design capacity of assets, is defined as upgrading/development work. This includes replacement and rehabilitation of existing assets to their original condition and capacity. The types of pavement rehabilitation/ renewal work undertaken are summarised in the table below:

Work Type	Objective	Methods
Resealing/ Resurfacing	To maintain a waterproof and skid resistant road surface.	Chip sealing Asphaltic Concrete Slurry sealing
Reconstruction/ Rehabilitation	Strengthen road sub-base and/or basecourse Alter road surface level to accommodate kerb and channel realignment.	Reconstruction: Remove the existing basecourse and/ or sub grade and replace with new material. Renovation: Increase the strength of existing basecourse / sub-base materials by adding a fresh layer of basecourse with or without stabiliser (hydrated lime or cement) and re-compacting. Rehabilitation: Used where only parts of the pavement are exhibiting distress and it is more cost effective to repair these areas only. In the rural area rehabilitation involves removing the existing chipseal and constructing an additional layer of road metal on top of the existing pavement construction.
Smoothing	Smooth irregularities in road surfaces where the structural condition of the carriageway is sound.	Placement of an additional surfacing on the existing sealed surface to smooth out irregularities. The materials used depend on traffic volumes/ road geometry and road condition;

Table: Rehabilitation/ Renewal Options

The required level of rehabilitation/ renewal will vary depending on;

- the age profile of carriageway structural layers and surfacing
- the condition profile of carriageways.
- the level of ongoing maintenance demand.
- the differing economic lives of the materials used.



As a general rule only a one coat seal is applied on new structural layers with a second coat seal applied within two years of the first coat seal. This practice often leads to early deterioration of structural layers. A two coat seal is regarded as the minimum seal treatment required to ensure adequate functionality of the structural layers and the seal layer.

The objective of rehabilitating and renewing the asset is to apply the correct treatments at the optimum time so that the required level of service is delivered whilst minimising total life cycle costs. Currently RAMM treatment selection is used to determine candidates for renewal and confirmed by inspection during a network drive over. The most worthy candidates are added to the Land Transport Programme and submitted to NZTA for approval of financial assistance.

The selection of the actual sections of carriageway treated each year and the treatment used is based on output from RAMM, which analyses structural layer bearing capacity, average life data for each type of surfacing material, the volume and mix of traffic using the road, and current condition.

In selecting the most suitable surfacing material for each category of road the impact of that material on the total pavement life and the life cycle cost should be considered. The following factors are considered during material selection:

- Traffic volume, percentage of HCVs, and road geometry (e.g. chipseal is inappropriate in high stress areas and highly trafficked roads in residential/commercial areas).
- The flexibility of the existing road formation (friction course is a semi-rigid material and will fail, if laid on a flexible road in insufficient depth to carry traffic loading).
- The proximity of dwellings to the carriageway and potential for noise nuisance.

#### 8.4.2 Renewal Strategies

The general renewal tactic is to rehabilitate or replace assets when justified by:

- Asset performance: Renewal of an asset where it fails to meet the required level of service. Non-performing assets are identified by the monitoring of asset reliability, capacity, and efficiency during planned maintenance inspections and operational activity. Indicators of non-performing assets include:
  - structural failure
  - repeated asset failure (alligator cracking, etc)
  - repeated stormwater overflows
  - ineffective stormwater treatment
- Economics: Renewals are programmed with the objective of achieving;
  - the lowest life cycle cost for the asset (it is uneconomic to continue repairing the asset), or
  - an affordable medium term cash flow, or
  - savings by co-coordinating renewal works with other planned works in the area.
- Risk: The risk of failure and associated financial and social impact justifies action (e.g. probable extent of property damage, safety risk).

The renewal of the wearing surface on both sealed and unsealed roads is required periodically. Frequency is dependent on traffic volume, traffic loading, weather, geometric standards and local environment. Typically a seal surface can last eight to twelve years and the wearing course on a metal road may last one to four years (assuming a 50mm layer with 10 – 12mm loss per year).

Prior to the replacement of a wearing course on a metal road the road should be shaped and water tables reinstated.

Prior to resealing a sealed road any pavement defects should be repaired, drainage reinstated and any improvement work carried out as the seal coat will last a decade. These repairs should be carried out twelve months prior to the resealing work. Renewal works are assessed and prioritised in accordance with the cost/benefit of each project, Council's objectives and strategies, and available funds.

The following priority ranking table is used as a guide for identifying and prioritising renewal works:

Priority	Renewal Criteria
1 (High)	<ul style="list-style-type: none"> <li>Asset failure has occurred and renewal is the most cost effective option.</li> <li>Failure has occurred on a critical asset.</li> <li>Asset failure is imminent and failure is likely to have major impact on the environment, public safety or property.</li> <li>Asset performance is non-compliant with resource consent requirements.</li> </ul>
2	<ul style="list-style-type: none"> <li>Asset failure is imminent, but failure is likely to have only a medium impact on the environment, public safety or property.</li> <li>Asset failure is imminent on a critical asset.</li> <li>Asset failure is imminent and proactive renovation is justified economically.</li> <li>Road upgrading scheduled within five financial years as asset is nearing end of economic life.</li> <li>Asset renewal is justified on the basis of benefit cost ratio and deferment would result in significant additional costs.</li> </ul>
3	<ul style="list-style-type: none"> <li>Asset failure is imminent, but failure is likely to have a negligible impact on the environment, public safety or property.</li> <li>Asset renewal is justified on the basis of life cycle costs, but deferment would result in minimal additional cost.</li> </ul>
4	<ul style="list-style-type: none"> <li>Existing assets have a low level of flexibility and efficiency compared with replacement alternative.</li> </ul>
5 (Low)	<ul style="list-style-type: none"> <li>Existing asset materials or types are such that known problems will develop in time.</li> </ul>

**Table: Selection Criteria for Asset Renewal**

The renewal strategy will be reviewed at least annually and any deferred work will be re-prioritised, based on its life cycle costs and benefits, with all replacement work and a revised programme established. Integral with the replacement strategy will be a funding strategy. Essentially cash flow leveling will be applied to balance income with expenditure through either raising loans, saving, or deferring work.

#### 8.4.3 Renewal Standards and Specifications

The standards and specifications for renewal works are generally the same as for new works.

#### 8.4.4 Deferred Renewals

Renewal works identified in terms of the renewal strategies may be deferred if the cost is beyond the community's ability to fund it. This can occur when higher priority works are required on other infrastructure assets, or there are short term peaks in expenditure or if an inadequate rating base exists.

When renewal work is deferred the impact of the deferral on economic inefficiencies and the system's ability to achieve the required service standards will be assessed. Although the deferral of some renewal works may not impact significantly on the operation of assets, repeated deferral will create a liability in the longer term. A register of all deferred works will be maintained, the total value of which will be recognised in the financial reporting.

#### ***Funding of Renewal or Replacements***

The funding of renewals/replacements is from rates and NZTA subsidies.

#### ***Mode of Service Delivery***

Replacement and renewal works will be undertaken by external contractors in accordance with Council procurement procedures.

### **8.5 Asset Development/Augmentation**

#### 8.5.1 Background

This section of the plan covers strategies for the creation of new assets (including those created through subdivision and other development) or works which upgrade or improve an existing asset beyond its existing capacity or performance in response to changes in traffic needs or customer expectations.

Augmentation works are those works that create a new asset that did not exist in any shape or form or works which upgrade or improve an existing asset beyond its existing design capacity.

Assets are acquired as a result of:

- vesting of new infrastructure constructed for subdivisional development (constructed at the developer's expense and to Council specifications).
- extensions constructed by Council to service new areas.
- asset upgrading constructed by Council to provide;
  - additional capacity to overcome inadequacies or provide for growth (e.g. wider seals, edge treatments, safety related improvements).
  - heavier vehicle loads eg 50MAX HPMV routes
  - meet new resource consent standards (e.g. treatment facilities, increased bridge waterway).

Pavement creation is closely related to:

- Increased levels of service required by existing road users (to seal unsealed roads, improve safety etc.)

Projects are justified and prioritised through a business case approach that meets the ONRC criteria of CloS and TLoS, which accounts for:

- the experience of the road user for reducing delays in the time to travel along a given route.
- vehicle operating cost savings.
- safety benefits.
- intangible benefits, including community dislocation, environmental issues (pollution, water quality, noise and vibrations) and other possible local, regional and national issues.

Seal extension projects need to demonstrate a business case approved by NZTA. Under current funding policy, seal extension work has been discontinued in the Waitomo District as part of affordability and a fit for purpose approach.

#### 8.5.2 Development/Augmentation Strategies

Roads will be maintained and where needed developed to meet community expectations, growth projections over the next 20 years, and changing technical and environmental standards.

A 10 year programme is essential to implement the long term vision for the network and to confirm compliance with regional transport strategies and the strategic goals of an integrated national road network that also service growth and development of the District. This programme can be debated and amended to accommodate changing the needs of the community.

The 3 year detailed programme consists of approved works with estimated costings of preliminary designs. A 1 year programme is work being carried out in that financial year.

New roading works are identified on the following basis

- Operational efficiency - to reduce costs and improve efficiency
- Growth - ability to meet the most likely demand projections.
- Regulatory - anticipated expenditure needed to meet resource consents required under the Resource Management Act.

The selection criteria for prioritising and programming of road development projects is a function of NZTA policy, Council preference, consideration of risk, costs and benefits, affordability and ranking with other projects. Criteria to be applied to Council funded projects include the following:

Priority	Selection Criteria for New Capital Works
<b>1 (High)</b>	<ul style="list-style-type: none"> <li>• Proposed work is consistent with relevant community outcomes and is driven by sustainable demand or required to augment existing capacity</li> <li>• Work is economically viable and will provide long term benefits to community</li> <li>• Work is required for compliance with statutory obligations</li> <li>• Work involves completion of an earlier stage of the project</li> <li>• Safety considerations represent a high proportion of work benefits</li> </ul>
<b>2</b>	<ul style="list-style-type: none"> <li>• Proposed work is consistent with relevant community outcomes</li> <li>• Work is economically viable</li> <li>• Safety considerations represent a high proportion of work benefits</li> <li>• Road upgrading scheduled within five financial years as asset is nearing end of</li> </ul>

Priority	Selection Criteria for New Capital Works
	<ul style="list-style-type: none"> <li>economic life.</li> <li>Work is strongly supported by community at large through a process of public consultation or involves work funded by a targeted rate</li> </ul>
3	<ul style="list-style-type: none"> <li>Proposed work is consistent with relevant community outcomes</li> <li>Work is strongly supported by local sector of community through a process of public consultation</li> <li>Capital work is justified on the basis of economic evaluation, but deferment would result in minimal loss of opportunity or additional cost.</li> </ul>
4	<ul style="list-style-type: none"> <li>Work is supported by interest group or small part of local community through a process of public consultation</li> <li></li> </ul>
5 (Low)	<ul style="list-style-type: none"> <li>Project is discretionary and can be deferred with minimal loss of benefit to the community</li> </ul>

**Table: Selection Criteria for New Roading Works**

- Project approvals will be supported by an economic appraisal using business case techniques which take into account ;
  - needs assessment
  - capital costs
  - any change in net annual operating costs
  - any change in annual maintenance requirements
  - any salvage value of existing assets or components.
- All options are examined when evaluating upgrading options, including;
  - repair
  - renovation techniques
  - replacement
  - augmentation.
- The risk, cost and benefits of accepting new privately funded assets constructed in association with property development will be reviewed and a decision to approve made on a case by case basis by Council staff. Such assets will be accepted into public ownership by Council when satisfactorily completed in accordance with approvals given. Council will not contribute to the cost of such works unless there is exceptional level of service or equity issues.

The selection criteria for the prioritisation of new footpath construction follow a similar framework, as follows:

Priority	Selection Criteria
1 (High)	<ul style="list-style-type: none"> <li>Proposed work is consistent with relevant community outcomes and is driven by sustainable demand or required to augment existing capacity</li> <li>Work will provide long term benefits to the community</li> <li>Footpath is part of a wider project</li> <li>Safety issues and/or needs of the disabled are a high proportion of the footpath benefits</li> </ul>
2	<ul style="list-style-type: none"> <li>Proposed work is consistent with relevant community outcomes</li> <li>There is no existing footpath in the street, but road is sealed and kerb and channel is in place</li> <li>Work is strongly supported by local sector of community through a process of public consultation</li> </ul>
3	<ul style="list-style-type: none"> <li>Proposed work is consistent with relevant community outcomes</li> <li>Work is strongly supported by local sector of community through a process of public consultation</li> <li>There is no existing footpath in the street</li> </ul>
4	<ul style="list-style-type: none"> <li>Proposed work is consistent with relevant community outcomes</li> <li>Work is supported by an interest group or small part of local community through a process of public consultation</li> <li>An existing footpath is available but only on one side of the street</li> </ul>
5 (Low)	<ul style="list-style-type: none"> <li>Project is discretionary and can be deferred with minimal loss of benefit to the community</li> </ul>

**Table: Selection Criteria for New Footpaths**

### ***Funding of Additional Capacity***

Growth-related work will be funded principally from loan net of a yet to be decided policy on financial or development contributions with Council, maximising the use of external subsidies where possible. Other works will be funded from Land Transport New Zealand subsidies and rates. Refer to Council's Revenue and Financing Policy in its Long Term Plan (LTP) for further details.

### ***Mode of Service Delivery***

Augmentation works involving the construction of new assets will be undertaken by external, arms length contract, on a case by case basis.

## **8.6 Asset Disposal**

### **8.6.1 Background**

Assets may become surplus to requirements for any of the following reasons:

- under utilisation
- obsolescence
- provision exceeds required level of service
- uneconomic to upgrade or operate
- policy change
- service provided by other means (e.g. private sector involvement)
- potential risk of ownership (financial, environmental, legal, social, vandalism).

Retirement or sale of surplus land transport assets is very infrequent in Waitomo District, and is generally limited to the sale of surplus land and replaced structural components e.g. bridge beams.

### **8.6.2 Asset Disposal Strategies**

- Develop AM systems and asset condition / performance data to allow better planning for the disposal of assets through rationalisation of the asset stock or when assets become uneconomic to own and operate.
- When considering disposal options all relevant costs of disposal will be considered, including;
  - evaluation of options
  - consultation/ advertising
  - obtaining resource consents
  - professional services, including engineering, planning, legal, survey
  - demolition / make safe
  - site clearing, decontamination, and beautification.
- The use of revenue arising from the sale of any assets shall be decided by Council at the time of its consideration of the asset's disposal.

# SECTION 9 ACTIVITY MANAGEMENT PRACTICES

## 9.1 Activity Management Drivers

The following drivers define the need for, and scope of, all activity management planning and related physical works:

### 9.1.1 Customer Service

Customers require that agreed levels of road maintenance, management and construction services be delivered reliably, efficiently and economically. The use of AM techniques provides the following benefits in satisfying these demands;

- Focuses on identifying and satisfying customer requirements.
- Provides the basis for customer consultation for determining level of service preferences by identifying the range and cost of service level and service delivery options
- Improves reliability of asset performance and availability of consequent services to the customer
- Enhances customer confidence that funding is being allocated in an equitable and cost effective manner and that assets are being well managed
- Improves understanding of service level options and requirements.

### 9.1.2 Financial Responsibility

The Local Government Act 2002 places an emphasis on long term strategic financial planning. The Act requires Local Authorities to prepare and adopt a financial strategy in accordance with section 101A of the Act.

Development of the optimised work programmes and resulting long term financial plans for the management of the road and footpath infrastructure, as part of the corporate wide financial planning strategy, is the means of complying with the above requirement.

The Plan provides clear justification for forward work programmes and resulting cash flow projections and provides the ability to even out peak funding demands and account for changes in asset service potential.

### 9.1.3 Environmental Responsibility

Council is required under the provisions of the Resource Management Act to provide roads and footpaths in an environmentally responsible manner. This Activity Management Plan demonstrates how Council is addressing sustainable management of its physical resources and environmental protection issues associated with the maintenance and development of roading assets.

### 9.1.4 Safety

Activity Management Planning addresses Council's safety obligations through the;

- adoption of appropriate safety standards for the creation of new assets.
- specification of works to maintain assets in a safe condition.
- enforcement of safe operating and work practices.
- compliance with industry standards and codes of practice.
- WDC's Safety Management System

### 9.1.5 Economic Efficiency

Council manages Roads and Footpaths infrastructure assets on behalf of stakeholders, in particular ratepayers, motorists, cyclists, pedestrians, taxpayers and residents, who are concerned to ensure that the returns on their investment are maximised.

The techniques of activity management support economic efficiency by;

- providing a basis for monitoring asset performance and utilisation
- enabling asset managers to anticipate, plan and prioritise asset maintenance and renewal works
- identifying under funding of asset maintenance and replacement
- quantifying risk, allowing the minimisation of high impact (financial and service level) failures and environmental effects and resulting in savings where asset renovation is less than for replacement
- extending the life of an asset by optimising maintenance and refurbishment.

### 9.1.6 Corporate Profile

WDC aims to be a customer focused organisation and a good corporate citizen. Activity management practices reflect this corporate aim.

## 9.2 Activity Management Practices

WDC currently uses a number of decision making tools to determine long term maintenance, renewal and creation expenditure for roading assets. Activity Management practices fall under three broad headings:

- Processes: The necessary processes, analysis and evaluation techniques needed for life cycle Activity Management, including risk management.
- Information systems: The information support systems used to store and manipulate the data.
- Data: Data available for manipulation by information systems to produce the required outputs.

### 9.2.1 Key Milestones

Activity management planning involves a process of constant improvement and monitoring. The Key Milestones Table below is in this summary.

Key Milestone	Indicative Timeframe	Commentary
<b>Land Transport AMP</b>		
1. Complete rating survey of footpaths and input to RAMM	July 2015	This work will be done as part of the RATA collaboration
2. Populate RAMM with FWD data.	December 2015	This work will be done as part of the RATA collaboration
3. Future use data and information obtained regarding future road requirements, especially for forestry/quarries.	Depend on resources	To feed into 2018-2028 draft LTP
4. Estimate impact of expected tourism numbers on existing road capacity	Dec 2016	Initial assessment is that the impact in vehicle numbers is not significant but it significant from a safety perspective
5. Review of roading assets required to support development plan/structure plans for growth areas (Waitomo village, Mokau etc) following completion of structure plans		This will be completed once structure plans are in place. 2018-28 LTP
6. Quantify additional road asset capacity required to support growth versus change in LoS	July 2018	Future growth related demanded expected to be minor and can be accommodated. Targeted Completion Date within the capacity of the existing network as part of ONRC.
7. Development of detailed plans and schedules for maintenance activities such as roadmarking and carparking within the network	Dec 2016	Identified all carparks in town and recorded these on aerial photos in July 08. Still to complete inventory for surface marking, asset data and maintenance scheduling.
8. Training in the use of relevant Activity Management programmes such as Bizze@ssset at WDC	Dec 2015	Extended due to appointment of new staff to critical asset roles.
9. Upgrade of all culverts to a minimum size of 375mm dia taking account of appropriate sizing for catchment areas	July 2024	Extended to July 2024 following budget cuts to the Drainage Renewals programme. Capital expenditure on this item is reported in the monthly LT Monitoring paper supplied to Council.
10. Design life (depreciation) consistent with geometry and terrain	July 2015	Important design consideration in context of asset renewal programme. Affected by underlying layers characteristics to be collected through FWD's



Key Milestone	Indicative Timeframe	Commentary
<b>Land Transport AMP</b>		
11. Improved definition of standards for maintenance	July 2015	Current maintenance contract re-tender in 2015. The next generation maintenance contract will have a change in approach
<b>Unachievable due to Budget Restrictions</b>		
1. Complete a cycling and walking strategy.		Draft strategy completed. Investigation currently underway prior to consultation. Strategy work on hold due to NZTA removing funding for Walking and Cycling activities.
2. Install correct RP pegs on all roads.	July 2018	Depend on resource availability
3. Install correct CMP's on all roads.	Dec 2018	As above.
4. Install correct RAPID numbers on all roads.	Dec 2018	As above.

### 9.3 Current Activity Management Processes

Activity	Process
Service Delivery	Contracts are let for the delivery of minor repair work, major repair, rehabilitation, renewal, upgrading and development work. The day to day system operation and inspection is undertaken by Maintenance Contractors and monitored by WDC staff. A roading consultant provides assistance to WDC as and when required with inspections, network monitoring and repair designs.
Safety Management	A formal safety management system is an integral component of effective service delivery, with the WDC Safety Management System (SMS) adopted by the Council on 31 January 2007 (Resolution No. 01/07). The resolution records an agreement between WDC and NZTA that the SMS is endorsed by both parties as being in accordance with the NZTA <i>Guideline for Developing and Implementing a SMS for Road Controlling Authorities</i> . Copy of the SMS can be found on the Council's Intranet under the page headed Operations.
Financial Control	The NCS financial management system is used to record the cost of each work activity for comparison with budget and financial control. Payments made to Contractors relate to each contract.
Procurement	<p>Council's procurement policy for subsidised roading works is driven by the NZTA Competitive Pricing Procedures. Physical works having a value greater than \$100,000 are required to be tendered using a range of competitive pricing options. Works valued at under \$100,000 but more than \$50,000 may be tendered using an expedited procedure requiring a minimum of three invited quotations. Where experience over the previous 13 months indicates that 3 or more quotes cannot be obtained, quotations may be obtained from contractors able to do the work that have been identified by the advertising in the last 13 months.</p> <p>Subsidised roading works having a value less than \$50,000 may be let using any procurement procedure in line with WDC procurement policy (including negotiation) that assures a satisfactory and competitive price.</p> <p>Expedited procedures also apply to emergency works within set criteria.</p> <p>Professional services contracts for subsidised roading works are required to follow the same tendering process as for physical works. Contracts valued between \$50,000 and \$100,000 may follow a simplified evaluation method. Any procurement procedure in line with WDC procurement policy (including negotiation) may be followed for contracts having a value less than \$50,000.</p> <p>Council's procurement policy for non-subsidised works is guided by a comprehensive contract management policy posted on the Intranet. This document shadows the NZTA</p>



Activity	Process
	<p>tendering procedures and links with Council's delegation manual.</p> <p>Decisions on budgeted capital works can be decided by the Chief Executive up to the value of \$100,000. Beyond that the Council or a delegated tendering committee exercises the required tender acceptance.</p>
Performance Monitoring	Records are kept of audited activities, forward and completed maintenance programmes. In addition the RAMM database is updated continually with data from the various roading activities.
Condition Monitoring	<p>Preventative maintenance inspections are routinely undertaken by the professional services consultant to monitor the condition of roads and road furniture. In addition the condition of the roads is measured by Rating and Roughness surveys on a regular basis.</p> <p>Site inspections are undertaken to assess the condition of roads where performance is outside the targeted level of service.</p>
Quality Assurance	Audit procedures are defined for controlling the quality of data received from external contractors for condition monitoring. Data from maintenance contractors is received for work activity, cost, and attribute and spatial data for physical works.
Maintenance/ operations	Records are kept of all maintenance and repair works. This data is routinely transferred to the RAMM system and periodically checked by a professional services consultant.
Optimised life cycle strategy	Asset maintenance and renewal decisions are based on an assessment by experienced WDC staff and the professional services consultant of asset condition and performance information and are optimised by considering life cycle costs and latest technologies using the RAMM Treatment Selection Algorithm.
Risk Management	Risk management is practiced both formally and informally. Judgments are made based on the knowledge of experienced staff and affordability considerations.

#### 9.4 Current Activity Management Data

Reasonably good records of the network exist. Significant activity areas are identified and recorded by location and type with spatial attributes by GPS. Attribute data available on roading assets is stored on the RAMM Database and in hard copy.

An independent audit of the performance of the current RAMM service delivery arrangement, including accessibility to the database, data validation and adequacy of reporting, was carried out in May/June 2014 to confirm its completeness and accuracy. The results of this audit, along with inbuilt RAMM data checks and local knowledge, have been used to improve the reliability of the underlying RAMM data. The initial process is now mostly complete and it is envisaged that a further round of data validation and scope will be carried out in 2015 - 16, continuing the iterative process. As a result the functionality of RAMM as a decision making tool, the amount of data and the quality of data held has improved.

Council also operates SLIMs, which has been fully integrated into the RAMM database. Most of the data input is acquired through the street lighting maintenance contract. High levels of detail and data reliability have been achieved by the incumbent contractor.

There is no current plan to introduce dTIMs. It is understood that the software is complex to operate, requires a disproportionate amount of underlying data and requires a level of resourcing which at this point is beyond the capacity of WDC. There is potential for the software to be operated on a shared services basis through the Road Asset Technical Alliance (RATA), with Council already a member of a council controlled organisation jointly owned by the 13 local authorities making up the Waikato region, called Local Authorities Shared Services Limited

Council also operates a hybrid Activity Management tool known as 'BizeAsset' Activity Management System. 'BizeAsset' was designed for small to medium sized councils to meet the advanced Activity Management requirements of local government. 'BizeAsset' uses a GIS platform with a web-front end to maximise

efficiency and simplicity. The system is easy to maintain with powerful outputs such as asset valuations, maintenance history, map production, etc. Council currently uses 'BizeAsset' modules for Wastewater (Sewerage), Water, and Storm water. The 'BizeAsset' functionality currently utilised within these modules is asset register, accounting (asset valuation), maintenance history and providing information for predictive analysis.

#### 9.4.1 Condition data

There is condition data information available in RAMM on most roading assets, namely bridges and drainage infrastructure with road formation layers characteristics being added over time. Renewal decisions, in conjunction with the roading maintenance operations, are therefore based on available asset data and the experience and knowledge of experienced staff.

# SECTION 10 APPLICATION OF ACTIVITY MANAGEMENT STRATEGIES AND PRACTICES

This section presents an analysis of available asset condition and performance information and applies the Activity Management strategies and practices described previously to the key asset components of roads and footpaths. Specific maintenance, renewals and development work programmes will be implemented to meet demand and achieve the level of service standards. For each major asset group, the life cycle management plans covering the three key work activities necessary to manage the roading and footpath functions of Council are:

- Operations and maintenance plan: Activities undertaken to ensure efficient and effective operation and serviceability of the assets, and that the assets retain their service potential over their useful life
- Renewal plan: To provide for the progressive planning and replacement of individual assets that is reaching the end of their useful life. Deteriorating asset condition primarily drives renewal needs
- Development plan: To improve parts of the system currently performing below target service standards and to allow development to meet future growth demands. Substandard asset performance primarily drives asset development needs

Asset inventories are detailed under each category in this section below.

## 10.1 Land

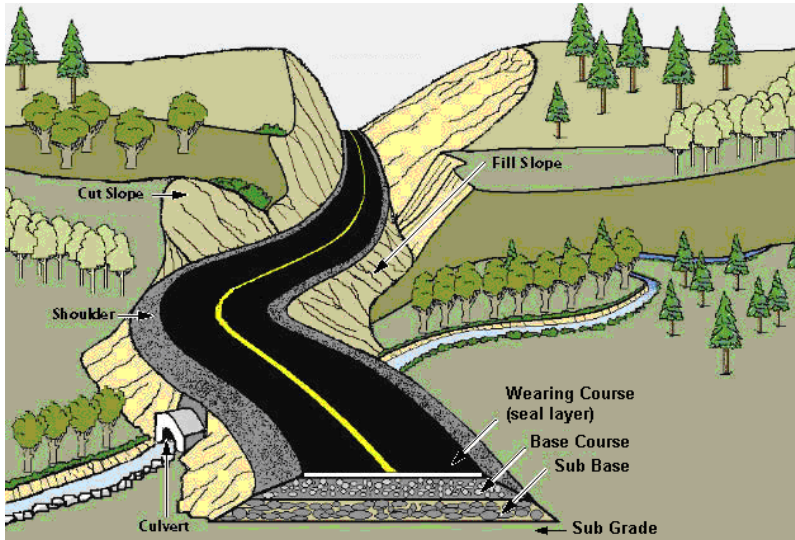
Only land under formed roads is identified and valued. Land areas are calculated from the carriageway length multiplied by the reserve width. Most road reserves are 20.1m wide.

The current value of land under roads is \$9,983,000.

Land is not considered a critical asset and there is no specific management strategy for this asset.



## 10.2 Roads



The purpose of roads and footpaths is to provide a network that is suitable for the effective and efficient movement of vehicles, has a suitable all weather surface that is appropriate to its location and functions efficiently in terms of skid resistance, noise reduction and smoothness as well as having a structure suitable for legal traffic loading requirements.

Roads are the highest value asset managed under the Roads and Footpaths activity by Council. Roads and footpaths comprises several types of assets and are valued at \$291,028,714.

### 10.2.1 Road components

Road components are made up of the following types as shown in the above diagram:

#### Carriageway

The carriageway is composed of four readily identifiable parts. From the top down these are the surfacing (wearing course), base course, sub-base and formation (subgrade). The sub grade is the untouched layer beneath the sub base. The wearing course is the seal layer or the top surface of aggregate in an unsealed road. Subsumed seal layers are considered to form part of the base course. The shoulder is usually of metal construction, similar to the base course, extending outwards from the seal layer.

The road carriageway is defined as the trafficable width of the road. It is that width between kerbs on an urban street, between seal edges on unkerbed streets and the trafficable surface of an unsealed road. The road reserve extends from property boundary to boundary.

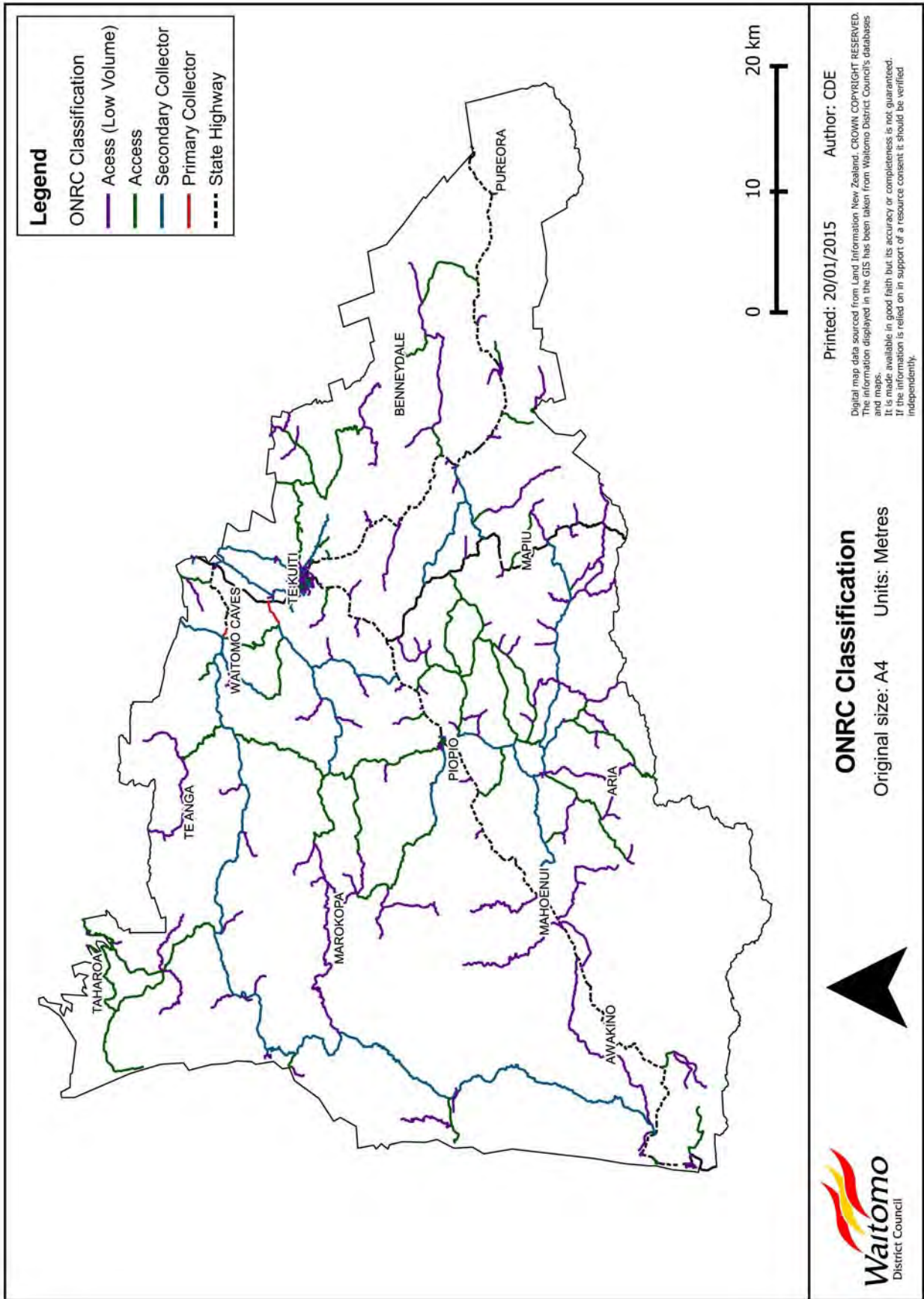
#### Basecourse & Sub-base

These aggregate layers provide the structural support for the road network. They spread the vehicle load over the natural soils. The thickness of these layers is determined by the strength of the underlying soils, and the weight and number of vehicles to be carried over the road design life. Materials used by Waitomo District Council include crushed greywacke, limestone, pit sand and weathered quarry strippings.

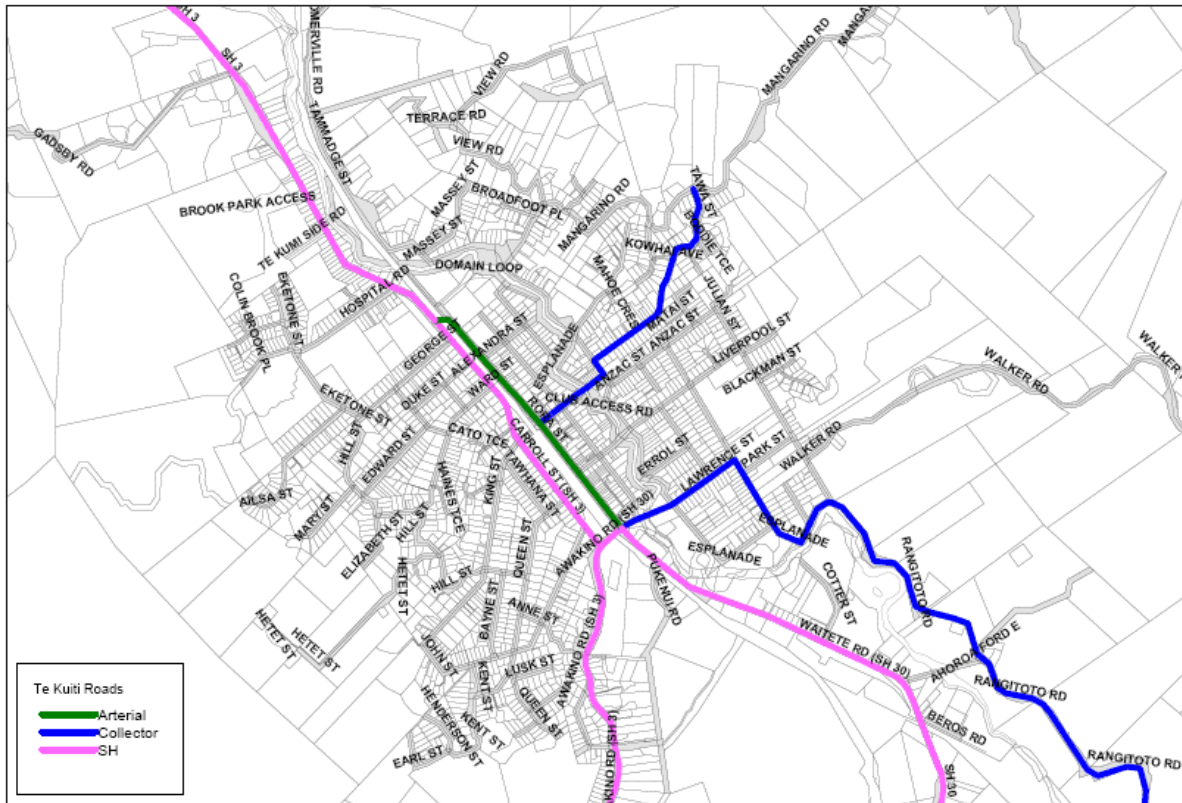
Some of the key life-cycle issues relating to pavement assets are;

- Variable traffic loading on parts of the network due to logging
- The pit metals that constitute the base course layer in some pavements on the network are water susceptible and may impact on the effective life of the asset in those areas.
- The need to provide increased accessibility for people with disabilities.
- Basecourse layers and unsealed wearing course layers are very thin for some local pavements and roads could deteriorate rapidly with an increase in loading.
- Some heavy vehicles appear to be using local roads rather than the intended arterials.
- Installation and renewal of utility services beneath the pavement is impacting on road roughness and structural integrity. The quality of road reinstatement by utility operators has a significant effect on road quality and may have subsequent cost implications for Council. To mitigate this monitoring of present trench reinstatement methodology is required to reduce the adverse impact on pavements.
- A predetermined threshold has been set by NZTA to predict the point at which a road becomes a concern in terms of its roughness (150 NAASRA Counts), usually due to the pavement condition. The results show that road roughness in the District is good compared with the North Island and New Zealand averages
- The sub-grade in the District is extremely variable leading to variable costs for pavement construction.

- Waitomo's geography includes large areas of steep topography with high moisture content. This often leads to surface instability and high incidence of slip-prone areas, therefore a large proportion of emergency works.







Prepared by LT, Waitomo District Council, Te Kuiti 03 December 2007

10.2.2 Network Deterioration

The major causes of road pavement deterioration which result in condition deterioration include:

Subgrade deterioration (Sealed and Unsealed Roads)

- Increase in moisture content caused by high water table and/or moisture infiltration through the pavement surface and pavement layers
- Increase in heavy vehicles which will increase repetitive loadings beyond the structural capacity of the subgrade.

Both causes will allow the road pavement to distort beyond acceptable limits causing shear failures within the pavement layers and cracking of the pavement surface. Moisture infiltration increases as a result which compounds the issue.

Pavement deterioration (Sealed & Unsealed Roads)

- Insufficient pavement depth to cater for traffic loadings
- Excessive moisture content generated by infiltration through the surface or subgrade
- Failure as a result of subgrade deterioration
- Kerb & Channel failure
- Poor surface drainage

Pavement surface deterioration (Sealed Roads)

- Stripping of metal aggregate from the bitumen binder.
- Flushing of chip into binder caused by heat and high volumes of traffic or excessive binder.
- Loss of surface shape due to pavement and/or sub-grade failure.
- Old surfaces becoming brittle and cracking

Condition is currently assessed by road roughness, visual inspection and age. Road roughness, as defined in terms of NAASRA (National Association of Australian State Roading Authority) counts, is an indicator of road

condition and performance. These measurements have been collected by a high-speed data collection vehicle.

### 10.2.3 Basecourse & Sub-base Capacity for Service

It is assumed that the basecourse has a design life of 25 years and that the sub-base has in most situations an infinite life, provided they are kept waterproofed and the traffic loading does not exceed that designed for. These materials are mineral products that break down under load and chemical action over time.

The major factor in determining road construction requirements is an evaluation of the expected traffic loadings. The standard methodology applies the concept of Equivalent Standard Axles (ESA).

One ESA is calculated as an 8.2 tonne rear axle loading (the load applied by a laden dual rear axle truck). This means that only Heavy Commercial Vehicles (HCV's) are taken into consideration when calculating the depth of road construction required (as it takes approximately 11,000 cars to reach 1 ESA given a car's rear axle loading).

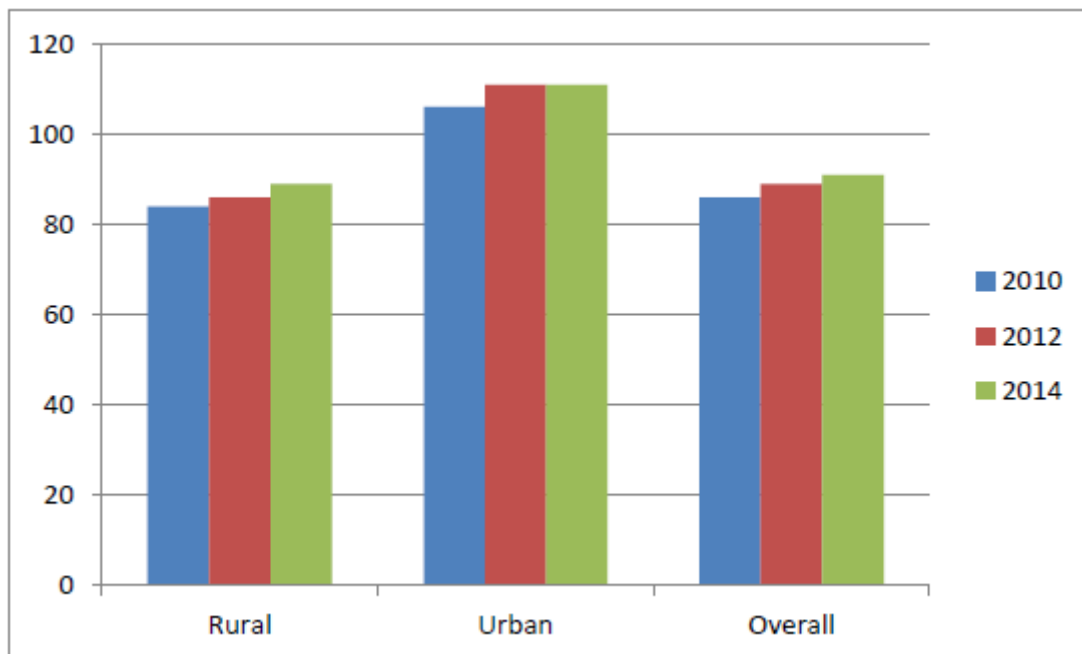


Rehabilitation methods include digging out and replacement of material, chemical stabilisation or overlay with new basecourse. The life cycle of the pavement can be extended by maintenance and for the latter part of the life cycle, the motorist will experience a less than ideal road surface.

The measure of road roughness has been set at a threshold of 150 NAASRA counts. The rougher the road, the higher the NAASRA counts per lane kilometer. A NAASRA count of greater than 150 typically indicates a road which is becoming a concern in terms of its roughness and the number of complaints likely to be generated. The following information is produced by Shaw's Consulting Services, who did the NAASRA during the first quarter of 2014 on the complete network.

#### Comparison of NAASRA Data with Previous Years

	Rural	Urban	Overall
<b>2010</b>	84	106	86
<b>2012</b>	86	111	89
<b>2014</b>	89	111	91



**Fig.: NAASRA comparison**

#### 10.2.4 Surfacing

The surfacing is the running or wearing course or top layer that provides traction to vehicles and waterproofing to the aggregate pavement layers beneath. Only the top surfacing coat is valued; it is assumed that underlying surfaces become part of the pavement.

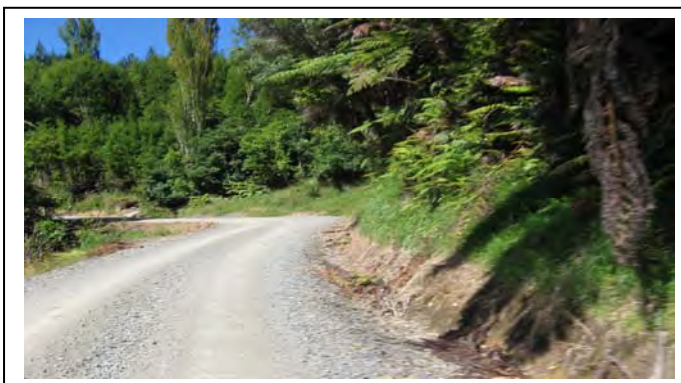
WDC's programme for reseals is to ensure skid resistance and water proofing levels are maintained and there is an active seal widening programme which coincides with renewals and upgrades prioritised on maintenance requirements, traffic volumes and accident history.

Recognised practice is for a two coat seal to be applied as a minimum wearing course, with the first coat applied at construction and the second coat applied no later than two years after the first coat to smooth expenditure. A single coat seal is very vulnerable to damage and this practice often causes additional expenditure where usage changes during the period between the first and second coat.

Unsealed roads make up the larger share of the roading network. Regular metalling and grading to maintain adequate cross fall and attention to drainage facilities are the main activities required to maintain a good running surface on unsealed roads.

The type of pavement surface used is generally dependent on the traffic volume, topography and mix of traffic using the road. Noise, safety and appearance may also be significant factors. The main types of pavement surfacing used by WDC are:

- Chipseal: Layer of sprayed bitumen with a stone chip spread on top as a running surface. The life cycle for a chipseal surfacing varies dependent on the chip size used and by traffic volume. Some of the factors influencing chipseal life are chip size, amount of bitumen, hardness of chip or polished stone value (PSV)
- Asphaltic Concrete: Mix of graded aggregate and asphaltic binder laid in a 20 - 25 mm layer.
- Slurry seal: Mix of emulsion and graded aggregate used as a smoothing course laid in a 15 to 30 mm layer and usually resurfaced with a chipseal within 4 years.
- Unsealed: Metal surface, may be stabilised.



#### 10.2.5 Surface Condition

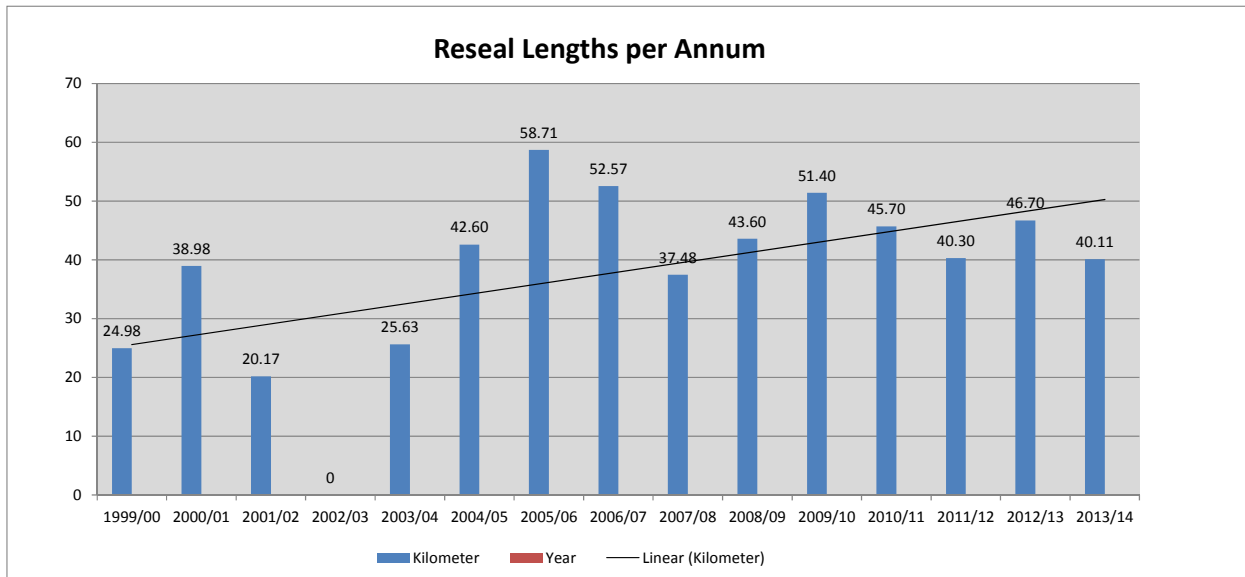
All bituminous surfacing becomes brittle over time as oxidation occurs. This leads to cracking, aggregate loss (scabbing)



and loss of waterproofing properties. Before oxidation becomes too advanced a new surfacing is applied.

It is essential to maintain a good riding surface. The objective is to provide a waterproof wearing surface that provides texture for skid resistance and that sheds water to the side of the road as quickly as possible. This will ensure improved ride quality and reduce maintenance.

The District roading network comprises 459.26km of sealed road and 554.82km of unsealed road. Assuming an average seal life of 12 years, an annual reseals length of approximately 38km is required to maintain adequate waterproofing and skid resistance service levels and to avoid expensive road rehabilitation treatments. Over the past 15 years ending in 2013-14, the average seal length has been 37.93km per year, which includes no reseal work in 2003 as shown in the figure below. This is achieving 99% of the required amount. If the average is taken over the past ten years to exclude the zero value in 2003, it shows acceptable progress is being made on any backlog of seal overdue for replacement, and the higher trafficked roads and roads carrying high proportions of heavy traffic are receiving their warranted shorter reseal cycle.



### 10.2.6 Renewal Treatments

The types of pavement rehabilitation/renewal work undertaken are shown in the table below:

Work Type	Objective	Methods
Reconstruction/ Rehabilitation	Strengthen road sub-base and/or base course	<p>Reconstruction: Remove the existing base course and/or subgrade and replace with new material.</p> <p>Renovation: Increase the strength of existing base course/ sub-base materials by adding a stabiliser (hydrated lime or cement) and recompacting.</p> <p>Rehabilitation: Used where only parts of the pavement are exhibiting distress and it is more cost effective to repair these areas only. In the rural area rehabilitation involves removing the existing chipseal and constructing an additional layer of road metal on top of the existing pavement construction.</p>
Smoothing	Smooth irregularities in road surfaces where the structural condition of the carriageway is sound	<p>Placement of an additional surfacing on the existing sealed surface to smooth out irregularities. The materials used depend on traffic volumes/road geometry and road condition.</p> <p>Friction Course is used on roads where there are high stresses or high traffic volumes.</p>

### 10.2.7 Treatment Selection

A major factor in determining road pavement requirements is an evaluation of the expected traffic loadings. Road pavement loadings are separated into seven categories using RAMM to describe the extent of loadings relative for road pavement hierarchy.

All roads are designed for future traffic loadings. However historical construction details are not stored in the RAMM database, or the data is incomplete, and there is little knowledge of whether the pavement strengths are appropriate for today's traffic loadings. A program to determine pavement strength district wide is being implemented.

Pavement deterioration modeling software (dTIMS) can add knowledge depth to the forward programme and long term financial forecasts. However the benefits gained by implementation versus the costs and current data levels show utilising dTIMS are not warranted. Current systems using a field condition assessment, in conjunction with the RAMM treatment selection algorithm and staff knowledge as the primary means of identifying and justifying renewals and other pavement treatments is providing acceptable results. The final selection is based on New Zealand Transport Agency's benefit-cost criteria.

The objective of rehabilitating and renewing the asset is to apply the correct treatments at the optimum time so that the required level of service is delivered whilst minimising total life cycle costs, i.e.:

- Road pavements which are structurally sound but have an unacceptably rough surface are rehabilitated by sealed smoothing - that is by the application of a leveling coat of asphaltic concrete (grader lay).
- Road pavements which have reached the end of their lives require major rehabilitation - that is strengthening the pavement structure prior to resurfacing.
- The required level of rehabilitation/renewal will vary depending on:
  - the age profile of carriageway surfacing and structure,
  - the condition profile of carriageways,
  - the level of ongoing maintenance demand,
  - the differing economic lives of the materials used.

It is important to note that where possible kerb and channel and surface drainage improvements are incorporated into the rehabilitation project. A major consideration when determining the need for road pavement rehabilitation is traffic vibration, possibly due to poor sub grade and high water tables or poor trench reinstatement, causing passing traffic to unduly stress the pavement.

### 10.2.8 Renewal Forecast

The renewals for sealed surfaces are shown in **Appendix R Thirty Year Sealed Maintenance Programme 2015-16 to 2043-44**.

### 10.2.9 Unsealed Surfaces

Unsealed roads within the district are generally formed roads with approximately 40mm of metal placed on top. During the summer months in high stress areas, some metal is graded to the side of the road to reduce the effects of corrugations and regraded back onto the pavement at the start of winter. Spot metalling is undertaken prior to winter to sections of roads showing signs of subgrade deterioration.

Triggers are identified in the contracts for unsealed roads maintenance. These are a mix of performance and method based. Grading is based on a cycle time approach, cognizant of current road condition, material type and traffic count and mix.

Unsealed roads lose approximately 5mm of metal per annum, based on a combination of local knowledge and of their wearing course, which requires replacement every 3-5 years. Structural metalling is occasionally undertaken to strengthen the base-course of unsealed roads

Metalling takes place on programmes provided to the contractor by Council staff. The normal procedure is for grading to be followed by an AP30 running course which is compacted, before winter. Annual aggregate replacement quantities are based on the local knowledge and conditional assessments.

In the financial year ending June 2014 16,175m<sup>3</sup> maintenance metal and 7,640m<sup>3</sup> structural metal was utilised throughout the district on unsealed roads.

### 10.3 Minor Structures

#### 10.3.1 Overview

There are numerous retaining wall structures on the District's roads. In urban areas they retain banks to increase the useable width of the road reserve. In rural areas they have been constructed to retain unstable banks.

The current value of all minor structures is \$969,709.76.



The majority of rural retaining walls are small structures consisting of a few small precast concrete blocks installed for shoulder support. There are some large structures that carry the load of the road and vehicles moving upon it.

RAMM has facility to record this information; however some outstanding information is still to be collected in the field and uploaded into the database.

Other items held in the RAMM database under minor structures include cattle stops and gates across roads. Other items that need to be captured and included are bus shelters.

Formal maintenance or renewal programmes for minor structures will be put in place once asset data collection is complete.

## 10.4 Bridges

### 10.4.1 Overview

The purpose of bridges is to provide continuous access for vehicles and/or pedestrians across rivers, drains and railway lines.

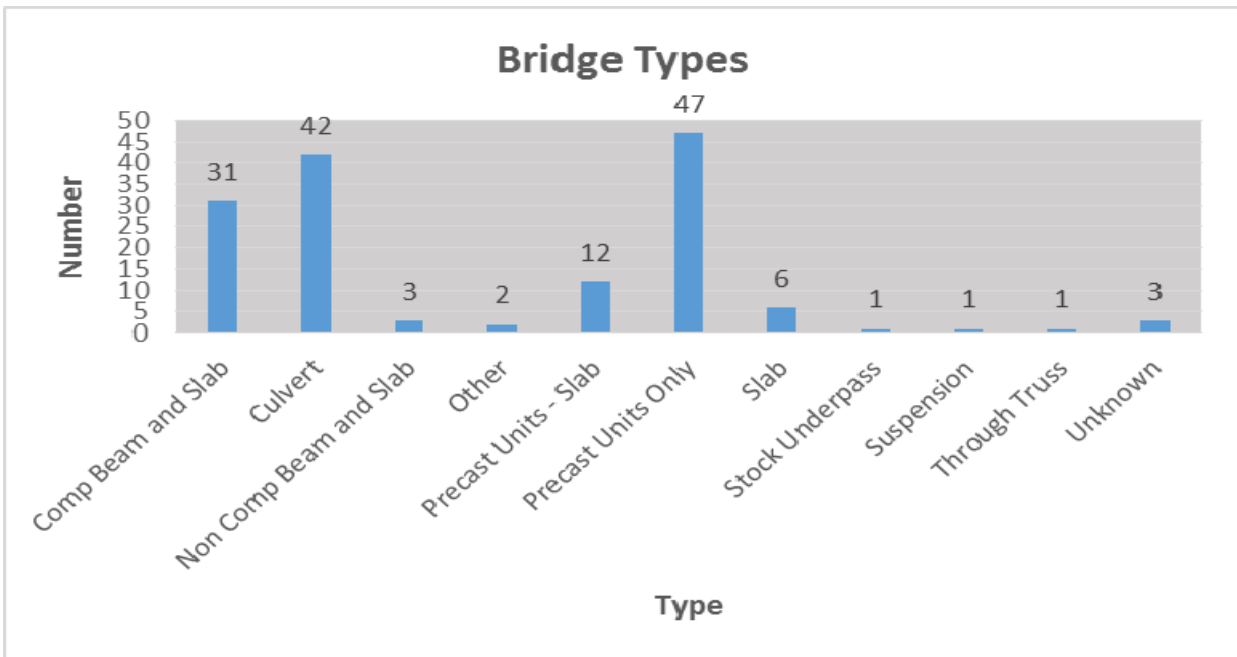
Bridges are the second highest value asset in roading, with a total value of \$35.53 million. Due to the large network and the nature of the terrain serviced by the roading network, all bridges are considered critical, as the loss of any bridge would result in unacceptably lengthy detours.

### 10.4.2 Asset Description

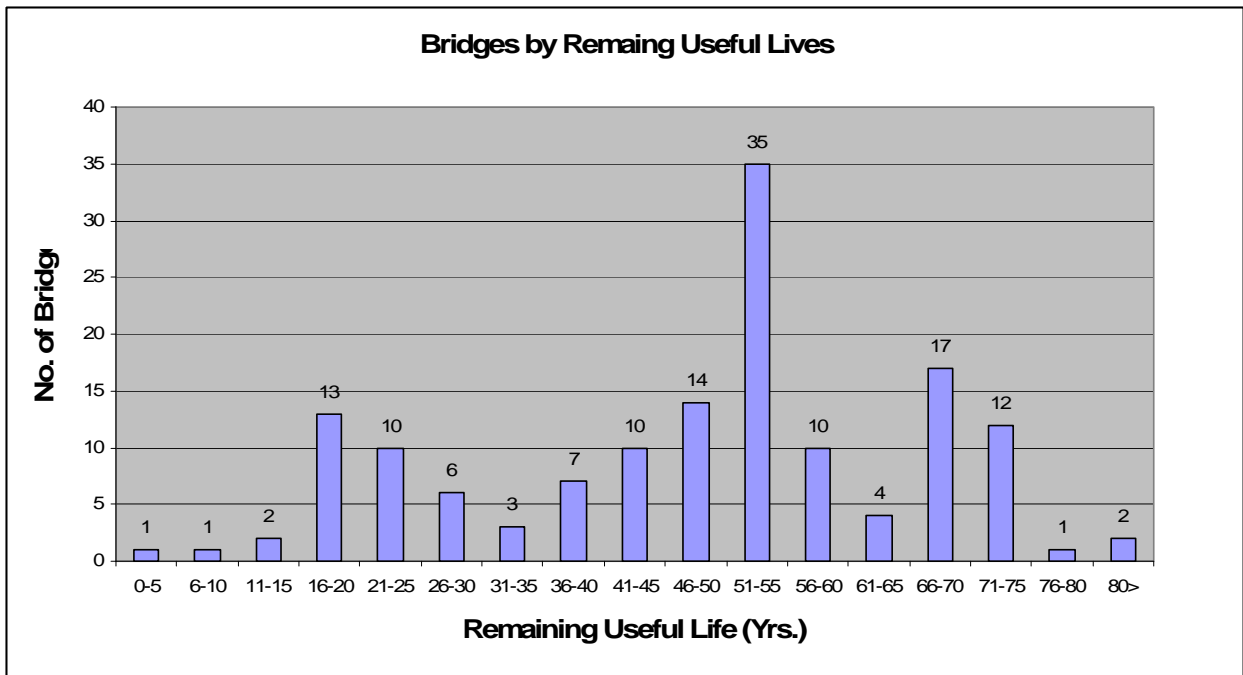
There are 107 bridges and 42 large culverts (cross sectional area greater than 3.4m<sup>2</sup>) throughout the district. Some bridges are small structures providing access to one or more rural properties; others are large, catering for up to 1,000 vehicle movements per day. There are good records of the age and construction details for bridges and most large culverts held in the RAMM database. The average bridge length is 16m.



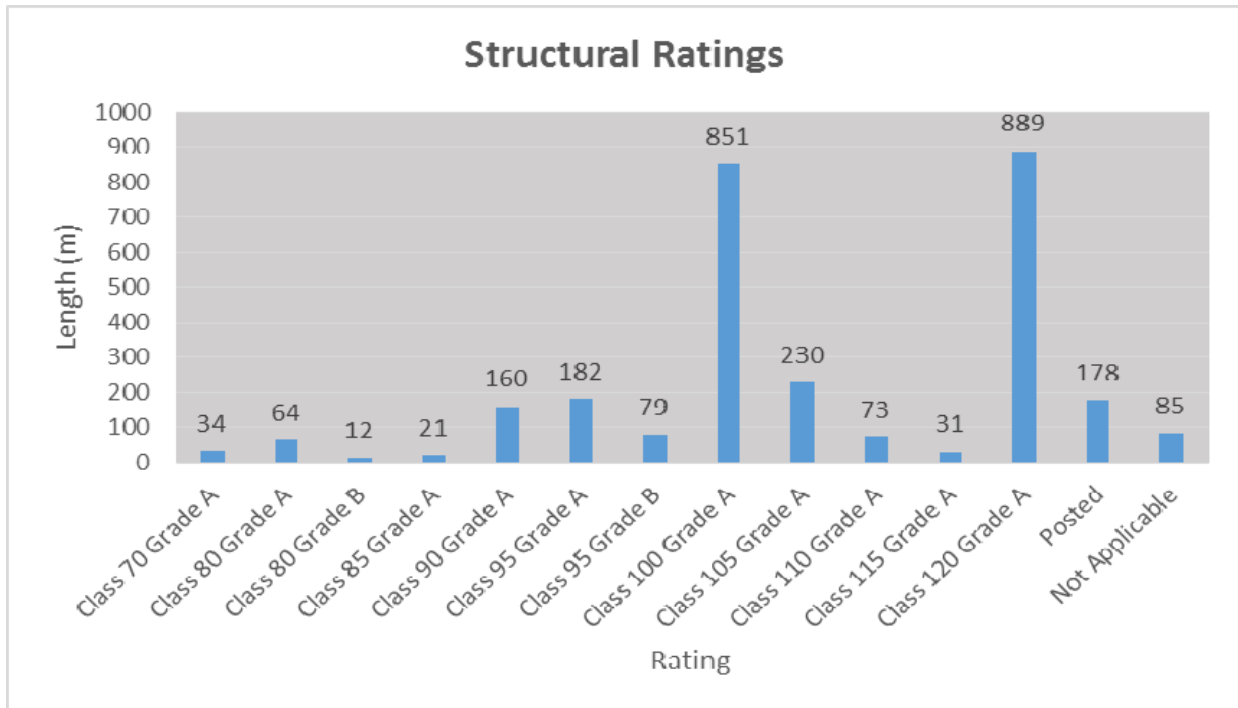
Bridge Type	Length (m)	No of Bridges
Comp Beam and Slab	748	31
Culvert	647	42
Non Comp Beam and Slab	145	3
Other	6	2
Precast Units – Slab	92	12
Precast Units Only	983	47
Slab	42	6
Stock Underpass	3	1
Suspension	62	1
Through Truss	95	1
Unknown	30	3
<b>TOTAL</b>	<b>2853</b>	<b>149</b>



10.4.3 Bridges remaining useful lives



#### 10.4.4 Bridge structural ratings



#### 10.4.5 Bridge Condition

Bridges are routinely inspected, in accordance with NZTA guidelines to record defects and programme maintenance. A general inspection is carried out every two years, with a detailed inspection every six years. These inspections are contracted out through a professional services contract. These inspections then generate the bridge maintenance and renewal programmes.

Bridge Condition	Excellent	Good	Average	Poor	Very Poor	Unknown
Bridge Count	5	111	30	0	1	2

There are three bridges with restricted load postings, as follows:

Road	Type	Posting	Note
Mill, (Mangapehi)	Timber Deck Steel Beams	Axles 2,500kg, Gross 5,000kg, Speed 10km/hr.	Refurbished 2012. Posting unchanged. Both land spans rebuilt.
Paraheka Valley	Suspension bridge	Axles 2,500kg, Gross 30% Class 1, Speed 5km/hr.	Bridge has been refurbished new towers installed.
Mokau Valley	Calendar Hamilton Truss	Speed 5km/hr, 50% Class 1	Refurbished 2011. Deck replaced. posting unchanged

Also of note are the 19 Armco culverts that are classed as bridges. These have a standard useful life of 50 years, but this life is generally not achieved. In general most are only achieving a life of 30 years. This is



mostly due to the majority being exposed to saline conditions. It has also been found that lining the culverts is uneconomic at this stage as most have additional problems such as deformation or separation of sections.

#### 10.4.6 Maintenance

Bridge maintenance works are undertaken to:

- Ensure the safety of the public.
- Protect the investment in assets by extending the life of the structure.
- Undertake maintenance to minimise future repair costs, i.e. painting to prevent corrosion, and to maximise the lifecycle of the asset.

The types of maintenance work undertaken include:

- Repairing minor defects
- Repairing or replacing damaged components
- Restoring protective coatings
- Maintaining deck drainage
- Clearing waterway obstructions

Maintenance programmes are developed from the defects identified during the detailed and general bridge inspections, as well as inspections carried out under the road maintenance contract. Priority is given to repairing defects which constitute a risk to public safety, future costs and traffic disruptions in that order.

Consideration is being given to trialing an epoxy coating to a point above the waterline to extend the useful lives of Armco culverts. This would be a limited opportunity as it would only be suitable for those culverts with corrosion issues only.

The following items are classed as "routine" maintenance works and are carried out under the road maintenance contract. The allowance for this work excludes the replacement of bridge end markers and number posts which is paid for under unit rates.

- Bridge deck cleaning;
- Cleaning of bridge end markers and bridge number posts;
- Cleaning and maintenance of deck drainage function;
- Cleaning and painting of approach sight/guard rails;
- Vegetation control on approaches and approach sight/guard rails;
- Cleaning, painting and repair of hand/guard rails;
- Treatment of surface corrosion (less than 0.250m<sup>2</sup>)
- Removal of vegetation within 2m of the structure;
- Reporting of additional required works
- Replacement of bridge number posts
- Replacement of missing bridge end markers

Further maintenance work is carried out annually. This work, whilst routine in nature, is ordered by the engineer and may be let as contract. This involves such items as:

- Buildup of flood debris against bridge piers and or abutments
- Damage and deterioration
- Broken deck planks
- Slippery deck planks
- Faded and/or ineffective bridge end markers
- Obvious scouring of bridge foundations
- Movement or undermining of the roadway at the abutments
- Treatment of surface corrosion with an approved rust inhibiting paint as per the manufacturers' instructions (areas greater than 0.250m<sup>2</sup>)
- Any other items that should be brought to the attention of the Engineer

The following table details the financial expectations for forward known maintenance works.

Year	Routine Maintenance	Structural/Component Maintenance 114	Structural Renewal Project Work 215	Minor Safety Project Work (Guardrails)
Identified from Bridge Inspections	\$58,040	\$140,000	\$252,000	\$100,000
Allow 15% for TBC costs		\$21,000	\$37,800	\$10,000
Project Scope			\$289,800	
Revised estimate	\$59,000	\$161,000	\$289,800	\$110,000

#### 10.4.7 Renewals

Asset renewal is undertaken when the structure has reached the end of its economic life. The types of renewal works undertaken include:

- Entire bridge replacement
- Partial bridge replacement

Works are programmed on the basis of an economic evaluation with projects being justified when the future saving achieved by doing the work exceeds the cost of the work. Cost/benefit calculations include an assessment of the risks associated with earthquakes and floods. The guidelines and principles contained in the NZTA Bridge Manual are used to determine acceptable standards. All anticipated costs over the life of an asset are considered when evaluating designs and construction materials.

In general, older bridges are in worse condition. Older bridges tend to have scour issues and foundation embedment problems. 40 % of bridges have a remaining useful life of between 40 and 55 years and 69% of bridges have a remaining useful life of between 40 and 75 years. This is a concern in that the bridge programme between the years of 2045 to 2091 may become unaffordable. It is intended that the detailed structural inspections undertaken every 6 years may go some way towards smoothing the replacement programme.

While not an immediate priority, bridges on the designated 50Max HPMV routes will form part of the longer term bridge replacement programme. Oparure and Ruru road bridges will be first to be considered under that category.

There are 3 bridges due for replacement in the next ten years and 33 in the next 30 years, based on age alone. Of these, 15 bridges have been specifically identified to be replaced prior to 2045.

The bridges scheduled for replacement over the next 10 years are as follows:

No.	Road	RP	Material	Design Life	Date of Installation	Notes	Year due for replacement	Budget forecast (\$)
14	Harbour	0	Armco Culvert	50	1965	Corrosion evident	2014/2015	250,000
199	Mokauiti	2350	Armco Culvert	50	1984	Corrosion evident	2020/2021	250,000
71	Mairoa	7890	Armco Culvert	50	1979	Corrosion evident	2021/2022	250,000
41	Walker	4513	Armco Culvert	50	1981	Corrosion evident	2022/2023	300,000
203	Omaru	188	Armco Culvert	50	1981	Corrosion evident	2023/2024	250,000
75	Kaitaringa	680	Armco Arch Culvert	50	1982	Corrosion evident	2024/2025	250,000
91	Haku	5610	Stone masonry	70	Unknown	Fatigued	2024/2025	65,000



The detailed structural inspection programme may reveal necessary unforeseen works and will be included in future budgets. The graph below depicts the current renewals programme, which is detailed in Appendix Q Bridge Renewal Programme:

If bridge maintenance is kept up to date it is not uncommon for the actual life for structures to be extended beyond their economic life - i.e. an old bridge is kept in service even though it no longer has any book value. Conversely some bridges, especially Armco culverts, will require replacement earlier than their economic life predicts.

Timing of renewals could be identified from graphing maintenance costs (incurred in order to keep a bridge up to its service potential) against its residual value. At some point the lines will intersect showing the optimum time for renewal. Further work is required to provide sufficient data to properly monitor the bridges residual value and its maintenance history. This project has a low priority as triggering renewal work due to collected condition data is providing adequate results at this time.

No new bridges have been identified as being required due to land development or functional obsolescence.

#### 10.4.8 Pedestrian Bridges

There are two pedestrian bridges forming part of the Roads and Footpaths activity:

- A railway pedestrian bridge located in Te Kuiti linking SH3 and Rora Street over the North Island main trunk rail line. It is a steel structure of good condition with wheelchair ramps. It is maintained under the Road Maintenance Contract
- Kiwi Place in Benneydale has a wooden pedestrian bridge of reasonable construction. Work needs to be carried out to replace handrails. This bridge is maintained under the Road Maintenance Contract.

## 10.5 Traffic Facilities

### 10.5.1 Overview

Traffic Services provide valuable direction for road users traveling the Waitomo road network by detailing information, warning and hazard data. There are a wide variety of traffic signs provided on District roads. This range from information signs identifying street names and public facilities to legally required permanent warning signs and regulatory signs.



### 10.5.2 Asset Description

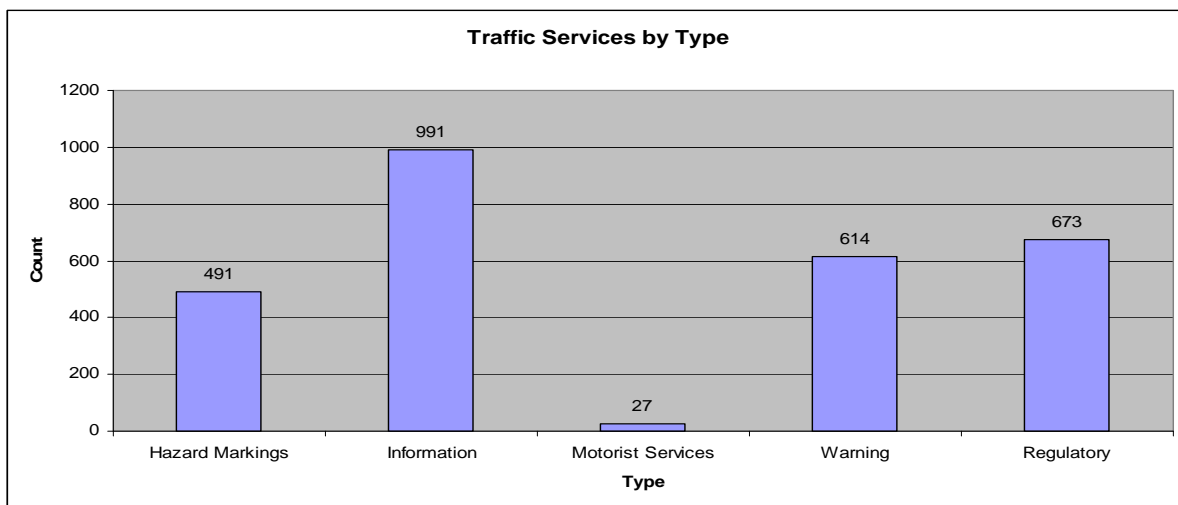
There are 2796 signs, 1823 posts, 188.58km of road marking and approximately 11000 edge marker posts throughout the district. Signs are generally constructed of wood, aluminum, sheet-steel and reflectorised adhesive materials. Post supports include timber and steel. Most signs are aged from 1-6 years old. Very few Raised Reflective Pavement Markers (RRPM's) have been installed, predominantly only installed in urban areas to identify fire hydrants. Marker posts are of the flexible uPVC variety and data collection on age, number and location is deficient.

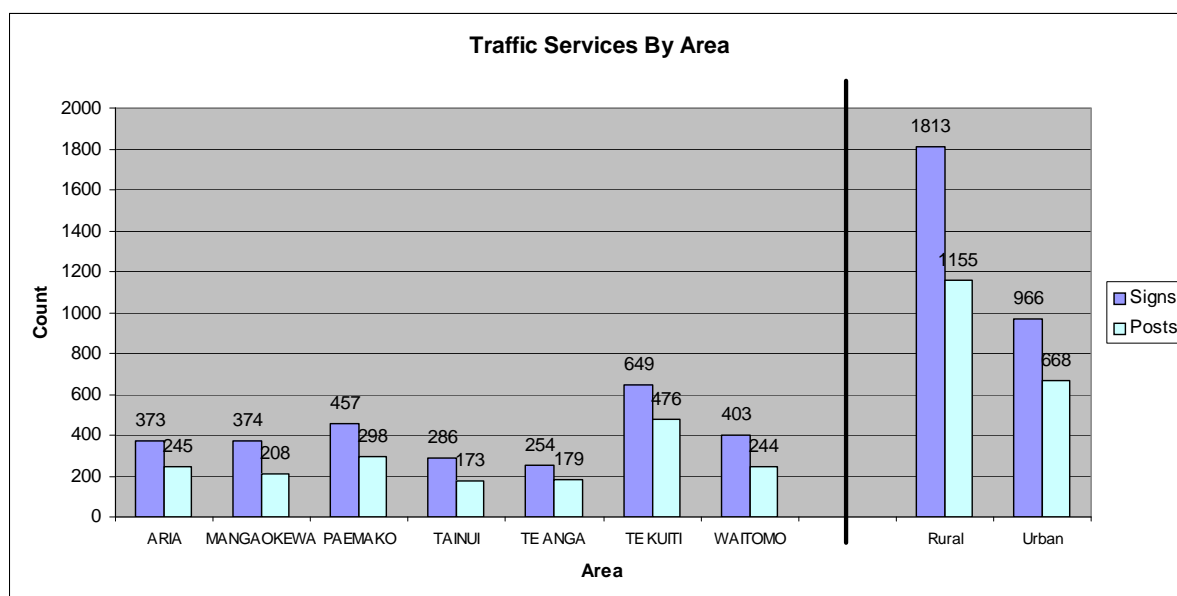
### 10.5.3 Guardrails and Sight Rails

Guardrails are provided to stop vehicles leaving the road on tight curves, or striking objects such as power poles and bridge end posts. Sight rails provide identification of hazards and "T" intersections. Guardrails are generally constructed of "Armco W section" galvanised steel rails secured to timber posts. Sight rails are constructed of timber, painted white and often have reflectorised strips attached. The council provides 1166 m sight-rails and 4161 m of guardrails.

In the past there was no formal system in place for recording the condition of guardrails and sight rails other than regular maintenance inspections. Contract 500/11/001 Road Maintenance Contract, which commences October 2011, also details the minimum standard of sight rail construction required. Contract 500/11/001 also has an annual rail cleaning, inspection and condition rating system incorporated. It is envisaged that the report generated from this will prompt a sight and guard rail maintenance and replacement programme.

While not of a high monetary value, or considered to be critical assets, signs and delineators are an important information and safety component of the road asset. Construction materials have a short life and are prone to fading, vehicle damage and loss of reflectivity. More signs are replaced as a result of vandalism, than age. Signs posts are painted annually to prevent deterioration and therefore most replacements are due to damage from vehicles. The signs are of varying types and spread over various areas. The graphs below illustrate the distribution.





The basic analysis detailed below illustrates the current replacement programme

	Amount	RUL	Annual Replacement Amount	Individual Replacement Cost	Annual Replacement Cost
Signs	2,796	15	186.40	\$175.00	\$32,620.00
Posts	1,823	30	60.77	\$60.00	\$3,646.00
Edge Marker Posts	11,000	5	2200.00	\$15.50	\$34,100.00
Road Marking (lm)	188,581	1	188581.00	\$150,000.00	\$150,000.00
Sight Rails	1,166	15	77.73	\$80.00	\$6,218.67
Guard Rails	4,161	35	118.89	\$125.00	\$14,860.71
<b>TOTAL</b>					<b>\$241,445.38</b>

As safety of road users continues to be a high priority, as signaled both by central government and the Council, further installations of safety signage are intended. Council has classified the road network in accordance with the national One Network Classification this has associated Customer Levels of Service. Technical Levels of Service that match the CLoS is in the process of development by NZTA. These will be assessed against existing TLoS and areas of under or over supply will be identified over period 2015 – 2018 and a programme to address will be develop. The standards outlined within for traffic services will be gradually incorporated into the network, whilst considering affordability and how quickly progress is warranted on this issue.

#### 10.5.4 Road Marking

Optimisation of painting frequencies is carried out to ensure good quality road marking at minimum cost.

#### 10.5.5 Street Signs

Life span of street signs is reduced due to vandalism, graffiti damage and theft. The latter is related to the market for scrap metal.

The demand for commercial signs is controlled to prevent a plethora of signage.

Low cost but effective means of rating the condition of road signage is being sought.

## 10.6 Streetlights

### 10.6.1 Overview

The purpose of street lighting is to improve safety and efficiency of the roading network by providing adequate illumination for vehicles and pedestrians.

### 10.6.2 Asset Description

There are 1057 streetlights within the Waitomo District. Waitomo District Council owns 818 of these lights which are discussed below. Waitomo District Council also maintains 179 urban streetlights owned by NZTA. The maintenance and renewals on NZTA streetlights is fully subsidised by NZTA.

Of the 818 lights owned by Waitomo District Council valued at \$1.52 million the majority (96%) are located within the urban areas. The graphs below illustrate the distribution, by area, type and age.

Full details of lamp and pole replacements are entered by the Contractor into RAMM on a daily basis. As such the information held in the database is continually upgraded. There is no intention to undertake a retrospective capture of data as only 15% of poles and 23% of lamps have incomplete capture. The contractor carries out condition ratings of all lights each year so it is expected that the information will be over 90% complete by the end of the 2015 financial year.

Overall, the condition of WDC's street lighting assets is very good, with 85% being rated as having a 10-20 year life span left. Since 2008 WDC has been replacing old mercury vapour lamps with high pressure sodium lamps. These lamps have a lifespan of 5 years and are part of a scheduled maintenance programme. As a result, the street lighting asset has become far more reliable, reducing the number of reported outages and therefore callouts

Upgrading of existing lights to comply with the national standard is expensive. However, new lamps are generally more energy efficient so the strategy is to undertake a street light renewal programme that incorporates improved technology

The plan is to upgrade all street lighting assets over the next 30 years at a rate of 3% per annum, i.e. @ 34 luminaires per year, 34 brackets and 6 columns. It includes the introduction of LEDs to the lighting asset over the same time period, thus maintaining an average cost of replacement over the lifetime of the assets. This is also due to LED technology rapidly changing, hence introducing them slowly allows WDC to introduce the changes as they occur.

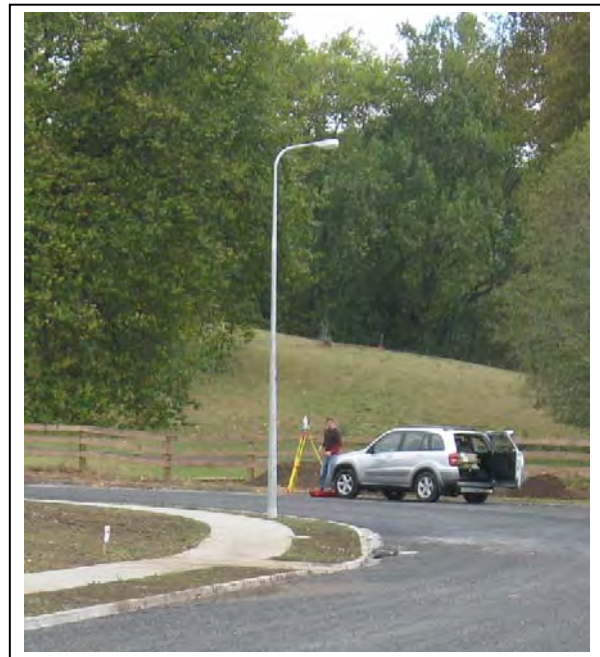
### 10.6.3 Asset Performance

Street light performance is measured by light intensity, reliability and coverage area. AS/NZS 1158 Lighting for Roads and Public Spaces sets out the design standards that Waitomo is working towards achieving. It has been identified that an inspection is required to identify areas that are non-compliant and a programme put in place to address the issues. Also areas with street trees need to be more closely monitored to ensure lighting levels are not reduced.

Complaint levels are low with the majority of complaints referring to lights out, both circuit supply faults and blown bulbs. These are addressed with the cyclic maintenance programme. Fittings are being replaced at the natural rate of attrition with the European IP66 standard or equivalent. It is expected that this will engender less maintenance costs over the life of the lamps.

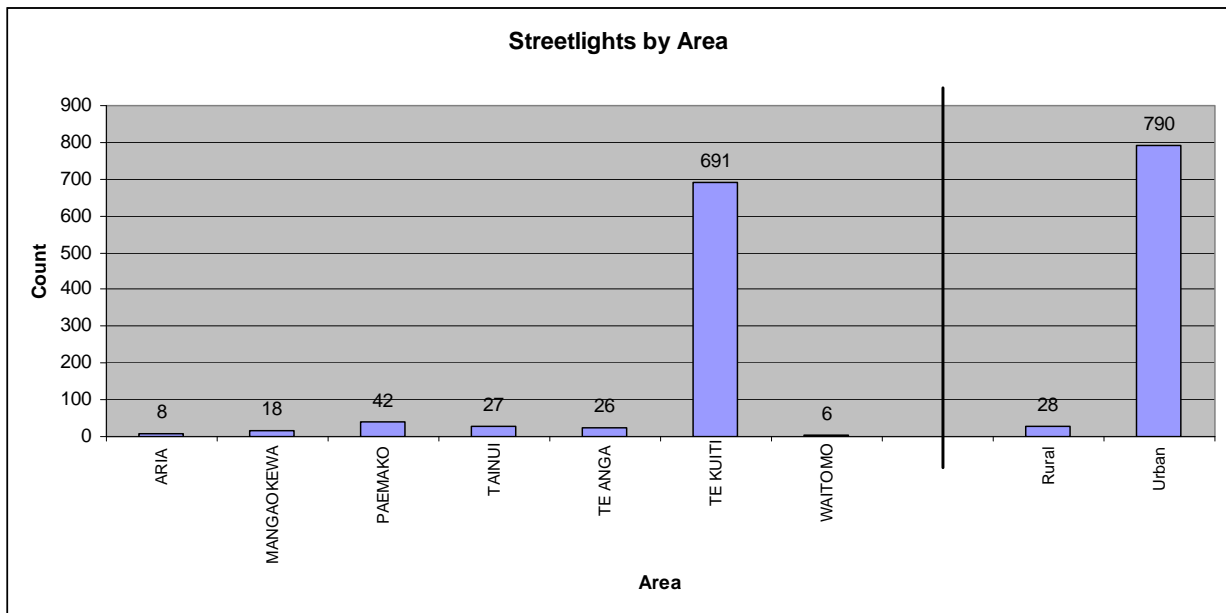
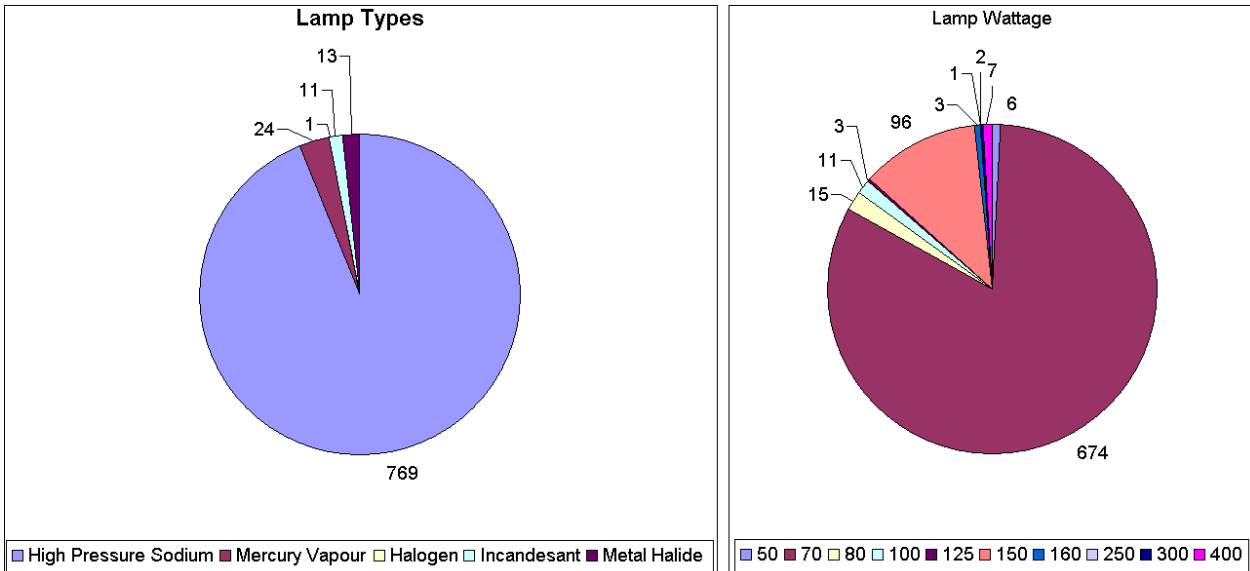
The major life cycle issues that are being monitored and mitigated through the maintenance and renewal programmes are:

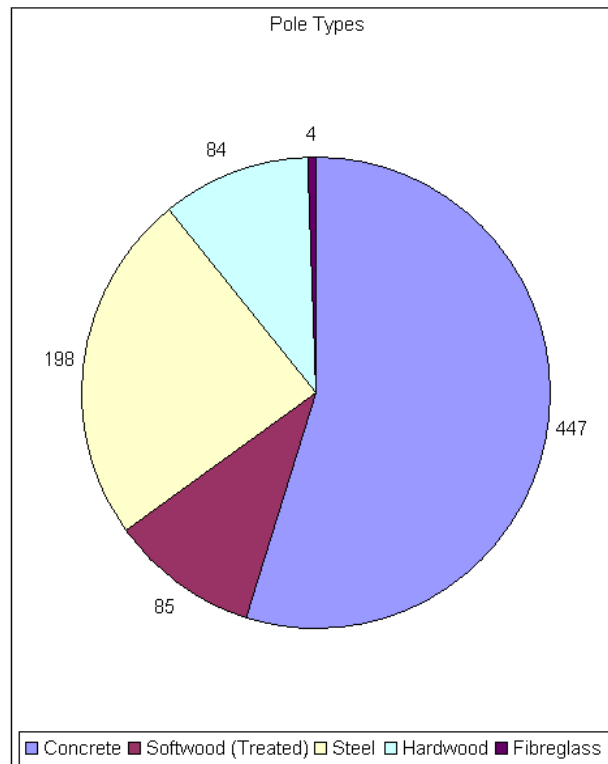
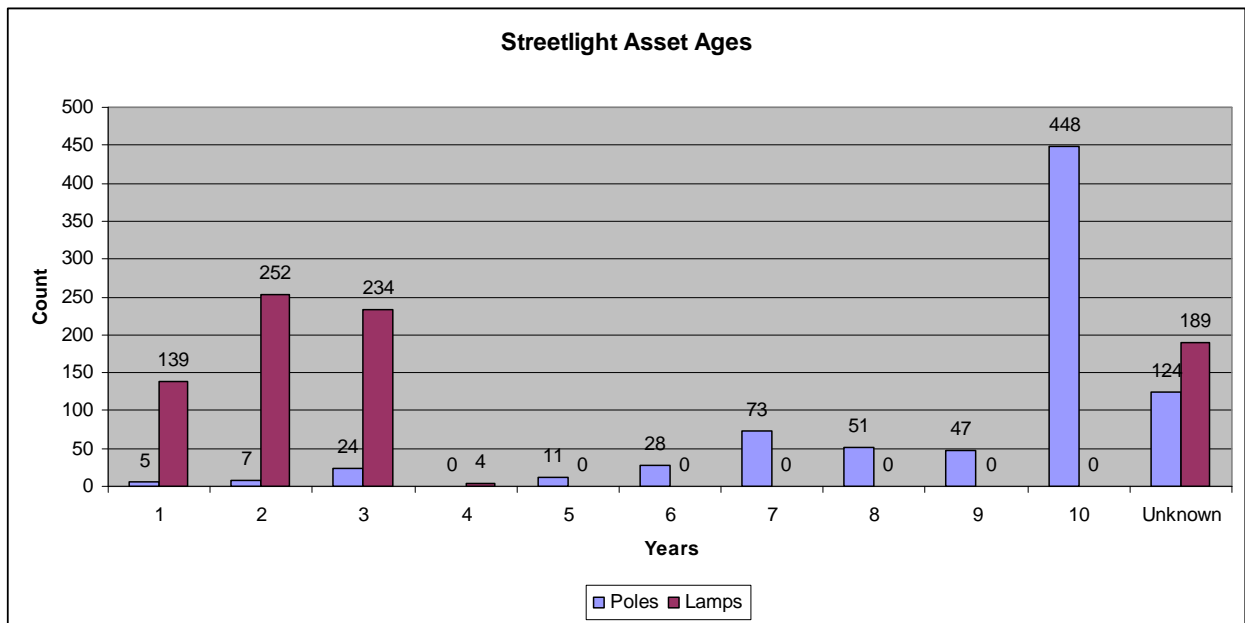
- Non-compliance with current standards
- Rising energy costs
- Ensuring all work undertaken considers long term power and maintenance costs, whilst maintaining or increasing levels of service



- Replacement of fiberglass poles as condition demands with concrete or steel to improve whole of life costs
- Upgrading fittings to IP66 standards for future proofing
- Inter-agency communication improvements are required between Council, Contractor and Lines Supplier to reduce lighting circuit failures and restore supply to the network in a rapid fashion

Whilst energy costs for commercial consumers has reduced by 8% (as measured by Statistics NZ), actual costs experienced by Waitomo District Council have risen. It is also expected to rise with the next negotiations with energy and line suppliers.





#### 10.6.4 Maintenance

Maintenance is the on-going day to day work activity required to keep assets serviceable and prevent premature deterioration or failure. Two categories of maintenance are carried out:

**Unplanned Maintenance:** Work carried out in response to reported problems or defects (e.g. lights out, lights cycling, vandalism, etc.). Defects are identified during the monthly night patrols and by the public using the service request system. A 24 hour call-out service is provided to attend problems. Contract documents specify the timeliness of the response and the actions to be taken. Priority is given to works required for pedestrian and road user safety reasons over cosmetic type work.

**Planned Maintenance:** Work carried out to a predetermined schedule or planned in association with other work. Traditionally small volumes of maintenance work on streetlights have been carried out. The majority of planned maintenance is the 4 year bulb rotation programme that sees 25% of all light bulbs getting replaced each year. Each bulb has an average useful life of 4 years. After this period the bulbs tend to reduce in light output and energy efficiency.



## 10.7 Drainage

### 10.7.1 Overview

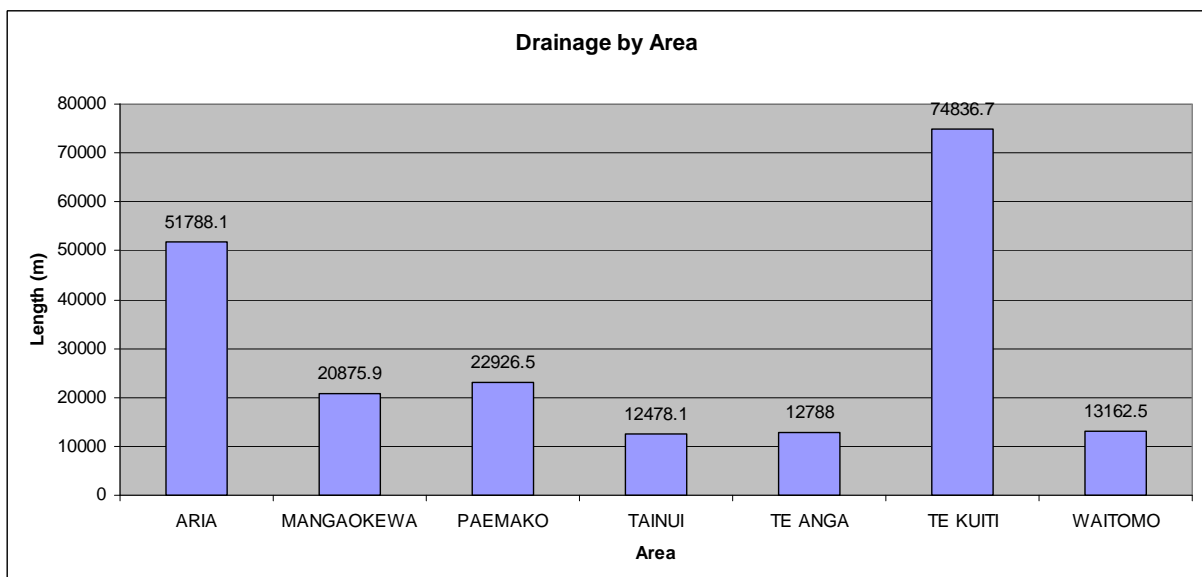
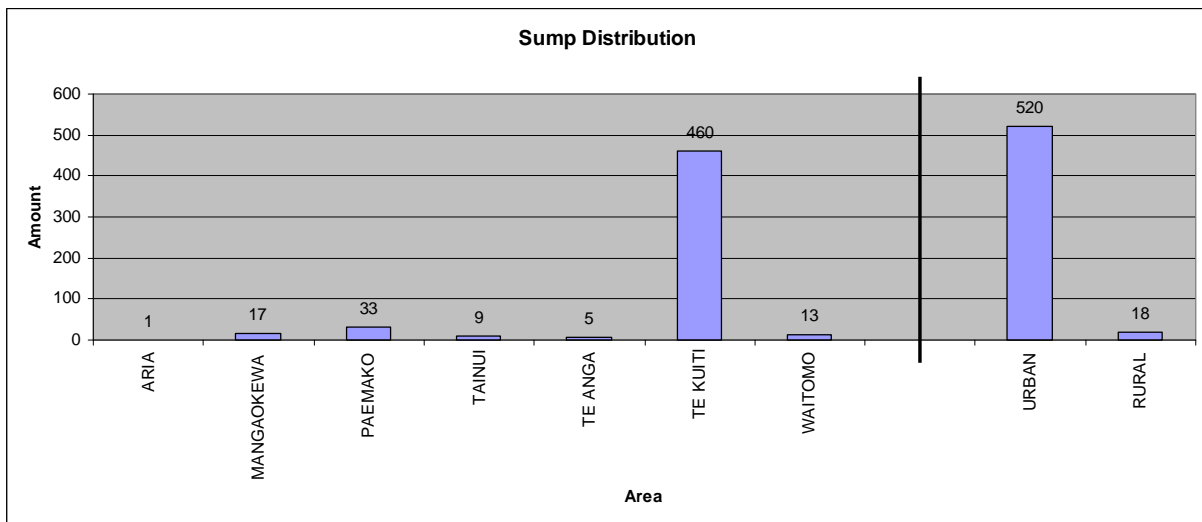
The purpose of kerb and channel (K&C) is to provide a drainage system that has the capacity to disperse stormwater runoff from urban street pavements, footpaths, berms and adjacent properties to a discharge outfall point.

In rural areas storm water channels (SWC) and culverts need to provide a drainage system that has sufficient capacity to disperse stormwater runoff without adversely affecting the road pavement.

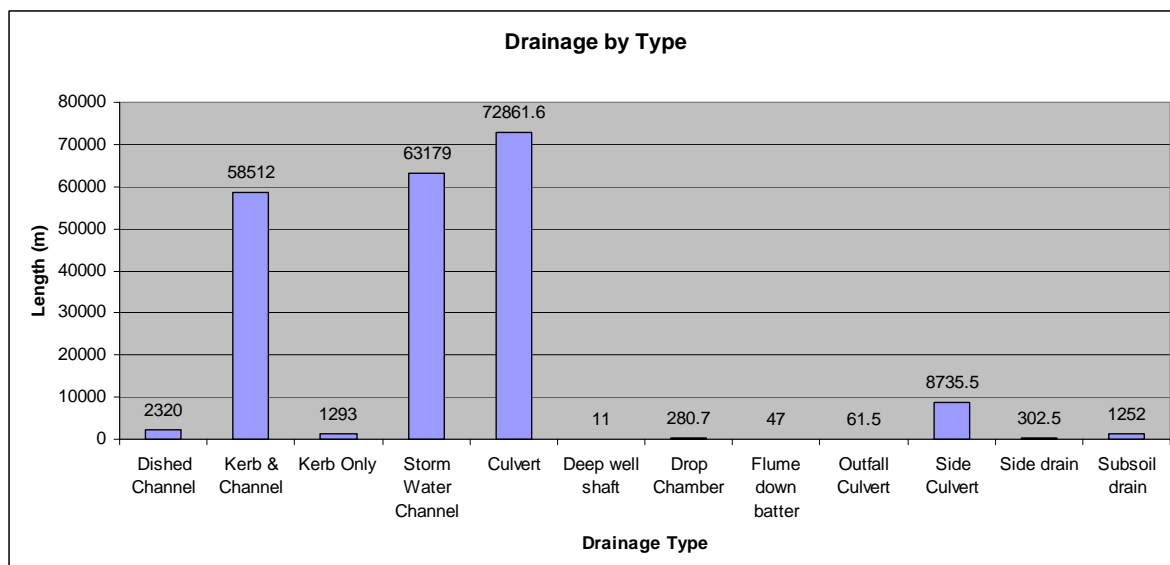


### 10.7.2 Asset Description

There are 538 sumps and 5,394 storm water channels in Waitomo District. There are 6,837 culvert structures less than 2m in diameter, with a total length of 83,552m. Culverts larger than 2.0m diameter (3.14m<sup>2</sup>+) are classed as and are discussed under Bridges the total value is \$35.27 million. The graphs below illustrate the distribution, both by area and by length.



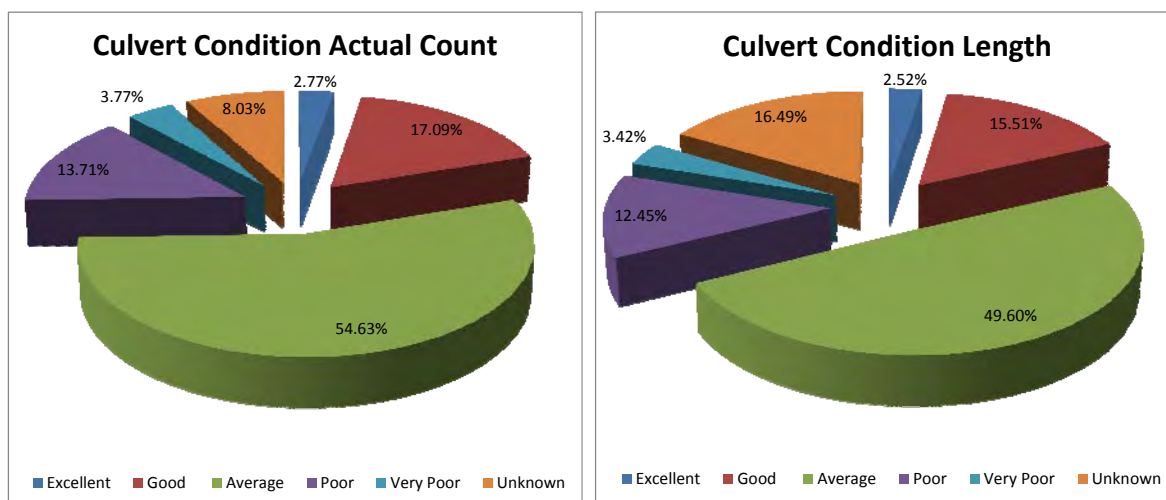




### 10.7.3 Condition

There has been no formal measure of kerb and channel condition previously. An annual inspection of culvert condition is undertaken under the Road Maintenance Contract. Condition is also monitored by knowledgeable staff through ad-hoc visual inspections and service requests to Council. The majority of the drainage items throughout the district have no known age and have a default construction year of 1994, as this is when the drainage database within RAMM was created.

To address the issue of incomplete data for drainage, maintenance and renewal programmes are based on assessed condition and adequacy. Of significant concern is the amount of culverts with no condition data. To address this, drainage condition assessments have been built into current and future road maintenance contracts. The available condition data to date is graphed below:



Key issues relating to urban drainage are:

- A demand for improved stormwater management from some residents, particularly where streets do not have kerb and channel
- Mountable kerbs lead to vehicles parked on berms and berm damage occurs
- High profile kerbs require plate vehicle crossings which are difficult to clean
- Drainage sumps are aging and deteriorating. Easily damaged by vehicles
- Issues associated with improving the level of service for disabled pedestrians and higher standards required for mobility scooters crossing roads
- Some block formed K&C and dish drains that are nearing the end of their lives
- Inadequate capacity of culverts (less than 375mmØ)

- Vehicle damage
- Damage caused by tree roots and weed invasion

This is exacerbated by the relatively old age of the K&C and culvert networks and the associated corresponding poor condition.

To prevent property flooding and damage to roads through water ingress, the condition of the kerb and channel in urban areas is critical. During high intensity rainfall events it is accepted that roads will act as a temporary storage for water, as Council only designs for a 1 in 2 year rain event. Consideration is being given to determining overland flow paths due the expected increase in storm frequency and intensity which may be attributed to climate change.

Key issues relating to rural drainage are:

- Entrances constructed without culverts inhibit water flows. To combat this practice, WDC has adopted Hamilton City Council (HCC) Standard Guidelines which all new works have to comply with. In addition to HCC standards, entrances can only be constructed after approval from WDC.
- Trimming of any High shoulders as part of the maintenance programme to prevent surface water ponding on the carriageway.
- Erosion of newly formed drains prior to vegetation establishment, where small slips and debris decrease the capacity of side drains.
- Some steep water tables require special treatment to prevent excessive scouring.
- Shoulder maintenance on rural roads is an on-going programme. In addition to routine maintenance, the shoulder width on all sites selected for pavement rehabilitation is reviewed at the time.
- Stock damage to water tables by droving.

Drainage assets are considered to have high criticality, as effective drainage will prevent or mitigate damage to road assets. This is considered essential as damage to pavement or subgrade layers can be expensive and take time to repair, as well as causing disruption to residents.

#### 10.7.4 Maintenance

Maintenance is the on-going day to day work activity required to keep drainage assets serviceable and prevent premature deterioration or failure. Two categories of maintenance are carried out:

**Unplanned Maintenance:** The majority of defects are notified by the public, and a 24 hour call-out service is provided to attend problems. Contract documents specify the timeliness of the response and the actions to be taken. Priority is given to works impacting on safety over cosmetic type work.

**Planned Maintenance:** Work carried out to a predetermined schedule or planned in association with other work. Traditionally small volumes of maintenance work on drainage have been carried out, normally in conjunction with other programmes. Minor amounts of planned works have been undertaken following public requests.

It is Councils intention that the results of the condition assessments will be analysed annually and that planned/programmed work will be undertaken to remedy areas of very poor or poor condition ratings. This would include small works that are considered to be maintenance items such as clearing the culvert inlet or outlet, adding headwalls to inlets or outlets and roading or jetting.

Sump clearance is routinely undertaken in conjunction with the Road Maintenance Contract.

#### 10.7.5 Renewals

The annual renewals plan is based on the poor/very poor condition ratings and culverts less than 350mmØ which are considered to be inadequate. After each annual culvert inspection has been analysed, those culverts rated as poor/very poor and requiring large repairs are put in a programme for remedial works and/or replacement. Further monies are then allocated to replace inadequate culverts with a minimum of a 450Ø culvert. Any culvert that is identified as requiring a 600mmØ culvert or larger will have catchment assessment calculations undertaken to ensure adequacy.

Kerb and channel renewals are undertaken only in conjunction with pre-reseal repairs or capital works projects. There is no renewal programme in place for sumps.

To maintain the current level of service it is essential to replace assets at the end of their useful life. The table below details every drainage asset, along with its predicted useful life. Undertaking a basic analysis by

dividing out the length of the asset by the useful life gives us a benchmark of how much of the network must be replaced annually. Utilising current costs from the more recent contracts procured by WDC an average cost per meter to replace each unit is obtained. This provides an estimated annual cost to replace units at the end of their life to maintain the current level of service.

The basic analysis detailed below illustrates the current replacement programme is sufficient to maintain the current level of service of drainage. The annual funding level is \$400,000 which leaves a little for unforeseen work that invariably occurs during a year. This does not take into account reforming water tables and upgrading of culverts with inadequate capacity, thereby only maintaining the current level of service. Additional work is also carried out annually as improvements in conjunction with renewal and capital works.

	Useful Life	Length / Units	Annual Replacement (length ÷ life)	Cost to replace (m)	Annual cost
Dished Channel (m)	80	2320	29.0	\$130	\$3,770.00
Kerb & Channel (m)	80	58512	731.4	\$130	\$95,082.00
Kerb Only (m)	80	1293	16.2	\$130	\$2,101.13
Sumps (each)	50	538	11.0	\$4,000	\$44,000.00
Culverts 375mm Ø (m)	80	59281.9	741.0	\$140	\$103,743.33
Culverts 450mm Ø (m)	80	13805.5	172.6	\$200	\$34,513.75
Culverts 600mm Ø (m)	80	4035.7	50.4	\$300	\$15,133.88
Culverts 750mm Ø (m)	80	807.4	10.1	\$400	\$4,037.00
Culverts 900mm Ø (m)	80	3126.9	39.1	\$700	\$27,360.38
Culverts 1200mm Ø (m)	80	1520.8	19.0	\$1,100	\$20,911.00
Culverts 1500mm Ø (m)	80	973.6	12.2	\$1,450	\$17,646.50
Drop Chamber 600Ø	80	69.3	0.9	\$400	\$346.50
Drop Chamber 900Ø	80	225.4	2.8	\$650	\$1,831.38
<b>Total</b>					<b>\$370,476.83</b>

Council staff has been considering various options to achieve the standards mentioned above to achieve best value for money. Whilst determining forward works programmes for each year Council staff consider how best to obtain 'value for money'. These aspects include:

- Increased renewal funding
- Increasing maintenance spend to extend effective lives
- Rationalisation of existing assets at the end of their useful lives to reduce lengths to maintain
- Utilising lower cost maintenance methods of repair to improve condition of assets and a corresponding increase in remaining life
- Undertaking as much work as practical with other capital works (reseals, pavement rehabilitation) to hopefully realise lower replacement costs

## 10.8 Footpaths

### 10.8.1 Overview

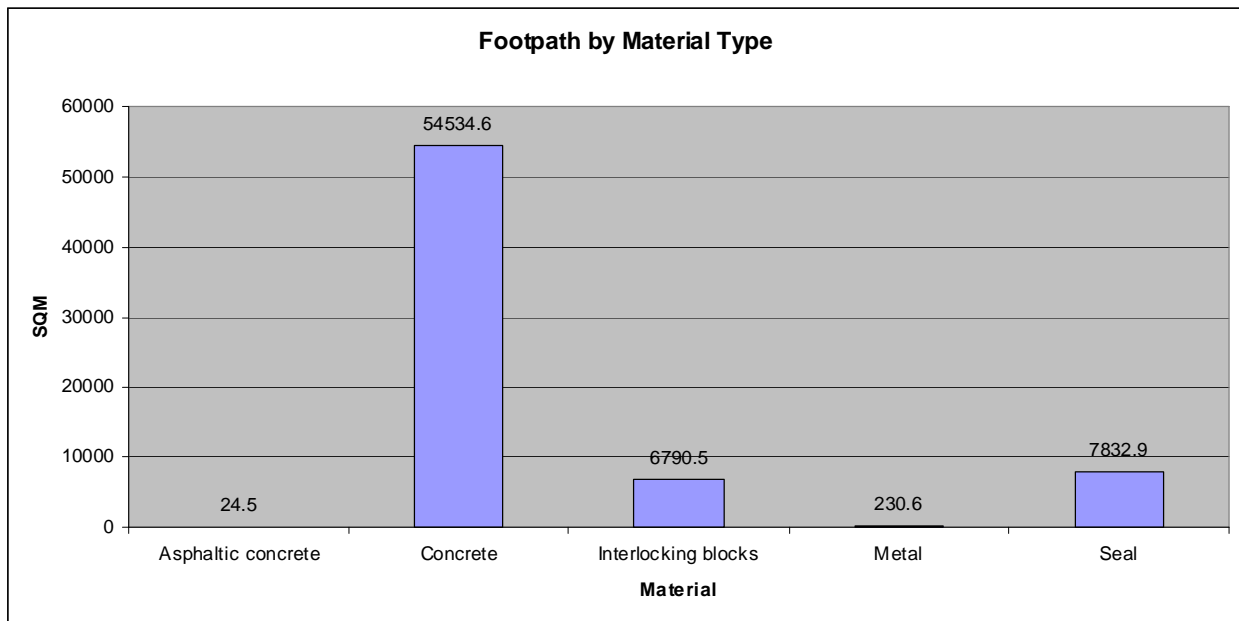
Footpaths should provide a safe, comfortable and efficient network of footpaths catering for pedestrians (including the physically disabled) and mobility scooters.

Footpaths provide a valuable service to residents, especially those of lower socio economic means who cannot afford vehicles and the elderly.

In keeping with the increased health outcomes of physical exercise, commuter needs and mobility users the need to keep footpaths in good condition is paramount. These needs are considered principal in defining priorities for replacement and repair. Periodic cleaning of footpaths is also undertaken to remove moss and lichen, not just for visual aesthetics but also to maintain a maximum of skid resistance.

### 10.8.2 Asset Description

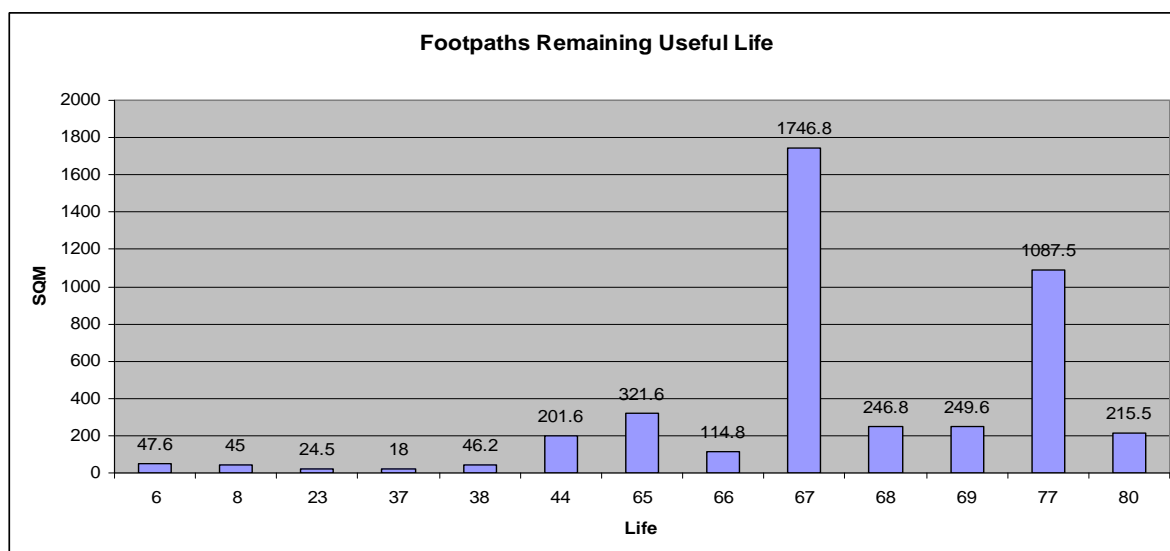
There is 47.5 lineal km of footpath within the district. There are no cycle ways in the district. The footpaths are made of varying types and the graph below illustrates the distribution.



### 10.8.3 Condition

There has been no formal measure of footpath condition previously. As such the only measurement of condition has been by service requests to Council and age. The majority of the footpaths (93%) throughout the district has no known age and has a default construction year of 1994, as this is when the footpath database within RAMM was created.

To address the issue of incomplete data for footpaths the decision has been taken to base further maintenance and renewal programmes on assessed condition. Footpath condition assessments were built into the Road Maintenance Contract that commenced on the 1<sup>st</sup> October 2011. The known remaining useful lives of the remaining 7% of footpaths are detailed below:



However this process is very slow and a condition rating assessment as part of the RATA collaboration will be done in first half of 2015 which will assist in speeding up the asset information improvement.

Council has adopted the Hamilton City Council standard specifications for footpaths at 1.4m wide. This is to provide adequate space for 2-way movement of prams, wheelchairs and pedestrians and sufficient width for mobility scooters to operate safely. At present 53% of the 47.5km of footpaths in the District is less than 1.4m wide, with 5% less than 1.0m wide. Council also retains the goal of a footpath on at least one side of every urban street. Currently 35% (16km) of Council's urban roads do not have a footpath.

Footpath	Both Sides	Left Side	Right Side	No Footpath	Width less than 1m	Width between 1m and 1.4m	Width of 1.4m or more	Total Footpath
ARIA	94	100	0	2060	0	100	94	194
MANGAOKEWA	2122	30	389	2008	0	883	1658	2541
PAEMAKO	2962	631	1231	897	0	2848	1976	4824
TAINUI	197	284	264	3066	0	209	536	745
TE ANGA	445	802	234	276	247	463	771	1481
TE KUITI	18814	9317	8880	7906	2217	20258	14536	37011
WAITOMO	0	440	303	369	0	440	303	743
<b>TOTAL</b>	<b>24634</b>	<b>11604</b>	<b>11301</b>	<b>16582</b>	<b>2464</b>	<b>25201</b>	<b>19874</b>	<b>47539</b>

The Council goal of providing a footpath on at least one side of every urban street is best represented by Te Anga, Te Kuiti and Waitomo exceeding 60%. Areas well below this standard are Aria and Tainui.

Footpath	Length on one side	Total possible footpath length	Percent with footpath
ARIA	147	2254	7%
MANGAOKEWA	1480	4549	33%
PAEMAKO	3343	5721	58%
TAINUI	647	3811	17%
TE ANGA	1259	1757	72%
TE KUITI	27604	44917	61%
WAITOMO	743	1112	67%
<b>TOTAL</b>	<b>35222</b>	<b>64121</b>	<b>55%</b>

The main reasons for footpath deterioration are:

- Inadequate reinstatement by service authorities
- Vehicle damage
- Settlement or movement as a result of subgrade issues and/or topography
- Break-up by root and weed intrusion
- Damage incurred as a result of new developments
- Inadequate design, especially related to crossing areas

This is exacerbated by the assumed relative aged condition of the network. Also drainage of footpaths in some streets has not been factored into design considerations, resulting in loss of serviceability of affected footpaths due to surface ponding in wet weather.

In association with the footpath assessment, pram crossing conditions will also need to be assessed as a result of the changing need and higher required standard to accommodate users with mobility needs and the increase in mobility scooter usage. This will become increasingly essential as the population of the district ages. These later two issues have been recognised to address the expected outcomes of the New Zealand Transport Strategy in supporting alternative modes of transport.

#### 10.8.4 Customer Satisfaction Surveys

Customer satisfaction surveys were commissioned annually from 2009. The 2013 and 2014 surveys did not include the roads and footpaths activity. Whilst results prior to 2009 are available they were measured on a different scale and direct correlation with more recent results is not achievable.

The results of the surveys from 2009 to 2011 are tabulated and graphed below. The annual survey of residents over that period saw a steady improvement in satisfaction level rising consistently over the three years. The number of respondents rating footpaths as good or excellent increased from 65% in 2009 to 69% in 2011. 52% of the reasons for dissatisfaction came from footpath condition being poor (uneven, cracked or rough). An additional 45% thought footpaths were unsafe or difficult for the elderly. Results are tabled below:

Footpaths	Excellent %	Good %	Poor %	Very Poor %	Don't Know %
2011	12	57	16	7	9
2010	13	60	15	6	7
2009	9	56	23	5	9

#### 10.8.5 Footpath Maintenance

Maintenance is the on-going day to day work activity required to keep assets serviceable and prevent premature deterioration or failure. Two categories of maintenance are carried out:

**Unplanned Maintenance:** Work carried out in response to reported problems or defects (e.g. pothole repair, removal of tree roots, surface leveling/smoothing, trimming of vegetation, weed spraying etc.). The majority of defects are notified by the public, and a 24 hour call-out service is provided to attend problems. Contract documents specify the timeliness of the response and the actions to be taken. Priority is given to works required for pedestrian safety reasons over cosmetic type work.

**Planned Maintenance:** Work carried out to a predetermined schedule or planned in association with other work. Traditionally small volumes of maintenance work on footpaths have been carried out, normally in conjunction with other programmes. Minor amounts of work have been undertaken in reaction to public complaint.

It is Councils intention that once the results of the condition assessments are received and analysed that programmes of low cost work will be undertaken to remedy areas of very poor or poor condition ratings due to lips or lichen/moss growth. This will be undertaken with a programme of grinding joints on concrete footpaths to resulting in a level surface or a programme of chemical spraying to remove lichen/moss to improve traction. Large areas rated as very poor or poor will be added to the renewal programme.

The Road Maintenance Contract will undertake small areas of footpath maintenance including removing all obstructions, vegetative growth and detritus and ensure that there are no areas that hold surface water. The Contractor will also identify defects on footpaths and notify these to the engineer. Defect types are as follows:

- Lips over 5mm in height
- Surface attrition of concrete that provides a irregular surface
- Cracking that is accompanied by lips or is greater than 10mm in width
- Missing sections
- Areas around toby's or sign posts that have not been reinstated
- Any other defects that should be brought to the attention of the Engineer

#### 10.8.6 Footpath Renewals

Current Council policy is to uplift and relay existing pavers and to reinstate footpaths as required, utilising concrete due to its superior value for money. Using current market rates and a basic analysis the current

replacement programme is insufficient to maintain the current level of service of footpaths. The annual funding level is \$40,000 compared to estimated annual renewal value leaves a \$71,000 shortfall per annum. This is shown below:

	Useful Life	Length (m)	Area (m <sup>2</sup> )	Annual Replacement (Area or Length)	Estimated Cost	Annual Estimated Value
Asphaltic Concrete	35	7	24.5	0.20	\$150.00	\$30.00
Concrete	80	42933	54534.6	536.66	\$150.00	\$80,499.38
Interlocking Blocks	50	1870	6790.5	135.81	\$60.00	\$8,148.60
Metal	18	145	230.6	8.06	\$150.00	\$1,208.33
Seal	18	2584	7832.9	143.56	\$150.00	\$21,533.33
<b>Total</b>		<b>47539</b>	<b>69413.1</b>			<b>\$111,419.64</b>

Due to the current large discrepancy between the required annual funding and the provided annual funding to replace existing footpaths at the end of their life, there are no additional monies to provide more footpaths to achieve the aim of a footpath on one side of every urban street. Council staff continues to considering various options. These include:

- Increased renewal funding
- Increasing maintenance to extend useful lives
- Removing footpaths at the end of their useful life, if an existing footpath is retained on the other side of the street
- Utilising lower cost repair and replacement methods (i.e. metal instead of concrete) for lower volumes of footpath traffic. This will entail a corresponding decrease of the useful lives

## 10.9 Miscellaneous assets

### Traffic Controls

- The width of Te Kuiti's main street through the town centre has required traffic controls such as kerb extensions and platform crossing points to be installed to narrow the carriageway and slow traffic. It also provides positive amenity value. Underground services had been checked or renewed before the street renovations took place.
- Investigation is to be carried out via traffic counting surveys to determine whether speed reduction humps and/or other street restriction measures are required in rural townships and beach areas. At completion of these surveys a programme will be developed for future construction works.
- The demand for pedestrian crossing points, especially at school entrances and across the State Highways through urban areas, will be assessed together with consideration of alternatives.
- The winding and narrow nature of some sections of rural roads in the District necessitates increased use of advisory signage, and safety markings, particularly on school bus routes.
- Localised widening of tight bends and shoulders areas on narrow rural roads is needed to provide for safe passing and overtaking opportunities and implemented where rehabilitation takes place.

### Urban Berms

- Aesthetics of berms e.g. damage of berms due to vehicular traffic, height of grass, etc is an ongoing problem.
- The presence of street trees is assessed on a case by case basis to achieve a balance between streetscape aesthetics, damage to footpaths and intrusion into overhead power and telephone cabling

### Rural verges

- Roadside vegetation is maintained as part of the roading maintenance contract to provide safe visibility by spraying or mowing.
- Shoulders are generally sprayed at the same time as water tables. The spraying of a 300mm wide strip adjacent to the seal edge has been discontinued as it may be exacerbating edge break and rutting issues.



### Cycle Facilities

- WDC has drafted its first cycling and walking strategy. Funding assistance from NZTA for this item has been discontinued and no further progress is envisaged on the plan.

### Off Street Parking

- Customers prefer to park outside the business where they are shopping and so do employees of these businesses. This creates conflict in the main retail area of Te Kuiti between employee parking needs and shopper demand for parking
- A traffic bylaw is in place which could be used to address these matters if current practice became untenable. It is not a high priority issue at present
- Adequate provision of disabled car parking space near to essential services such as banking, post office and pharmacy needs to be evaluated and the findings addressed.



# SECTION 11 FINANCIAL SUMMARY

## 11.1 Valuation of Land Transport Assets

The key components of Waitomo's road and footpath network and their attendant values as at 1 July 2014 are summarised in the table below.

2014			
Asset Type	Quantity in service	Unit	ORC
Pavement Formation	7,362,550	sq m	\$103,002,273
Pavement subbase	5,004,047	sq m	\$23,391,475
Pavement base	5,004,047	sq m	\$49,507,041
Sealed Surface	2,814,001,600	sq m	\$11,318,709
Metal Surface	2,209,103,400	sq m	\$7,595,778
Pavement Markings	NA	Various	-
<b>Total Pavement</b>	<b>15,031,199</b>		<b>\$194,815,276</b>
Bridges & Major Culverts	158	each	\$35,527,828
Retaining and other structures	506	each	\$8,894,096
<b>Total Bridges &amp; Structures</b>	<b>664</b>	<b>each</b>	<b>\$44,421,924</b>
Footpaths	70,118	sq m	\$6,743,922
Footpath Crossings	1,708	crossings	\$2,839,860
<b>Total Footpaths</b>	<b>NA</b>		<b>\$9,583,782</b>
Urban K&C and SWCs	78,884	Metres	\$4,369,837

2014			
Asset Type	Quantity in service	Unit	ORC
Urban drainage	725	assets	\$1,185,503
Rural K&C and SWCs	897,844	Metres	\$8,807,274
Rural drainage	7,384	each	\$22,908,641
<b>Total Road Drainage</b>	<b>NA</b>		<b>\$35,271,255</b>
Urban road shoulders	7,057	sq m	\$29,702
Rural road shoulders	611,474	sq m	\$2,219,823
<b>Total Road Shoulders</b>	<b>618,530</b>	<b>sq m</b>	<b>\$2,249,525</b>
Guard Rails	12,556	metre	\$1,851,983
Streetlights	798	lights	\$327,670
Streetlight poles	246	Poles	\$830,732
Streetlight brackets	798	brackets	\$363,076
<b>Total Streetlights</b>	<b>NA</b>		<b>\$1,521,477</b>
<b>Traffic Facilities</b>			<b>-</b>
Urban road signs	896	signs	\$170,711
Rural road signs	13,076	signs	\$1,032,781
<b>Total Road Signs</b>	<b>13,972</b>	<b>signs</b>	<b>\$1,203,492</b>
Consents	11	each	\$110,000
<b>Total Rooding</b>			<b>\$291,028,714</b>

The above valuation has been drawn from Council's asset inventory and the RAMM database. The valuation certification and summary of effective lives of the asset components are included in the appendices.

The assets were valued using the Depreciated Replacement Cost methodology as described in the NZ Infrastructure Asset Valuation and Depreciation Guidelines. Assets were depreciated on a straight line basis to determine the Optimised Depreciated Replacement Cost – see Valuation Certificate, and schedule of the effective lives used, in the appendices.

The confidence ratings for each of the significant asset components of the land transport valuation as detailed in the valuation report are:

Valuation Element	Confidence Grade
Fixed asset register downloads	Good confidence
Attribute details	Good confidence
Asset categorisation	High confidence
Economic lives information	High confidence
Unit replacement rates	Good confidence
<b>Overall rating</b>	<b>Good confidence</b>

## 11.2 Roading Forecast

In July 2014 the provisional 10 year financial forecast for the Roads and Footpaths activity was determined by identifying new works, and the continuation/evaluation of current maintenance and renewal strategies within each of the components, i.e. pavements, footpaths, traffic services etc. as shown in the appendices (Note –Council's road maintenance contract is due for retendering early in 2015, with the new contract taking effect from 1 July 2015).

The strategy for this forecast was to:

- assign realistic timing to projects given the resources available under Councils current funding sources and in relation to impacts on other Asset management Plans
- optimise timing of projects
- generate consistent budgeting philosophies across all asset groups
- align expenditure with growth predictions

In summary, the roading forecast, shown in Appendix P, for the next 10 years proposes:

- Operational and maintenance: costs are expected to rise steadily based on construction cost indices. This applies to all road maintenance activities highlighted in the above table (i.e. excluding community projects, pavement rehabilitation, structural component replacements, the improvements category excluding emergency reinstatement work, and components of the unsubsidised category). No adjustment for inflation has been allowed in all other years.
- Renewals: Increasing in line with movements in construction cost indices
- New works (improvements): As above, with the quantum dependent on subsidy eligibility. Is inclusive of new bridge construction and specific improvement projects.
- While no funding provision has been made in the programme, the seal extension category has been retained as a signal of Council's desire to proceed with this work in the event of a change in subsidy funding policy.

### 11.2.1 Maintenance forecast

Operation and maintenance costs are projected to total approximately \$63.93M (including allowances for inflation) over the next 10 years.

### 11.2.2 Renewals forecast:

The Activity Management Plan has consistency with the LTP figures. In each sub-section, future renewals costs have been assessed from at least three of the following five perspectives:

- Historical cost trends (where sufficient information is available)
- Identified projects.
- Existing asset condition and age data, using a predictive deterioration relationship based on consideration of asset lives and historical rates of condition deterioration,

- Actual asset condition assessment programme undertaken on key assets to determine remaining life cycles and prioritisation programme for replacements and maintenance
- Infrastructure and Financial Strategies.

Renewal costs fluctuate year to year as assets reach the end of their useful lives and need renewing or replacing. The total cost of renewals budgeted from 2015 to 2025 is \$49.56M (including allowances for inflation).

#### 11.2.3 New Works (Augmentation):

New works are assessed on affordability and value for money. Capital costs are kept constant to ensure loan repayments, subsidies, budgets and hence rates are kept constant. Some examples of new works planned are:

- Minor improvements and associated improvements totaling \$4.85M (adjusted)

The cost of roading works has increased considerably due to the higher cost of compliance with health and safety and resource management requirements. Escalating fuel prices have previously impacted on the contract rates for bitumen and haulage costs. Other price indices used by NZTA remain reasonably static.

## SECTION 12 Assumptions

The following assumptions have been made in preparing this AMP:

Number	Assumption	Level of Uncertainty	Impact on Integrity
1	The impacts of climate change will be minimal over the planning period.	Low	Low
2	Impact of currency movements on financial estimates will be no more than minor.	Low	Low
3	Actual rates of inflation will be within the range tabulated.	Low	Low
4	NZ Transport Agency subsidies will continue at their current levels.	Low	Medium
5	Change in value of assets due to periodic revaluation will be in line with inflation.	Low	Low
6	The average annual interest cost on borrowings will be 6% over the first 2 years, 7% from years 3 to 6, and 8% over years 7 to 10.	Low	Low
7	Central Government changes to policy or legislation will have minimal impact on local government income or expenditure.	Medium	Low - Medium
8	Central Government's proposed amendments to the current Emissions Trading Scheme will have only minor impact on Council's budget forecasts.	Low	Low
9	Council will be effective in securing and retaining the resourcing requirements necessary for implementation of this AMP.	Low	Low
10	Assumed lives for Council's assets will have minimum impact on financial estimates.	Low	Low
11	Depreciation reserves and subsidies will generally be adequate to fund asset renewal expenditure.	Low	Low
12	Renewal expenditure will have only a minor impact on operating budgets.	Low	Low

Number	Assumption	Level of Uncertainty	Impact on Integrity
13	The impact of population growth and structure has been adequately provided for in the financial estimates.	Low	Low
14	The impacts of societal changes and population structure have been adequately provided for in the financial estimates.	Low	Low
15	Maintenance allocations are largely based on maintaining current levels of service	Low	Low
16	Any increase in operations and maintenance expenditure in real terms over the planned period due to the continued ageing of the asset will be offset by timely renewals and improved activity management decision making, made possible by enhanced RAMM information and systems	Low	Low
17	Resource consent acquisition and compliance processes are within estimated timeframes and expenditure estimates.	Medium	Low
18	Movement in contract rates as the result of re-tendering the road maintenance contract in 2015/16 and 2020/21 has been based on +7% in these years only.		
19	Growth in the total length of the existing roading network from sub-divisional development, will be minor over the term of the plan	Low	Low
20	Impact of transfer of significant Council assets will be minor.	Low	Low
21	Changes to the scale of Council's asset inventory will be minor.	Low	Low
22	The impact of any growth related capital expenditure will be offset by revenue from financial contributions.	Medium	Medium-Low
23	The provision for expenditure as a result of natural disasters is adequate.	Medium	Low - Medium

**Legend:**

Blue	Global impact
Green	National impact
Yellow	WDC impact

### 12.1.1 Assumption Number 4.0 - NZ Transport Agency FAR

The funding assistance received from New Zealand Transport Agency (NZTA), for maintenance and operations carried out on roads, is Council's largest single source of revenue after rates. It has been assumed that the revised base rate of 61% from 2015-25 for maintenance and renewal activities and for approved capital works will be available through the term of this AMP. The Funding Assistance Rate (FAR) has been reviewed and for WDC it will increase to 71% by 2023-24. The remaining uncertainty is what impact, if any, the Technical Levels of Service (TLoS) as determined through the One Network Road Classification (ONRC) system may have on the districts roads since most of the roads fall in the lowest two categories. It is uncertain at this stage whether or how ONRC TLoS will affect capital or maintenance expenditure. Although the FAR rate is increasing reduced subsidy as result of lower imposed TLoS would mean either an increased rating level to maintain present levels of service (LoS), or reductions to present LoS.

## 12.2 Funding Sources

The current options for funding sources for the Roads and Footpaths activity include:

- Rates
- Development/financial contributions
- Funding assistance from New Zealand Transport Agency
- Fees and charges
- Loans

**Rates:** Prior to 2007, WDC funded all roading activities, including operating and maintenance costs, by way of loans. WDC adopted a new strategy in 2007/08, aimed at reversing this practice and moving towards funding the local share of operating costs from rates. In so far as the Roads and Footpaths activity is concerned, the local share of roading activities was funded until 2008/09 by way of a general rate based on the capital value of individual rateable properties, net of any subsidy allocation from New Zealand Transport Agency. (NZTA). From 1 July 2008, WDC's Revenue and Financing policy was amended regarding the cost of roading activities. The salient points of the current policy appear below:

**Non- Subsidised Roothing:** A Targeted Uniform Annual Charge that is differentiated for urban and rural properties.

**Subsidised Roothing:** Partly funded through UAGC and partly through a Targeted Rate based on capital value of a property.

Details of funding splits can be found in Council's Revenue and Financing Policy.

### 12.2.1 NZTA Funding

**FAR (Funding Assistance Rate):** This is the main funding stream for investment in national priorities guided by Land Transport Management Act 2003 (LTMA) objectives and the Government policy statement on land transport funding (GPS). Subsidy for maintenance activities is 62% in 2015-16 following a transition period it increases to 71% by 2023/24. A key consideration for New Zealand Transport Agency when approving funding for LTPs is the degree to which the projects deliver on the outcomes of the RLTS. This funding pool is collected by central government through fuel excise duty, road user charges imposed on diesel vehicles and motor vehicle registration and licensing fees. It is allocated by New Zealand Transport Agency on the basis of the contribution made by each Approved Organisation's Land Transport Programme to achieve the objectives of the Land Transport Management Act.

State highway works are funded 100% by New Zealand Transport Agency. The local share of the subsidised roading programme will be met by Council through its revenue and financing policy, as above.

# SECTION 13 PLAN IMPROVEMENT AND MONITORING

## 13.1 Description

Activity Management Planning involves a process of constant improvement and monitoring.

The Key Milestones below identify and prioritise actions required with target Completion Dates. Many of the milestones will entail additional resourcing to enable completion and the full Plan Improvement and Monitoring Table in the AMP details these requirements, which have subsequently transferred to the relevant budgets of the LTP.

## 13.2 Activity Management Plan Improvement Programme

The Activity Management improvement plan has been reviewed and updated to outline the steps required to improve the quality of both the content and presentation of this document. Key improvements identified in the improvement plan are:

- Ensuring the right level of funding is being allocated to maintain the asset service potential.
- Consulting with customers to ensure that their views are considered when selecting the best level of service scenario.
- Validating, updating and completing asset age and condition data for bridges, culverts, footpaths and streetlights
- Review structural load carrying capacity survey of all bridges
- Improving contractor maintenance reporting and recording
- Continuous improvement of critical roads e.g. main routes to and from quarries.
- Applying programmes such as BizeAsset to help transform asset data into formats that aid decision making processes.
- Development of detailed work plans such as road marking within the network.
- Upgrade of all culverts to a minimum size of 375mm diameter to reduce risk of blocking that result in slips, appropriate pipe sizing based on catchment areas.
- Investigation and installing monitoring devices at areas on roads within the network which continually slump.
- Undertake a strategic review of levels of service on the roading network

Key Milestone	Indicative Timeframe	Commentary
<b>Land Transport AMP</b>		
12. Complete rating survey of footpaths and input to RAMM	July 2015	This work will be done as part of the RATA collaboration
13. Populate RAMM with FWD data.	December 2015	This work will be done as part of the RATA collaboration
14. Future use data and information obtained regarding future road requirements, especially for forestry/quarries.	Depend on resources	To feed into 2018-2028 draft LTP
15. Estimate impact of expected tourism numbers on existing road capacity	Dec 2016	Initial assessment is that the impact in vehicle numbers is not significant but it significant from a safety perspective
16. Review of roading assets required to support development plan/structure plans for growth areas (Waitomo village, Mokau etc) following completion of structure plans		This will be completed once structure plans are in place. 2018-28 LTP
17. Quantify additional road asset capacity required to support growth versus change in LoS	July 2018	Future growth related demanded expected to be minor and can be accommodated. Targeted Completion Date within the capacity of the existing network as part of ONRC.
18. Development of detailed plans and schedules for maintenance activities such as roadmarking and carparking within the network	Dec 2016	Identified all carparks in town and recorded these on aerial photos in July 08. Still to complete inventory for surface marking, asset data and maintenance scheduling.
19. Training in the use of relevant Activity Management programmes such as Bizze@sset at WDC	Dec 2015	Extended due to appointment of new staff to critical asset roles.
20. Upgrade of all culverts to a minimum size of 375mm dia taking account of appropriate sizing for catchment areas	July 2024	Extended to July 2024 following budget cuts to the Drainage Renewals programme. Capital expenditure on this item is reported in the monthly LT Monitoring paper supplied to Council.
21. Design life (depreciation) consistent with geometry and terrain	July 2015	Important design consideration in context of asset renewal programme. Affected by underlying layers characteristics to be collected through FWD's
22. Improved definition of standards for maintenance	July 2015	Current maintenance contract re-tender in 2015. The next generation maintenance contract will have a change in approach
<b>Unachievable due to Budget Restrictions</b>		
5. Complete a cycling and walking strategy.		Draft strategy completed. Investigation currently underway prior to consultation. Strategy work on hold due to NZTA removing funding for Walking and Cycling activities.
6. Install correct RP pegs on all roads.	July 2018	Depend on resource availability
7. Install correct CMP's on all roads.	Dec 2018	As above.
8. Install correct RAPID numbers on all roads.	Dec 2018	As above.



## SECTION 14 APPENDICES

### Appendix A Glossary

The following terms and acronyms (in brackets) are used in this AM plan.

<b>AADT</b>	Annual Average Daily Traffic
<b>Activity</b>	An activity is the work undertaken on an asset or group of assets to achieve a desired outcome.
<b>Advanced Activity Management (AAM)</b>	Activity Management practices that has evolved to a state that matches business needs. AAM employs predictive modeling, risk management and optimised renewal decision making techniques to establish asset lifecycle treatment options and related long term cash flow predictions. (See Core Activity Management).
<b>Annual plan</b>	The Annual Plan provides a statement of the direction of Council and ensures consistency and coordination in both making policies and decisions concerning the use of Council resources. It is a reference document for monitoring and measuring performance for the community as well as the Council itself.
<b>Asset</b>	A physical component of a facility which has value enables services to be provided and has an economic life of greater than 12months.
<b>Activity Management (AM)</b>	The combination of management, financial, economic, engineering and other practices applied to physical assets with the objective of providing the required level of service in the most cost effective manner.
<b>Activity Management system (AMS)</b>	A system (usually computerised) for collecting analysing and reporting data on the utilisation, performance, lifecycle management and funding of existing assets.
<b>Activity Management Plan</b>	A plan developed for the management of one or more infrastructure assets that combines multidisciplinary management techniques (including technical and financial) over the lifecycle of the asset in the most cost effective manner to provide a specified level of service. A significant component of the plan is a long term cash flow projection for the activities.
<b>Activity Management strategy</b>	A strategy for Activity Management covering, the development and implementation of plans and programmes for asset creation, operation, maintenance, renewal, disposal and performance monitoring to ensure that the desired levels of service and other operational objectives are achieved at optimum cost.
<b>Asset register</b>	A record of asset information considered worthy of separate identification including inventory, historical, financial, condition, construction, technical and financial information about each.
<b>Benefit cost ratio (B/C)</b>	The sum of the present values of all benefits (including residual value, if any) over a specified period, or the life cycle of the asset or facility, divided by the sum of the present value of all costs.
<b>Berm</b>	The area of a road reserve between the kerb or surface water channel and property boundary exclusive of footpath.
<b>Capital expenditure (CAPEX)</b>	Expenditure used to create new assets or to increase the capacity of existing assets beyond their original design capacity or service potential. CAPEX increases the value of an asset.
<b>Carriageway</b>	The portion of road devoted particularly to the use of wheeled vehicles, including shoulders
<b>Cash flow</b>	The stream of costs and/or benefits over time resulting from a project investment or ownership of an asset.
<b>Components</b>	Specific parts of an asset having independent physical or functional identity and having specific attributes such as different life expectancy, maintenance regimes, risk or criticality.

<b>Condition monitoring</b>	Continuous or periodic inspection, assessment, measurement and interpretation of resulting data, to indicate the condition of a specific component so as to determine the need for some preventive or remedial action
<b>Core Activity Management</b>	Activity Management which relies primarily on the use of an asset register, maintenance history, condition assessment, defined levels of service, and simple risk and benefit/ cost assessments in order to establish work priorities and long term cash flow predictions.
<b>Corridor maintenance</b>	Maintenance of physical items not directly associated with prolonging the life of the road pavement or road surfacing. It includes pavement marking, edge mowing, signage, safety barriers/rails, traffic signals, lighting, landscape maintenance, grading of unsealed roads. Generally related to safety factors
<b>Critical assets</b>	Assets for which the financial, business or service level consequences of failure are sufficiently severe to justify proactive inspection and rehabilitation. Critical assets have a lower threshold for action than non-critical assets.
<b>Current replacement cost</b>	The cost of replacing the service potential of an existing asset, by reference to some measure of capacity, with an appropriate modern equivalent asset.
<b>Deferred maintenance</b>	The shortfall in rehabilitation work required to maintain the service potential of an asset.
<b>Demand management</b>	The active intervention in the market to influence demand for services and assets with forecast consequences, usually to avoid or defer CAPEX expenditure. Demand management is based on the notion that as needs are satisfied expectations rise automatically and almost every action taken to satisfy demand will stimulate further demand.
<b>Depreciated replacement cost (DRC)</b>	The replacement cost of an existing asset after deducting an allowance for wear or consumption to reflect the remaining economic life of the existing asset.
<b>Depreciation</b>	The wearing out, consumption or other loss of value of an asset whether arising from use, passing of time or obsolescence through technological and market changes. It is accounted for by the allocation of the historical cost (or revalued amount) of the asset less its residual value over its useful life.
<b>Disposal</b>	Activities necessary to dispose of decommissioned assets.
<b>dTIMS</b>	Deighton Total Infrastructure Management System is an off-the-shelf software application which has been designed for multi-year programming of road rehabilitation works. It primarily enables a user to find the optimal set of maintenance strategies to apply to a network under a given set of constraints, usually cost.
<b>Economic life</b>	The period from the acquisition of the asset to the time when the asset, while physically able to provide a service, ceases to be the lowest cost alternative to satisfy a particular level of service. The economic life is at the maximum when equal to the physical life however obsolescence will often ensure that the economic life is less than the physical life.
<b>Geographic information system (GIS)</b>	Software which provides a means of spatially viewing, searching, manipulating, and analysing an electronic data-base.
<b>Infrastructure assets</b>	Stationary systems forming a network and serving whole communities, where the system as a whole is intended to be maintained indefinitely at a particular level of service potential by the continuing replacement and refurbishment of its components. The network may include normally recognised 'ordinary' assets as components.
<b>Level of service</b>	The defined service quality for a particular activity (i.e. roading) or service area (i.e. street-lighting) against which service performance may be measured. Service levels usually relate to quality, quantity, reliability, responsiveness, environmental acceptability and cost.
<b>NZTA</b>	New Zealand Transport Agency. The government agency responsible for funding roading and transportation works. Previously Land Transport New Zealand and formally Transfund New Zealand and Land Transport

	Safety Authority.
<b>Life</b>	A measure of the anticipated life of an asset or component; such as time, number of cycles, distance intervals etc.
<b>Life cycle</b>	Life cycle has two meanings:
	(a) The cycle of activities that an asset (or facility) goes through while it retains an identity as a particular asset i.e. from planning and design to decommissioning or disposal.
	(b) The period of time between a selected date and the last year over which the criteria (e.g. costs) relating to a decision or alternative under study will be assessed.
<b>Life cycle cost</b>	The total cost of an asset throughout its life including planning, design, construction, acquisition, operation, maintenance, rehabilitation and disposal costs.
<b>Maintenance</b>	All actions necessary for retaining an asset as near as practicable to its original condition, but excluding rehabilitation or renewal.
<b>Maintenance plan</b>	Collated information, policies and procedures for the optimum maintenance of an asset, or group of assets.
<b>Maintenance standards</b>	The standards set for the maintenance service, usually contained in preventive maintenance schedules, operation and maintenance manuals, codes of practice, estimating criteria, statutory regulations and mandatory requirements, in accordance with maintenance quality objectives.
<b>Net present value (NPV)</b>	The value of an asset to the organisation, derived from the continued use and subsequent disposal in present monetary values. It is the net amount of discounted total cash inflows arising from the continued use and subsequent disposal of the asset after deducting the value of the discounted total cash outflows.
<b>NIMT</b>	North Island Main Trunk rail line
<b>Objective</b>	An objective is a general statement of intention relating to a specific output or activity. They are longer term aims and are not necessarily outcomes that managers can control.
<b>Operation</b>	The active process of utilising an asset which will consume resources such as manpower, energy, chemicals and materials. Operation costs are part of an assets life cycle costs.
<b>Optimised renewal decision making (ORDM)</b>	An optimisation process for considering and prioritising all options to rectify performance failures of assets. The process encompasses NPV analysis and risk assessment.
<b>Performance indicator (PI)</b>	A qualitative or quantitative measure of a service or activity used to compare actual performance against a standard or other target. Performance indicators commonly relate to statutory limits, safety, responsiveness, cost, comfort, asset performance, reliability, efficiency, environmental protection and customer satisfaction.
<b>Performance monitoring</b>	Continuous or periodic quantitative and qualitative assessments of the actual performance compared with specific objectives, targets or standards.
<b>Planned maintenance</b>	Planned maintenance activities fall into 3 categories :
	(a) Periodic - necessary to ensure the reliability or sustain the design life of an asset.
	(b) Predictive – condition monitoring activities used to predict failure.
	(c) Preventive - maintenance that can be initiated without routine or continuous checking (e.g.
	using information contained in maintenance manuals or manufacturers' recommendations) and is not condition-based.
<b>RAMM</b>	Road Assessment and Maintenance Management System; Roading AMS, developed as an asset inventory and treatment selection tool.

<b>Rehabilitation</b>	Works to rebuild or replace parts or components of an asset, to restore it to a required functional condition and extend its life, which may incorporate some modification. Generally involves repairing the asset using available techniques and standards to deliver its original level of service (i.e. heavy patching of roads, slip-lining of sewer mains, etc.) without resorting to significant upgrading or replacement.
<b>Renewal</b>	Works to upgrade, refurbish, rehabilitate or replace existing facilities with facilities of equivalent capacity or performance capability.
<b>Repair</b>	Action to restore an item to its previous condition after failure or damage.
<b>Replacement</b>	The complete replacement of an asset that has reached the end of its life, so as to provide a similar or agreed alternative, level of service.
<b>Remaining economic life</b>	The time remaining until an asset ceases to provide service level or economic usefulness.
<b>Risk cost</b>	The assessed annual cost or benefit relating to the consequence of an event. Risk cost equals the costs relating to the event multiplied by the probability of the event occurring.
<b>Risk management</b>	The application of a formal process to the range of possible values relating to key factors associated with a risk in order to determine the resultant ranges of outcomes and their probability of occurrence.
<b>Routine maintenance</b>	Day to day operational activities to keep the asset operating (replacement of light bulbs, cleaning of drains, repairing leaks, etc.) and which form part of the annual operating budget, including preventative maintenance.
<b>Service potential</b>	The total future service capacity of an asset. It is normally determined by reference to the operating capacity and economic life of an asset.
<b>Strategic plan</b>	Strategic planning involves making decisions about the long term goals and strategies of an organisation. Strategic plans have a strong external focus, cover major portions of the organization and identify major targets, actions and resource allocations relating to the long term survival, value and growth of the organisation.
<b>Unplanned maintenance</b>	Corrective work required in the short term to restore an asset to working condition so it can continue to deliver the required service or to maintain its level of security and integrity.
<b>Traffic volume</b>	The number of vehicles flowing in both directions past a particular part in a given time (for example, vehicles per hour or vehicles per day).
<b>Upgrading</b>	The replacement of an asset or addition/ replacement of an asset component which materially improves the original service potential of the asset.
<b>Valuation</b>	Estimated asset value which may depend on the purpose for which the valuation is required, i.e. replacement value for determining maintenance levels or market value for life cycle costing.

# Appendix B Extract from Schedule 10 Part 1, Local Government Act 2002 - Information to be Included in Long Term Plans

## 1. Community outcomes

- A long-term plan must, to the extent determined appropriate by the local authority, describe the community outcomes for the local authority's district or region.

## 2. Groups of activities

- (1) A long-term plan must, in relation to each group of activities of the local authority,—
  - (a) identify the activities within the group of activities:
  - (b) identify the rationale for delivery of the group of activities (including the community outcomes to which the group of activities primarily contributes):
  - (c) outline any significant negative effects that any activity within the group of activities may have on the local community:
  - (d) include the information specified in [clauses 4](#) and [5](#)—
    - (i) in detail in relation to each of the first 3 financial years covered by the plan; and
    - (ii) in outline in relation to each of the subsequent financial years covered by the plan.

(2) In this schedule, each of the following activities is a group of activities:

- (a) water supply:
- (b) sewerage and the treatment and disposal of sewage:
- (c) stormwater drainage:
- (d) flood protection and control works:
- (e) the provision of roads and footpaths.

(3) Despite subclause (2), a local authority may treat any other activities as a group of activities

## 3. Capital expenditure for groups of activities

- (1) A long-term plan must, in relation to each group of activities of the local authority and for each financial year covered by the plan, include a statement of the amount of capital expenditure that the authority has budgeted to—
  - (a) meet additional demand for an activity; and
  - (b) improve the level of service; and
  - (c) replace existing assets.

(2) For the purpose of this clause, capital expenditure budgeted for 2 or all of the purposes in subclause (1) may be treated as if it were made solely in relation to the primary purpose of the expenditure.

## 4. Statement of service provision

- A long-term plan must, in relation to each group of activities of the local authority, include a statement of the intended levels of service provision that specifies—
  - (a) any performance measures specified in a rule made under [section 261B](#) for a group of activities described in [clause 2\(2\)](#); and

- (b) the performance measures that the local authority considers will enable the public to assess the level of service for major aspects of groups of activities for which performance measures have not been specified under paragraph (a); and
- (c) the performance target or targets set by the local authority for each performance measure; and
- (d) any intended changes to the level of service that was provided in the year before the first year covered by the plan and the reasons for the changes; and
- (e) the reason for any material change to the cost of a service.

#### **5. Funding impact statement for groups of activities**

- (1) A long-term plan must, in relation to each year covered by the plan, include a funding impact statement in relation to each group of activities of the local authority.
- (2) The funding impact statement must be in the prescribed form and must identify—
  - (a) the sources of funding to be used by the local authority; and
  - (b) the amount of funds expected to be produced from each source; and
  - (c) how the funds are to be applied.

#### **6. Variation between territorial authority's long-term plan and assessment of water and sanitary services and waste management plans**

- A long-term plan for a territorial authority must identify and explain any significant variation between the proposals outlined in the long-term plan and the territorial authority's—
  - (a) assessment of water and other sanitary services under [section 125](#);
  - (b) waste management and minimisation plans adopted under [section 43](#) of the Waste Minimisation Act 2008

#### **7. Council-controlled organisations**

- A long-term plan must, in relation to each council-controlled organisation,—
  - (a) name the council-controlled organisation and any subsidiary of the council-controlled organisation; and
  - (b) identify—
    - (i) the local authority's significant policies and objectives in relation to ownership and control of the organisation; and
    - (ii) the nature and scope of the activities to be provided by the council-controlled organisation; and
    - (iii) the key performance targets and other measures by which performance is to be judged.

#### **8. Development of Māori capacity to contribute to decision-making processes**

- A long-term plan must set out any steps that the local authority intends to take, having undertaken the consideration required by [section 81\(1\)\(b\)](#), to foster the development of Māori capacity to contribute to the decision-making processes of the local authority over the period covered by that plan.

#### **9. Financial strategy and infrastructure strategy**

- A long-term plan must include a local authority's financial strategy described under [section 101A](#) and infrastructure strategy described under [section 101B](#).

#### **10. Revenue and financing policy**

- A long-term plan must include a local authority's revenue and financing policy already adopted under [section 102\(1\)](#).

#### **11. Significance and engagement policy**

- A long-term plan must contain—
  - (a) a summary (or other description) of the local authority's significance and engagement policy under [section 76AA](#); and
  - (b) a reference to where the full policy can be found, which may be done by providing a link to the relevant document on an Internet site maintained by or on behalf of the local authority.

#### **12. Forecast financial statements**

- (1) A long-term plan must include, for each of the financial years covered by the plan, forecast financial statements for the local authority.
- (2) A long-term plan may include, for each of the financial years covered by the plan, or for any of those years, forecast financial statements for any council-controlled organisation or any other entity under the local authority's control.

#### **13. Financial statements for previous year**

- (1) A long-term plan must include the numerical information from the forecast financial statements referred to in [clause 12\(1\)](#) that were prepared for the financial year that is the year before the first year covered by the plan.
- (2) The numerical information must be presented in a way that allows the public to compare the information with the numerical information contained in the forecast financial statements for each of the financial years covered by the plan.

#### **14. Statement concerning balancing of budget**

- If the local authority has resolved, under [section 100\(2\)](#), not to balance its operating budget in any year covered by the long-term plan, the plan must include—
  - (a) a statement of the reasons for the resolution and any other matters taken into account; and
  - (b) a statement of the implications of the decision.

#### **15. Funding impact statement**

- (1) A long-term plan must include a funding impact statement in relation to each year covered by the plan.
- (2) The funding impact statement must be in the prescribed form and must identify—
  - (a) the sources of funding to be used by the local authority; and
  - (b) the amount of funds expected to be produced from each source; and
  - (c) how the funds are to be applied.
- (3) If the sources of funding include a general rate, the funding impact statement must—
  - (a) include particulars of the valuation system on which the general rate is to be assessed; and
  - (b) state whether a uniform annual general charge is to be included and, if so,—
    - (i) how the charge is to be calculated; and
    - (ii) the local authority's definition of a separately used or inhabited part of a rating unit, if the charge is to be calculated on that basis; and
  - (c) state whether the general rate is to be set differentially and, if so,—
    - (i) the categories of rateable land, within the meaning of [section 14](#) of the Local Government (Rating) Act 2002, to be used; and



- (ii) the objectives of the differential rate, in terms of the total revenue sought from each category of rateable land or the relationship between the rates set on rateable land in each category.
- (4) If the sources of funding include a targeted rate, the funding impact statement must—
- (a) specify the activities or groups of activities for which the targeted rate is to be set; and
  - (b) include particulars of the category, or categories, of rateable land, within the meaning of [section 17](#) of the Local Government (Rating) Act 2002, to be used; and
  - (c) for each category, state—
    - (i) how liability for the targeted rate is to be calculated; and
    - (ii) the local authority's definition of a separately used or inhabited part of a rating unit, if the rate is to be calculated on that basis; and
  - (d) if the targeted rate is set differentially, state the total revenue sought from each category of rateable land or the relationship between the rates set on rateable land in each category; and
  - (e) state whether lump sum contributions will be invited in respect of the targeted rate.
- (5) If the sources of funding include a general rate or a targeted rate, the funding impact statement must, for the first year covered by the long-term plan, include examples of the impact of the rating proposals in subclauses (3) and (4) on the rates assessed on different categories of rateable land with a range of property values.
- (6) If the same source of funding is to be used in more than 1 of the years covered by the long-term plan, in order to comply with subclauses (2)(a), (3), and (4) with respect to that source, it is sufficient—
- (a) to comply with those subclauses in relation to 1 of those years; and
  - (b) for the funding impact statement to specify the other years in respect of which that source is to be used.

## 16. Rating base information

- A long-term plan must state, for each year covered by the plan, the projected number of rating units within the district or region of the local authority at the end of the preceding financial year.

## 17. Reserve funds

- A long-term plan must identify each reserve fund set aside by the local authority and, in relation to each fund, specify—
  - (a) the purpose of the fund; and
  - (b) the activities to which the fund relates; and
  - (c) the amount expected to be in the fund at—
    - (i) the commencement of the first year to which the long-term plan relates; and
    - (ii) the end of the last year to which the long-term plan relates; and
  - (d) the amount expected to be deposited in the fund in the period to which the long-term plan relates; and
  - (e) the amount expected to be withdrawn from the fund in the period to which the long-term plan relates.

## 18. Significant forecasting assumptions

- A long-term plan must clearly identify—



- (a) all the significant forecasting assumptions and risks underlying the financial estimates:
- (b) without limiting the generality of paragraph (a), the following assumptions on which the financial estimates are based:
  - (i) the assumptions of the local authority concerning the life cycle of significant assets; and
  - (ii) the assumptions of the local authority concerning sources of funds for the future replacement of significant assets:
- (c) in any case where significant forecasting assumptions involve a high level of uncertainty,—
  - (i) the fact of that uncertainty; and
  - (ii) an estimate of the potential effects of that uncertainty on the financial estimates provided.

**19. Additional information to be included in long-term plan for unitary authority with local boards**

- In the case of a unitary authority for a district that includes 1 or more local board areas, a long-term plan must also—
  - (a) identify the non-regulatory activities of the unitary authority for which decision-making responsibility is allocated to 1 or more local boards under [section 48L](#) or under [section 17](#) of the Local Government (Auckland Council) Act 2009:
  - (b) group the activities to which paragraph (a) relates separately from any other activity or group of activities of the unitary authority (there may be 1 or more groups, but each group of activities specified in [clause 2\(2\)](#) must be separately identified):
  - (c) include the estimated local board funding allocation for each local board for each year to which the long-term plan relates:
  - (d) include the local board agreement for each local board area for the first year to which the long-term plan relates.

## Appendix C Extract from Local Government Act 2002 – 101B Infrastructure Strategy

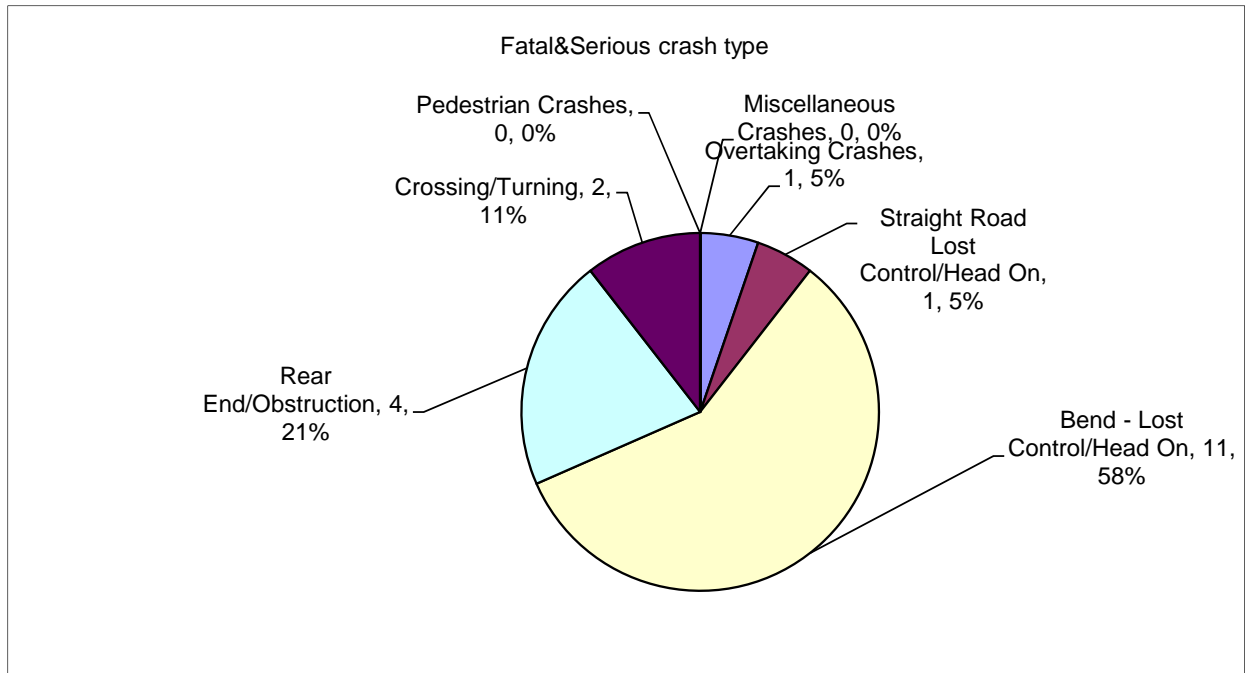
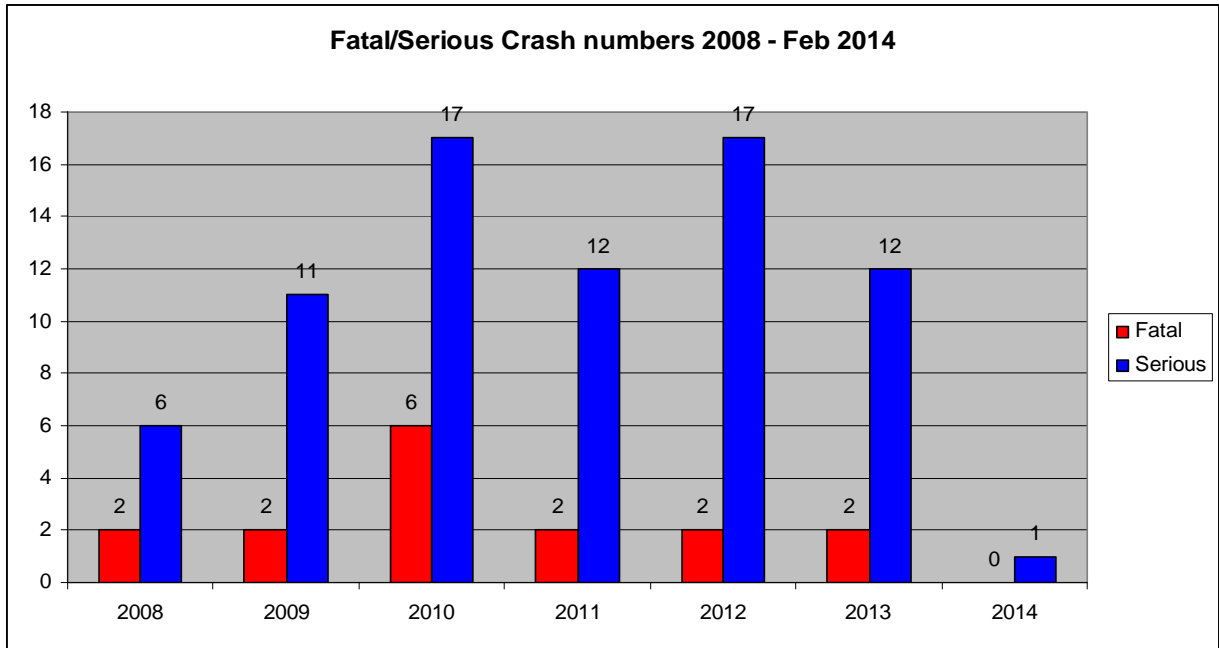
- A local authority must, as part of its long-term plan, prepare and adopt an infrastructure strategy for a period of at least 30 consecutive financial years.
  - (2) The purpose of the infrastructure strategy is to—
    - (a) identify significant infrastructure issues for the local authority over the period covered by the strategy; and
    - (b) identify the principal options for managing those issues and the implications of those options.
  - (3) The infrastructure strategy must outline how the local authority intends to manage its infrastructure assets, taking into account the need to—
    - (a) renew or replace existing assets; and
    - (b) respond to growth or decline in the demand for services reliant on those assets; and
    - (c) allow for planned increases or decreases in levels of service provided through those assets; and
    - (d) maintain or improve public health and environmental outcomes or mitigate adverse effects on them; and
    - (e) provide for the resilience of infrastructure assets by identifying and managing risks relating to natural hazards and by making appropriate financial provision for those risks.
  - (4) The infrastructure strategy must outline the most likely scenario for the management of the local authority's infrastructure assets over the period of the strategy and, in that context, must—
    - (a) show indicative estimates of the projected capital and operating expenditure associated with the management of those assets—
      - (i) in each of the first 10 years covered by the strategy; and
      - (ii) in each subsequent period of 5 years covered by the strategy; and
    - (b) identify—
      - (i) the significant decisions about capital expenditure the local authority expects it will be required to make; and
      - (ii) when the local authority expects those decisions will be required; and
      - (iii) for each decision, the principal options the local authority expects to have to consider; and
      - (iv) the approximate scale or extent of the costs associated with each decision; and
    - (c) include the following assumptions on which the scenario is based:
      - (i) the assumptions of the local authority about the life cycle of significant infrastructure assets;
      - (ii) the assumptions of the local authority about growth or decline in the demand for relevant services;
      - (iii) the assumptions of the local authority about increases or decreases in relevant levels of service; and
    - (d) if assumptions referred to in paragraph (c) involve a high level of uncertainty,—
      - (i) identify the nature of that uncertainty; and
      - (ii) include an outline of the potential effects of that uncertainty.
  - (5) A local authority may meet the requirements of [section 101A](#) and this section by adopting a single financial and infrastructure strategy document as part of its long-term plan.
  - (6) In this section, **infrastructure assets** includes—
    - (a) existing or proposed assets to be used to provide services by or on behalf of the local authority in relation to the following groups of activities:

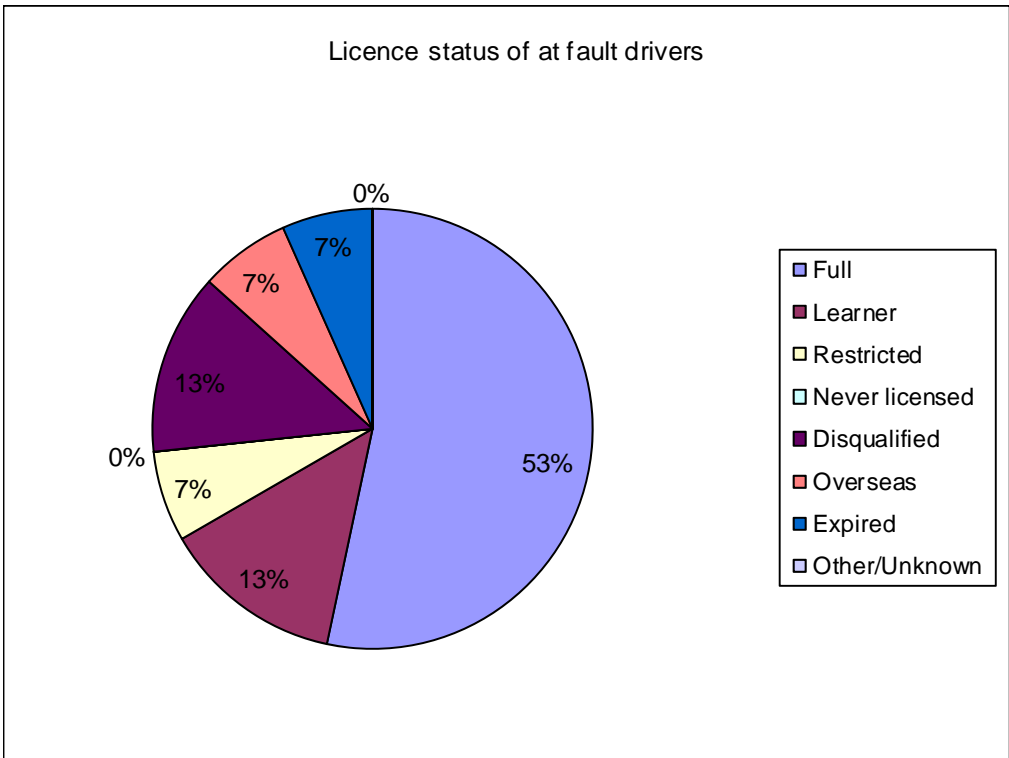
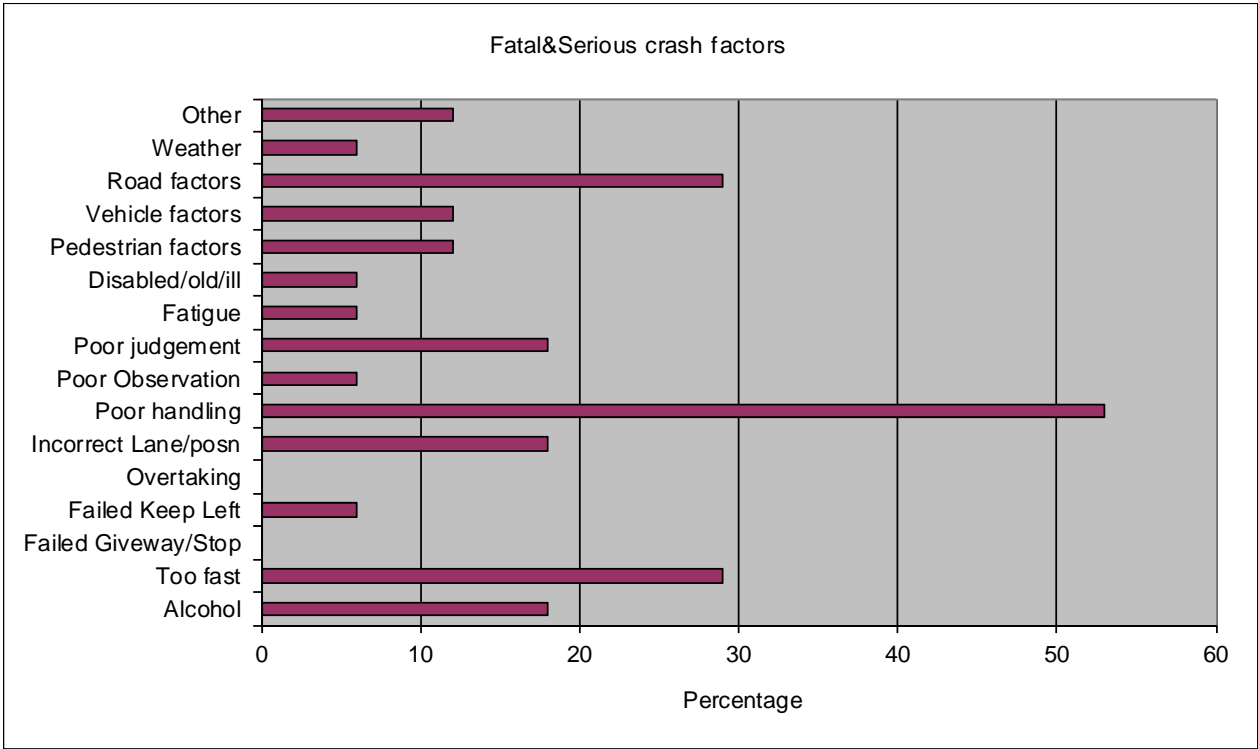
- (i) water supply:
- (ii) sewerage and the treatment and disposal of sewage:
- (iii) stormwater drainage:
- (iv) flood protection and control works:
- (v) the provision of roads and footpaths; and
- (b) any other assets that the local authority, in its discretion, wishes to include in the strategy.

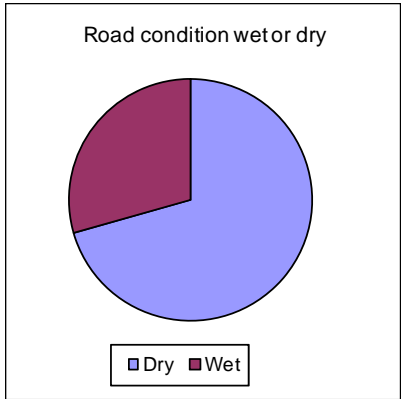
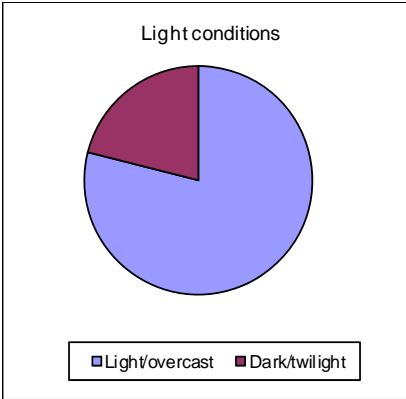
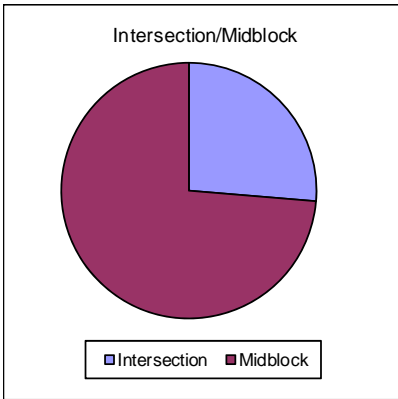
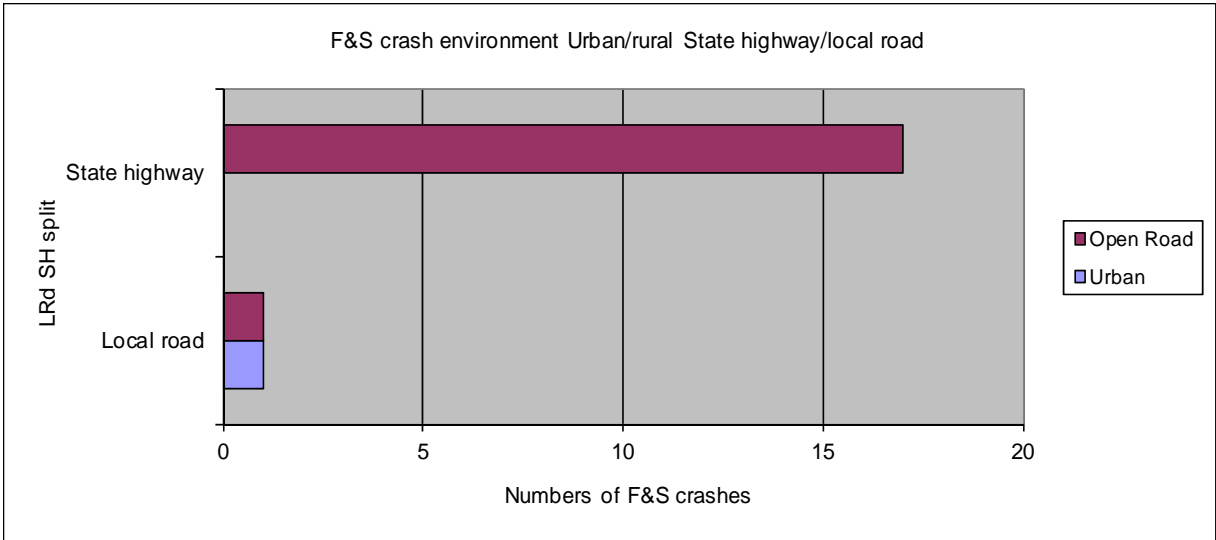
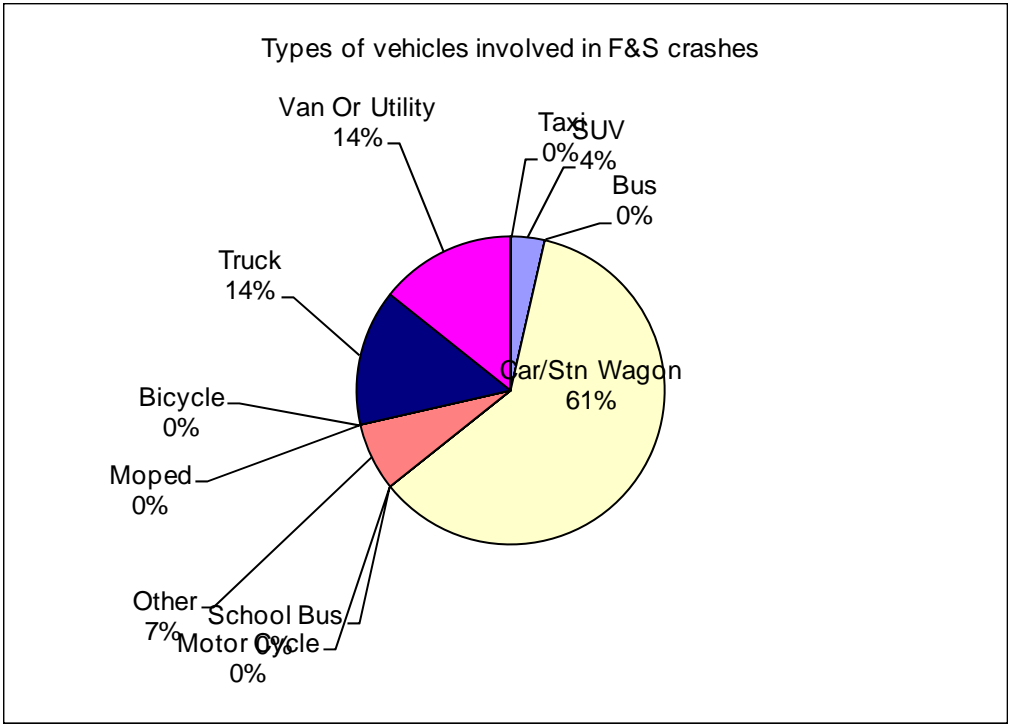
Section 101B: inserted, on 8 August 2014, by [section 36](#) of the Local Government Act 2002 Amendment Act 2014 (2014 No 55).

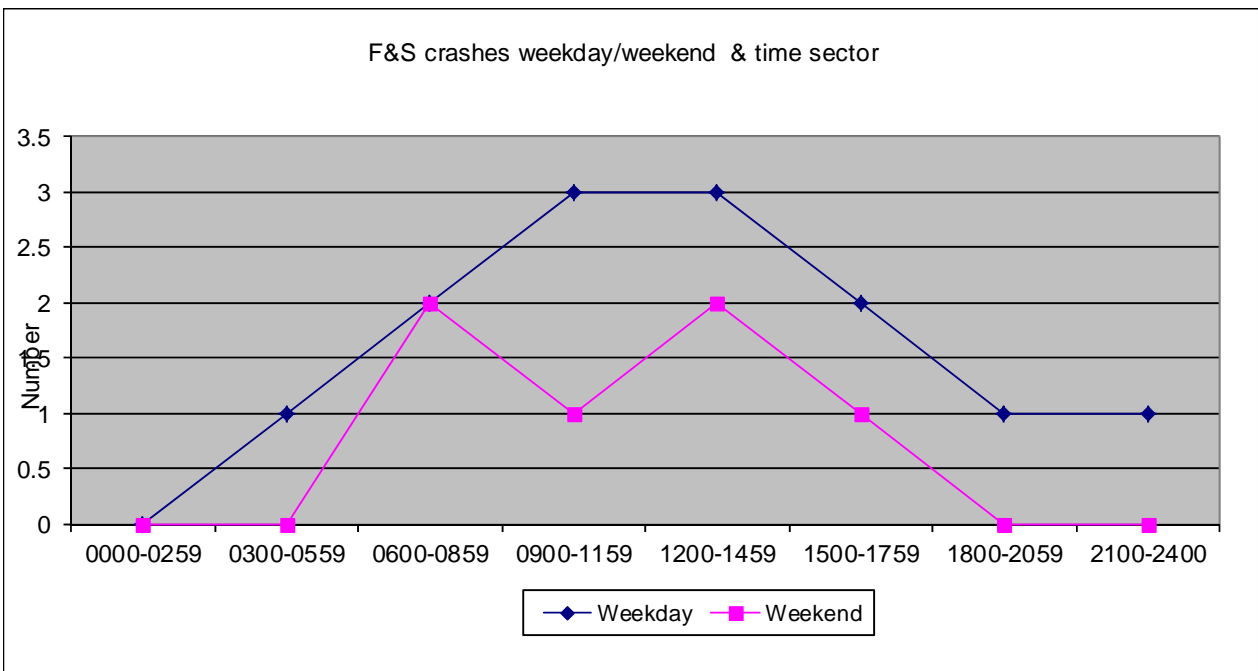
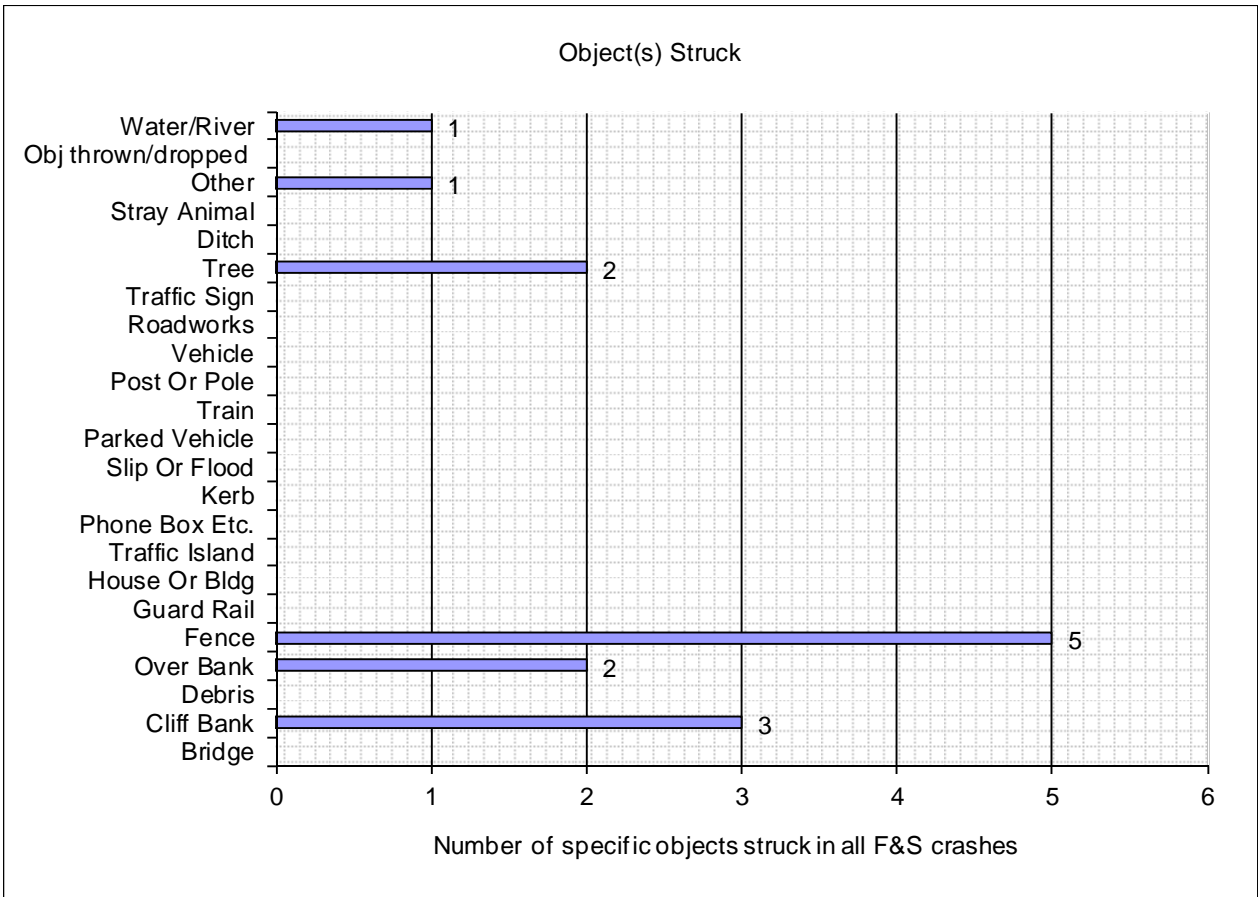
# Appendix D Road fatalities in the Waitomo District

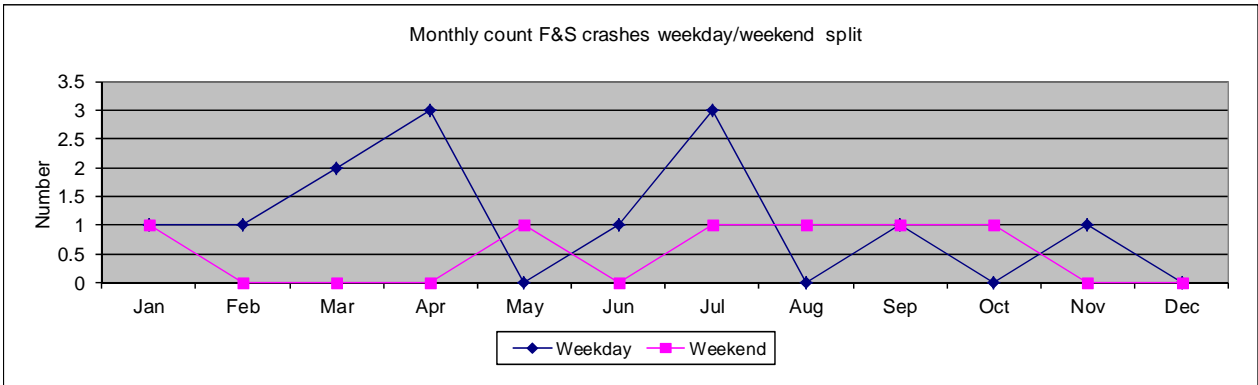
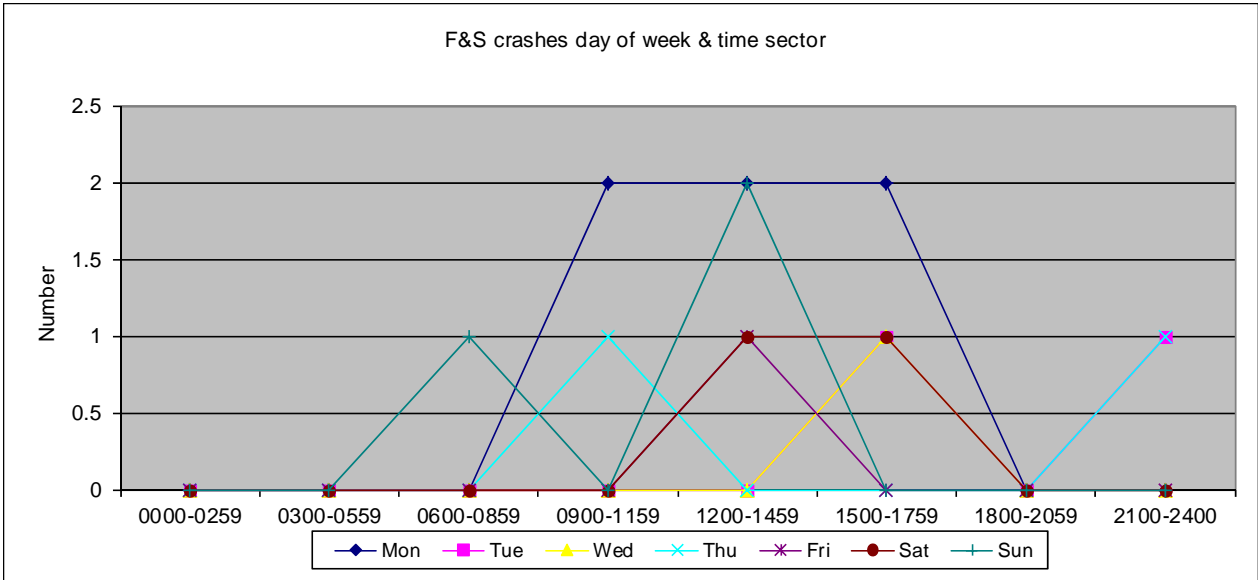
Data from Waitomo District Road Safety Report produced by NZTA Crash Analysis System up to February 2014.













## Appendix E Risk Calculation Tables

PE	Description
0	Impossible - cannot happen under any circumstances
1	Unlikely - though conceivable
2	Possible - but unusual
5	Even Chance - could happen
8	Probable - not surprised
10	Likely - only to be expected
15	Certain - no doubt

**Table: Probability of Exposure to Contact with Hazard (PE)**

FE	Description
0-1	Infrequently
0-2	Annually
0-5	2-3 Times/Year
1-0	Monthly
1-5	Weekly
2-5	Daily
4	Hourly
5	Constantly

**Table: Frequency of Exposure to Hazard (FE)**

MPL	Description
30	Accident pedestrian
30	Delay 9 to 24 hours
30	Accident WDC "or agents" negligence
20	Accident WDC "or agents" liability
10	Accident Driver Error or Delay 3 to 9 hours
100	Delay over 24 hours
3	Delay/ Detour 1 to 3 hours
1.0	Delay/ Detour 20 minutes to 1 hour
0.3	Delay/ Detour 6 to 20 minutes
0.1	Delay/ Detour 2 to 6 minutes
0	Delay/ Detour less than 2 minutes

**Table: Maximum Probable Loss (MPL) for Road Users**

or

MPL	Description
100	Cost over \$1,000,000
30	Cost \$350,000 to \$1,000,000
10	Cost \$100,000 to \$350,000
3	Cost \$35,000 to \$100,000
1.0	Cost \$10,000 to \$35,000
0.3	Cost \$3,500 to \$10,000
0.1	Cost \$1,000 to \$3,500
0.03	Cost \$300 to \$1,000
0	Cost less than \$300

**Table: Maximum Probable Loss (MPL) for Council**

NP	Description
1	Less than 20 vehicles per day
2.5	20 to 50 vpd
6	50 to 125 vpd
15	125 to 300 vpd
35	300 to 750 vpd
100	750 to 2000 vpd

**Table: Amount of Traffic at Risk (NP)**

The four factors established from Tables 1 – 4 are then used in the formula below:

**Hazard Rating Number (HRN) = PE x FE x MPL x NP**

The HRN is then compared with the figures in the table below.

HRN	Level of Risk
0 -1	Acceptable Risk
2-5	Very Low Risk
6 -10	Low Risk
11- 50	Significant Risk
51-100	High Risk
101- 500	Very High Risk
501-1000	Extreme Risk
1001+	Unacceptable

**Table: Hazard Rating Number (HRN)**

## Appendix F Waitomo District Council Risk Assessment

Hazard MAIN ROADS	Risk	PE	FE	MPL	NP	HRN	Hazard Rating	Existing Control	Further Control Required	Comments
SH Bypass to 20 min	Damage	5	0.2	3	100	300	Very High	Costs Recovered	WDC to identify damage	
SH Bypass to 1 hour	Damage	2	0.2	3	100	120	Very High	Costs Recovered	WDC to identify damage	
SH Bypass to 3 hours	Damage	2	0.1	10	100	200	Very High	Costs Recovered	WDC to identify damage	
SH Bypass to 9 hours	Damage	1	0.1	10	100	100	High	Costs Recovered	WDC to identify damage	
Te Anga (To Tumutumu)	Closure	2	0.1	3	100	60	High	Inspect Weekly	Control water at underslip sites	Slips
Kopaki (West)	Closure	2	0.1	3	15	9	Low	Inspect Weekly		
Kopaki (East)	Closure	2	0.1	1	35	7	Low	Inspect Weekly	Control water at underslip sites	Slips
Pukerimu	Closure	5	0.1	10	15	75	High	Inspect Weekly		
Carroll	Closure	5	0.2	0.3	100	30	Significant			
Te Anga (past Tumutumu)	Closure	5	0.1	10	35	175	Very High	Inspect Weekly	Geological Report?	Bluff
Taharoa (to Te Waitere)	Closure	2	0.1	3	15	9	Low	Inspect Weekly		
Te Waitere	Closure	2	0.1	3	15	9	Low	Inspect Weekly		
Harbour	Closure	2	0.1	3	15	9	Low	Inspect Weekly		
Marokopa	Closure	5	0.2	10	15	45	Very High	Inspect Weekly	Control water at underslip sites	Slips / Flooding
Mangatoa	Closure	5	0.2	10	15	45	Very High	Inspect Weekly	Control water at underslip sites	Slips / Flooding
Manganui	Closure	5	0.1	10	15	22.5	High	Inspect Weekly	Control water at underslip sites	Slips / Flooding
Aria	Closure	2	0.1	1	35	2.1	Low	Inspect Weekly		
Oparure (to McDonalds)	Closure	1	0.2	3	100	60	High	Inspect Weekly	Control water at underslip sites	
Oparure (past McDonalds)	Closure	2	0.1	10	35	70	High	Inspect Weekly	Control water at underslip sites	Slips
Mairoa	Closure	2	0.1	10	15	30	Significant	Inspect Weekly		
Troopers	Closure	2	0.1	3	15	9	Low	Inspect Weekly		
Ngapaenga	Closure	2	0.1	10	6	12	Significant	Inspect Weekly		
Mangaotaki	Closure	2	0.1	10	6	12	Significant	Inspect Weekly		
Kahuwera	Closure	2	0.1	1	6	1.2	Acceptable	Inspect Weekly		

<b>Hazard MAIN ROADS</b>	<b>Risk</b>	<b>PE</b>	<b>FE</b>	<b>MPL</b>	<b>NP</b>	<b>HRN</b>	<b>Hazard Rating</b>	<b>Existing Control</b>	<b>Further Control Required</b>	<b>Comments</b>
Ohura	Closure	5	0.1	10	6	30	Significant	Inspect Weekly		
Kaitaringa	Closure	2	0.1	3	15	9	Low	Inspect Weekly		
Waitahi	Closure	5	0.1	10	6	30	Significant	Inspect Weekly		
Mokauiti	Closure	2	0.1	3	6	3.6	Very Low	Inspect Weekly		
Ramaroa	Closure	2	0.1	3	6	3.6	Very Low	Inspect Weekly		
Mangaokewa	Closure	2	0.1	3	6	3.6	Very Low	Inspect Weekly		
Rangitoto (to Tate Rd)	Closure	2	0.1	10	35	70	High	Inspect Weekly	Control water at underslip sites	Slips
Rangitoto (past Tate Rd)	Closure	2	0.1	3	15	9	Low	Inspect Weekly		
Waitomo Valley	Closure	2	0.1	3	35	21	Significant	Inspect Weekly		
Taharoa (past Te Waitere)	Closure	2	0.1	10	15	30	Significant	Inspect Weekly		

<b>Hazard OTHER ROADS</b>	<b>Risk</b>	<b>PE</b>	<b>FE</b>	<b>MPL</b>	<b>NP</b>	<b>HRN</b>	<b>Hazard Rating</b>	<b>Existing Control</b>	<b>Further Control Required</b>	<b>Comments</b>
No Exit Roads	Closure	2	0.1	3	2.5	1.5	Acceptable	Inspect Weekly	Forward Programme	
No Exit Bridges	Closure	2	0.1	30	2.5	15	Significant	Inspect Weekly	Annual Formal Report	
Local Roads	Closure	2	0.1	3	6	3.6	Very Low	Inspect Weekly	Forward Programme	
Local Roads Bridges	Closure	2	0.1	30	6	36	Significant	Inspect Weekly	Annual Formal Report	
Te Kuiti Town Roads	Closure	2	0.1	1	35	7	Low	Inspect Weekly	Forward Programme	
Te Kuiti Town Bridges	Closure	2	0.1	30	15	210	Very High	Inspect Weekly	Annual Formal Report	

<b>Hazard Council Action / Inaction</b>	<b>Risk</b>	<b>PE</b>	<b>FE</b>	<b>MPL</b>	<b>NP</b>	<b>HRN</b>	<b>Hazard Rating</b>	<b>Existing Control</b>	<b>Further Control Required</b>	<b>Comments</b>
Substandard Regulatory Signs (Temporary)	Accident	8	0.1	0.3	6	1.44	Acceptable	Maintenance Contract	Audit	
Substandard Regulatory Signs (Temporary)	Accident	8	0.1	3	6	14.4	Significant	Maintenance Contract	Forward Programme	
Roadmarking Poor	Accident	8	0.1	3	6	14.4	Significant	Annual Programme		
Roadmarking Inconsistent	Accident	5	0.5	0.3	6	4.5	Very Low	MOTSAM	Inspection	
Authorised Overweight Damage	Closure	5	0.1	30	6	90	High	Qualified Staff	Training	
Unauthorised Overweight Damage	Closure	5	0.1	30	6	90	High	Nil		
Rough Road	Accident	2	0.5	30	6	180	Very High	Forward Programme		
Very Rough Road	Accident	2	0.5	10	6	60	High	Maintenance Contract		
High SCRIM	Accident	8	0.5	30	6	720	Extreme	Forward Programme		
Very High SCRIM	Accident	8	0.5	10	6	240	Very High	Maintenance Contract		
Poor Geometrics	Accident	8	0.5	0.1	6	2.4	Very Low	Forward Programme		
Inconsistent Geometrics	Accident	5	0.2	10	6	300	High	Experienced Staff		
Street Lighting poor	Accident	5	0.2	3	100	300	Very High	Maintenance Contract	Audit	
Street Light Fails	Accident	5	0.2	0.3	100	30	Significant	Maintenance Contract	Audit	
Poor Maintenance	Accident	10	0.5	10	6	300	Very High	Maintenance Contract	Audit	

Hazard LEGISLATION	Risk	PE	FE	MPL	NP	HRN	Hazard Rating	Existing Control	Further Control Required	Comments
Increased max weights	Pavements	5	0.2	30	5	150	Very High	Monitor Legislation	Collective LG Lobbying	
Increased max weights	Bridges	5	0.2	100	5	500	Very High	Monitor Legislation	Collective LG Lobbying	
Increased Vehicle Size	Pavements	5	0.2	30	5	150	Very High	Monitor Legislation	Collective LG Lobbying	
Increased Vehicle Size	Bridges	5	0.2	30	5	150	Very High	Monitor Legislation	Collective LG Lobbying	
Changes to road funding	Money	2	0.2	100	5	200	Very High	Monitor Legislation	Collective LG Lobbying	
Change in Subsidy Rates	Money	2	0.2	100	5	200	Very High	NZTA		
Amended Sign Standards	New Signs	2	0.2	30	5	60	High	Monitor Legislation	Collective LG Lobbying	
Amended Legislation	Money	5	0.2	30	5	150	Very High	Monitor Legislation	Collective LG Lobbying	

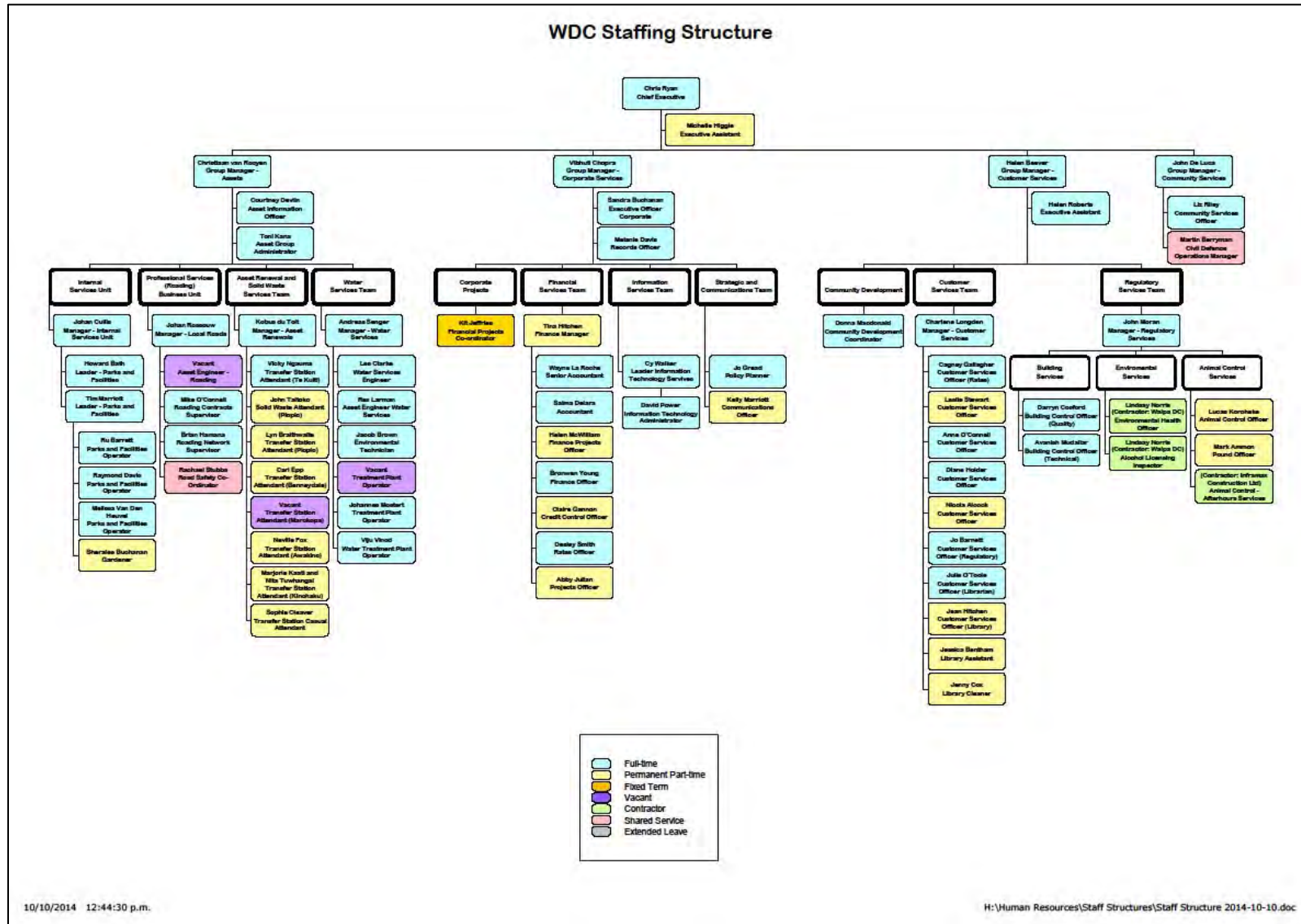
Hazard Work Failures	Risk	PE	FE	MPL	NP	HRN	Hazard Rating	Existing Control	Further Control Required	Comments
Reseal 10% Failure	Premature Failure	5	0.2	10	5	50	Significant	Contract Maintenance period (12 months)	Complete Reseals by end of March	
Capital works 5% Failure	Premature Failure	5	0.2	10	5	50	Significant	Contract Maintenance period (12 months)	Complete sealing by end of March	
Seal Life reduced by 1 yr	Premature Failure	5	0.2	100	5	500	Very High	Weekly Inspection	Crack Sealing & Drainage	
Pavement Life reduced by 1 yr	Premature Failure	5	0.2	100	5	500	Very High	Weekly Inspection	Crack Sealing & Drainage	
Maintenance Repair Fails	Redo Work	2	1	0	5	0	Acceptable	Weekly Inspection	QA Procedures	
Maintenance repair not programmed	Larger Repairs	5	1	10	5	250	Very High	Monthly Programme	Audit Programme	
Cyclic maintenance failure 10%	Redo work	2	1	0	5	180	Acceptable	Inspection		

Hazard Terrain	Risk	PE	FE	MPL	NP	HRN	Hazard Rating	Existing Control	Further Control Required	Comments
Flat	Underslip	2	0.1	1	5	1	Acceptable	Weekly Inspection		
Flat Floodprone	Underslip	8	0.2	3	5	24	Significant	Weekly Inspection	Symptom Detection	
Undulating	Underslip	2	0.2	1	5	2	Very Low	Weekly Inspection		
Hilly	Underslip	2	0.2	3	5	6	Low	Weekly Inspection		
Mountainous	Underslip	5	1	10	5	250	Very High	Weekly Inspection	Symptom Detection	
Gorge alignment	Underslip	8	1	10	5	400	Very High	Weekly Inspection	Symptom Detection	

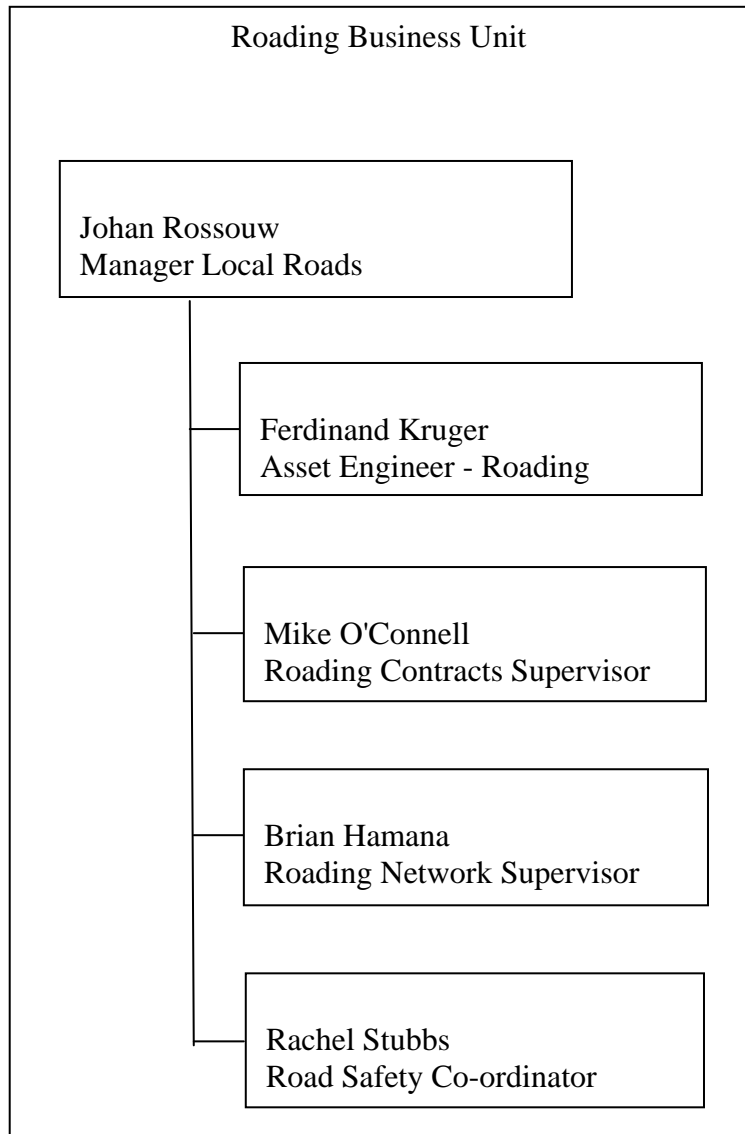
Hazard Programming	Risk	PE	FE	MPL	NP	HRN	Hazard Rating	Existing Control	Further Control Required	Comments
Capital Projects	No / Late Projects	1	0.2	100	5	100	High	Annual Programme	Timetable	
Reseal	No / Late	2	0.2	100	5	200	Very High	Annual Programme	Timetable	
Bridge Maintenance	Closure	2	0.2	30	5	60	High	Annual Programme	Timetable	
Culvert Maintenance	Washout	5	1	3	5	75	High	Annual Programme	Timetable	
Drain Maintenance	Washout	5	1	3	5	75	High	Annual Programme	Timetable	
Maintenance Mowing	Service Level	5	0.5	1	5	12.5	Significant	Annual Programme	Timetable	
Maintenance Weedspray	Service Level	5	0.5	1	5	12.5	Significant	Annual Programme	Timetable	

Hazard Staff Issues	Risk	PE	FE	MPL	NP	HRN	Hazard Rating	Existing Control	Further Control Required	Comments
Budget Control	Money	2	0.2	10	5	20	Significant	Monthly Reporting		
Staff Retention	Replacement	5	0.2	3	5	15	Significant	Annual Appraisal		
Staff Technical Training	Reduced Skill Level	5	0.2	10	5	75	Significant	Annual Appraisal		
Reliance on Consultants	Cost / Ownership	5	0.2	10	5	50	Significant	Various Consultants Used		
Compliance with Procedures	NZTA Subsidy	5	1	3	5	75	High	Experienced Staff & Manuals Available	Training / Mentoring	
Street Lighting poor	Accident	5	0.2	3	100	300	Very High	Maintenance Contract	Audit	
Street Light Fails	Accident	5	0.2	0.3	100	30	Significant	Maintenance Contract	Audit	
Poor Maintenance	Accident	10	0.5	10	6	300	Very High	Maintenance Contract	Audit	

# Appendix G Council Management Structure







## Appendix H Roothing Valuation as at 1 July 2014

2014				2014			
Asset Type	Quantity in service	Unit	ORC	Asset Type	Quantity in service	Unit	ORC
Pavement Formation	7,362,550	sq m	\$103,002,273	Urban drainage	725	assets	\$1,185,503
Pavement subbase	5,004,047	sq m	\$23,391,475	Rural K&C and SWCs	897,844	Metres	\$8,807,274
Pavement base	5,004,047	sq m	\$49,507,041	Rural drainage	7,384	each	\$22,908,641
Sealed Surface	2,814,001,800	sq m	\$11,318,709	<b>Total Road Drainage</b>	<b>NA</b>		<b>\$35,271,255</b>
Metal Surface	2,209,103,400	sq m	\$7,595,778	Urban road shoulders	7,057	sq m	\$29,702
Pavement Markings	NA	Various	-	Rural road shoulders	811,474	sq m	\$2,219,823
<b>Total Pavement</b>	<b>15,031,199</b>		<b>\$194,815,276</b>	<b>Total Road Shoulders</b>	<b>618,530</b>	<b>sq m</b>	<b>\$2,249,525</b>
Bridges & Major Culverts	158	each	\$35,527,828	Guard Rails	12,556	metre	\$1,851,983
Retaining and other structures	508	each	\$8,894,098	Streetlights	798	lights	\$327,670
<b>Total Bridges &amp; Structures</b>	<b>664</b>	<b>each</b>	<b>\$44,421,924</b>	Streetlight poles	246	Poles	\$830,732
Footpaths	70,118	sq m	\$6,743,922	Streetlight brackets	798	brackets	\$363,076
Footpath Crossings	1,708	crossings	\$2,839,860	<b>Total Streetlights</b>	<b>NA</b>		<b>\$1,521,477</b>
<b>Total Footpaths</b>	<b>NA</b>		<b>\$9,583,782</b>	Traffic Facilities			-
Urban K&C and SWCs	78,884	Metres	\$4,369,837	Urban road signs	886	signs	\$170,711
				Rural road signs	13,076	signs	\$1,032,781
				<b>Total Road Signs</b>	<b>13,972</b>	<b>signs</b>	<b>\$1,203,492</b>
				Consents	11	each	\$110,000
				<b>Total Roothing</b>			<b>\$291,028,714</b>

No assets have been identified that are surplus to the needs of Waitomo District Council.

The valuations are based on appropriate replacement costs and effective lives. The information used is the best currently available to the Waitomo District Council.

We also note that this valuation has not assessed the completeness or accuracy of changes that have been made to the Council's respective asset databases as a result of asset additions, disposals or replacements, nor their effects on the valuation outcome. Waitomo District Council has assumed that the data is accurate and suitable for valuation purposes. The asset registers record data to a sufficient component level to allow assets of different base lives to be valued separately.

Waitomo District Council's is not aware of any reason the auditors should not place reliance in the valuation prepared

## Appendix I Effective Lives of Roading Assets

Asset Type	Base Live (years)
Asphalt	8
Basecourse	30
Building	60
Chipseal	8
Concrete	50
Concrete wall	80
Earthworks	ND
Electrical	10
Gate	15
Fencing	30
Guardrail	35
HW Containers	80
Kerb and Channel	30
Liner	ND
Manhole	80
Novaflow	60
Pipe	80
Pond	ND
Timber Retaining Wall	25
Brick Retaining Wall	100
Crib Retaining Wall	100
Road Formation	ND
Roading	0
Signs	30
Sump	80
Traffic Island	80
Weighbridge	50

# Appendix J Land Transport Programme

## Introduction

This following information relates to the Council's subsidised Land Transport Programme (LTP) for 2015-2025 and is provided in accordance with Schedule 1 of the Land Transport Management Act 2003.

## Outstanding Payments

There are no approved activities or activity classes that have outstanding payments due as at 1 July 2014 from NZTA.

Activities and Administration Outputs are detailed in Appendix P

Nil Expenditure is funded by Tolling Revenue or by public private partnership (PPP)

## Objectives of Activities and How They Contribute to the Act

The purpose of the Act is to contribute to the aim of achieving an integrated, safe, responsive and sustainable land transport system.

Roading Maintenance ensures the safety, responsiveness (accessibility) and sustainability of the network by mitigation of gradual deterioration, surface flooding, loss of skid resistance, poor signage and road markings and helps to maintain its key role as part of an integrated land transport system.

Improvement and replacement of roads ensures that the network meets the on-going demands placed on it by progressively upgrading capacity due to growth and changes in service level, and replacing bridges or sections of road that have reached the end of their economic life. As above, it contributes to the purposes of safety, responsiveness and sustainability.

Administration guides the process necessary to achieve the above activities and supports the decision making processes required for compliance. It therefore contributes to the purpose of achieving integration, safety, responsiveness and sustainability.

Safety administration contributes to the purposes of safety and responsiveness. With the focus being on non-asset solutions to road safety issues, improvements to driver behavior and awareness has flow on benefits to the responsiveness of the roading network by reducing driver accidents. The Council supports the activities of the LTSA, the Police and Waikato Regional Council and employs a Road Safety Coordinator, shared with Otorohanga District Council for the implementation of targeted road safety awareness programmes.

## Assessment of Activities

This land transport programme takes into account how each activity or activity class

- a) Assists economic development; and
- b) Assists safety and personal security; and
- c) Improves access and mobility; and
- d) Protects and promotes public health; and
- e) Ensures environmental sustainability.

These matters are detailed in the Table below.

This land transport programme takes into account the NZ Transport Strategy, the National Energy Efficiency and Conservation Strategy and the Waikato Regional Council Regional Land Transport plan.

The Council's land transport programme focuses on maintaining the current roading asset that has been developed to meet the transport needs of the Waitomo District. In the absence of any alternative transport mechanism, the Districts roads are fundamentally to achieving the NZ Transport Strategy, which is about creating a sustainable transport system that is also affordable, integrated, safe and responsive to the District's needs (see Foreword to NZ Transport Strategy December 2002).

Street lighting upgrades make use of energy efficient light fittings. New road design has regard to energy considerations through the roading geometry and use of modern road surfacing to improve energy efficiency during the construction and

maintenance phases, and on-going vehicle use. Both aspects therefore take into account the National Energy Efficiency and Conservation Strategy.

The LTP is consistent with and complementary to the Waikato Regional Council Regional LTP where the public transport needs of the District (and region) are addressed.

### Consultation

Consultation on this programme will be carried out in conjunction with the draft 2014/15 Annual Plan. The specific organisations listed in the ACT will be provided with a copy of this document and invited to comment or seek further information on the proposed programme.

### Steps for Developing Options and Alternatives

Options and alternatives are considered at the time of programme design as part of the Council's standard Activity Management practices so as to deliver the agreed levels of service at optimal cost.

### Long Term Financial Forecasts

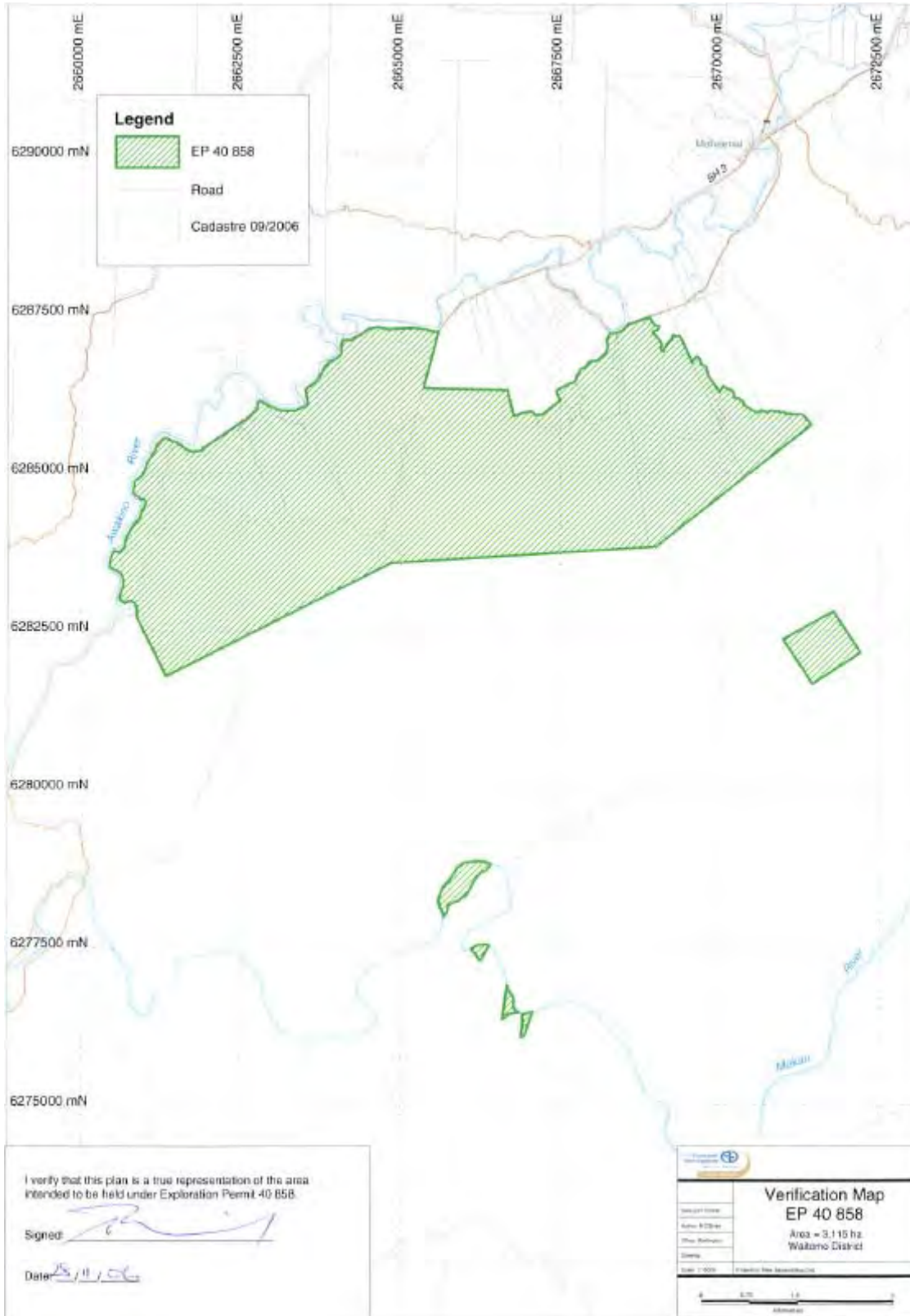
The LTP forecast for the next three years of the Roads and Footpaths activity, as varied by this Plan, is attached in Appendix P.

Each activity's contribution to the matters Set out in the Act is tabled below:

	Assists Economic development	Assists Safety & Personal Security	Improves Access & Mobility	Protects & Promotes Public health	Ensures Environmental Sustainability
Pavement Maintenance	Ensures traffic flow	Provides driver confidence in consistency and quality of road surface	Ensures traffic flow	Facilitates safe community access to social services and cultural experiences	
Drainage Maintenance	Ensures traffic flow	Provides driver confidence in consistency and quality of road surface	Ensures traffic flow	Facilitates safe community access to social services and cultural experiences	
Structures Maintenance	Ensures traffic flow	Improves driver confidence in consistency and quality of road surface	Ensures traffic flow	Facilitates safe community access to social services and cultural experiences	
Environmental Maintenance	Ensures traffic flow			Removes waste from the roading environment	Remedies negative impacts of land transport
Traffic Services Maintenance	Ensures traffic flow	Improves driver confidence in consistency and quality of road surface	Ensures traffic flow	Facilitates safe community access to social services and cultural experiences	
Level Crossing Warning Devices	Minimises risk of disruption to traffic flow due to accidents	Reduces risk of accidents at rail crossings	Ensures traffic flow	Facilitates safe community access to social services and cultural experiences	
Emergency Reinstatement	Restores traffic flow	Improves driver confidence in consistency and quality of road surface	Restores traffic flow	Restores safe community access to social services and cultural experiences	
Capex - renewals	Ensures traffic flow	Improves driver confidence in consistency and quality of road surface	Ensures traffic flow	Facilitates safe community access to social services and cultural experiences	
Capex - improvements	Ensures traffic flow	Improves driver confidence in consistency and quality of road surface	Ensures traffic flow	Facilitates safe community access to social services and cultural experiences	

	Assists Economic development	Assists Safety & Personal Security	Improves Access & Mobility	Protects & Promotes Public health	Ensures Environmental Sustainability
Capex - replacements	Ensures traffic flow	Improves driver confidence in consistency and quality of road surface	Ensures traffic flow	Facilitates safe community access to social services and cultural experiences	Bridge replacements keep traffic out of waterways
Network & Activity Management	Ensures traffic flow	Improves driver confidence in consistency and quality of road surface	Ensures traffic flow	Facilitates safe community access to social services and cultural experiences	Ensures roading operations have minimal adverse environmental effects
Safety Administration	Ensures traffic flow	Improves driver and pedestrian education & awareness of good road safety practices	Ensures traffic flow	Facilitates safe community access to social services and cultural experiences	

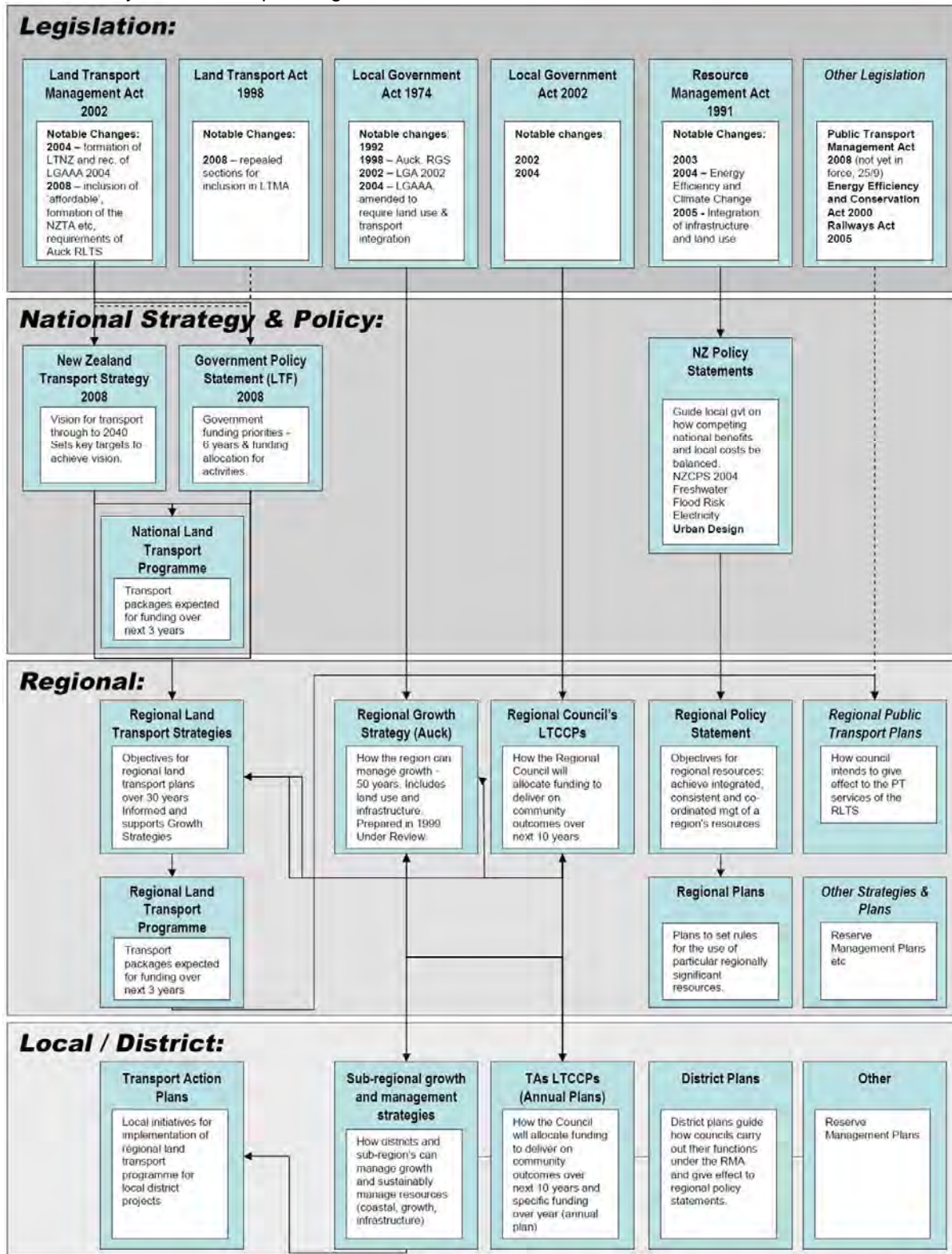
# Appendix K Coal Exploration Permit Area - Mokau





# Appendix L Planning and Statutory Framework

As detailed by NZTA in the planning section of its website.



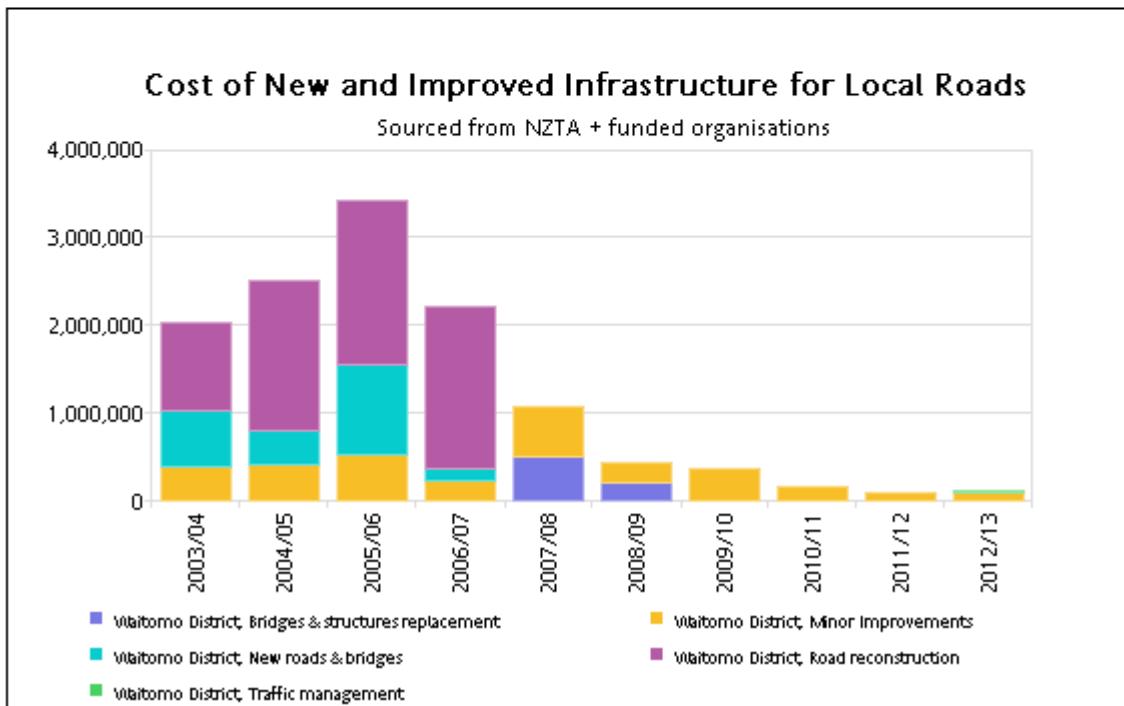
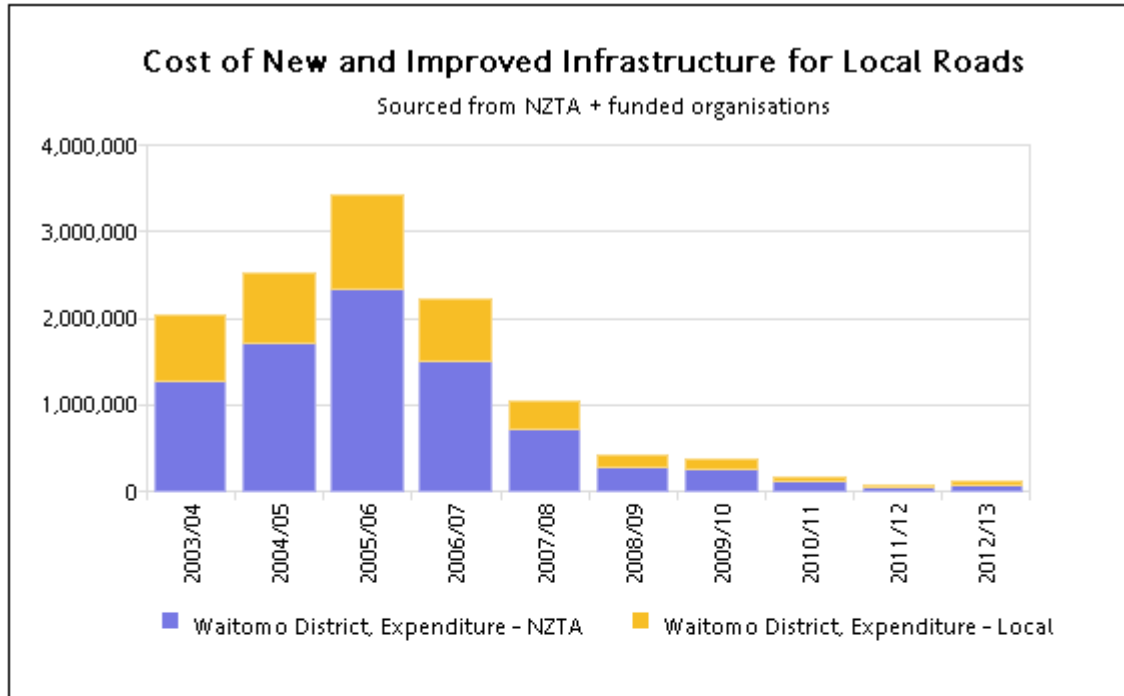
Planning and Statutory Framework for Land Use and Transport Planning

Produced by A. Linzey, Beca Planning November 2008



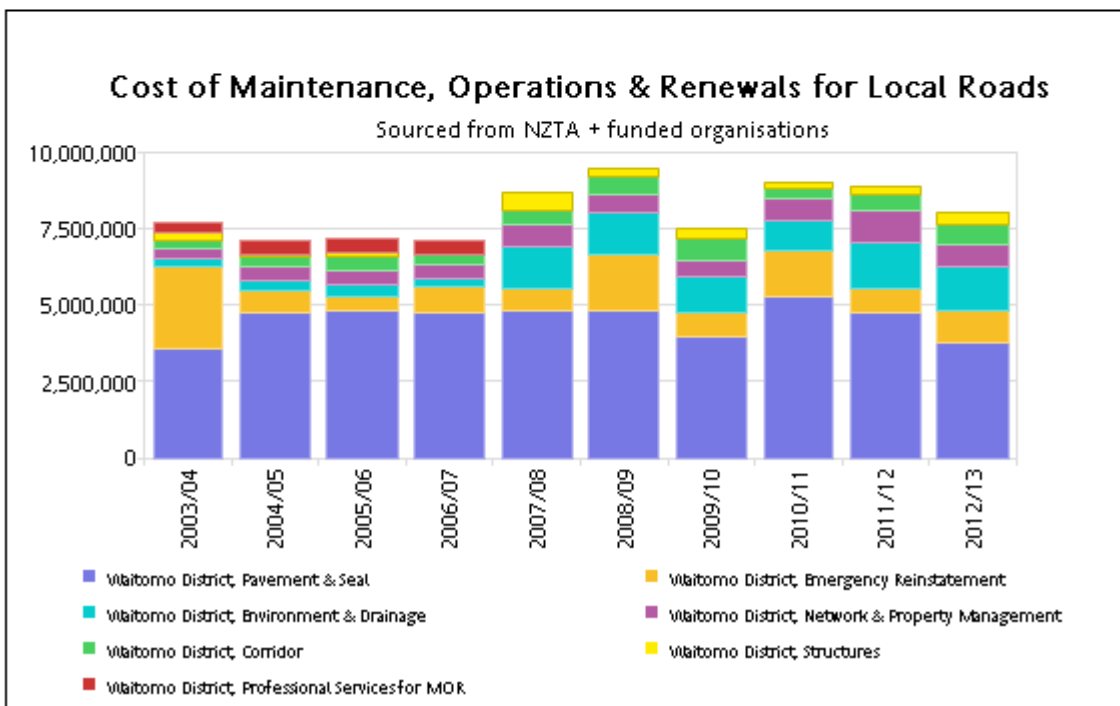
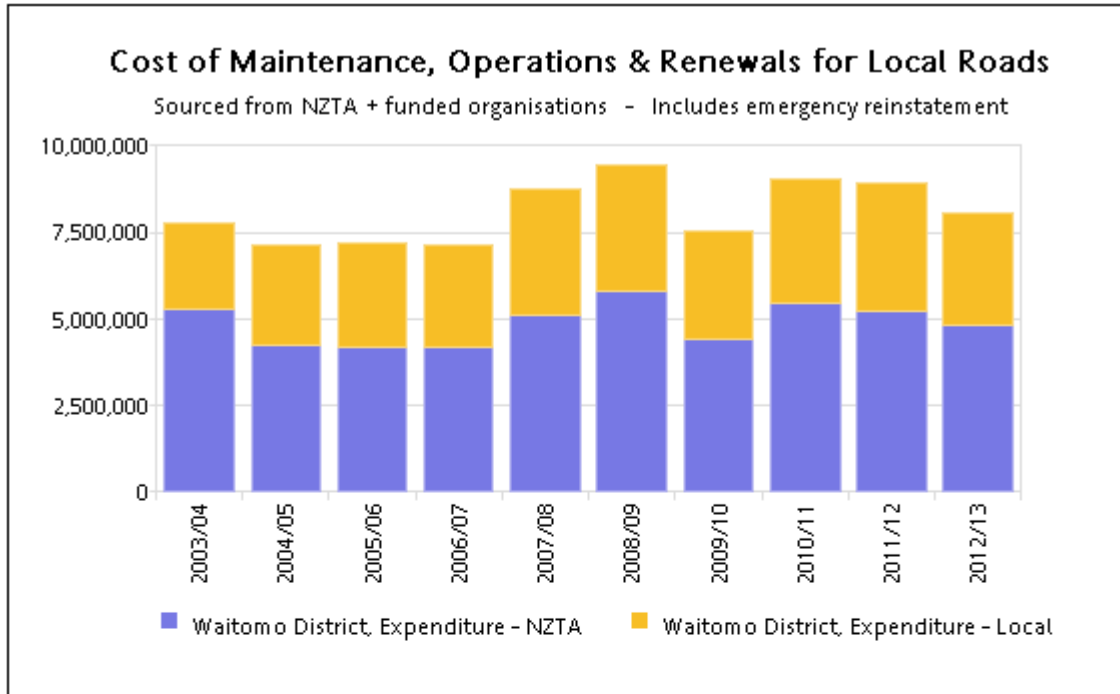
# Appendix M Cost of New and Improved Infrastructure

Data sourced from <http://www.smartmovez.org.nz/>



# Appendix N Cost of Road Maintenance, Operations and Renewals

Data sourced from <http://www.smartmovez.org.nz/>



## Appendix O Extract from BERL forecasts of price level change adjustors

Table 3 lists the annual percentage change for each of the adjustors. In general, adjustors for construction-related activities (i.e. pipelines, earthmoving, roads and water) show the greatest cumulative change over the forecast horizon. Much of this occurs over the early-to-middle years of this period

**Table 3: Adjustors: % per annum change**

	Road	Property	Water	Energy	Staff	Other	Earth-moving	Pipe-lines	Private sector wages
Year ending	% pa change								
Jun 12	5.2	3.3	6.0	15.4	2.3	2.4	4.7	3.1	2.1
Jun 13	1.1	1.7	-2.8	-1.8	2.1	2.9	2.1	-2.7	1.9
Jun 14	2.2	2.3	1.6	2.3	2.2	2.7	2.2	1.3	2.1
Jun 15	2.6	2.2	1.9	3.3	2.2	2.3	2.8	2.4	2.2
Jun 16	3.9	2.3	2.8	3.5	2.3	2.5	4.6	3.9	2.4
Jun 17	4.4	2.4	3.0	3.7	2.4	2.6	4.6	4.7	2.3
Jun 18	4.6	2.6	3.1	3.9	2.6	2.7	4.5	4.5	2.5
Jun 19	4.5	2.7	3.3	4.1	2.6	2.8	4.5	4.4	2.5
Jun 20	4.4	2.8	3.5	4.3	2.7	3.0	4.4	4.4	2.6
Jun 21	4.3	3.0	3.6	4.5	2.8	3.1	4.3	4.4	2.7
Jun 22	4.3	3.1	3.8	4.7	2.9	3.2	4.3	4.3	2.8
Jun 23	4.2	3.2	3.9	5.0	3.0	3.3	4.2	4.3	2.9

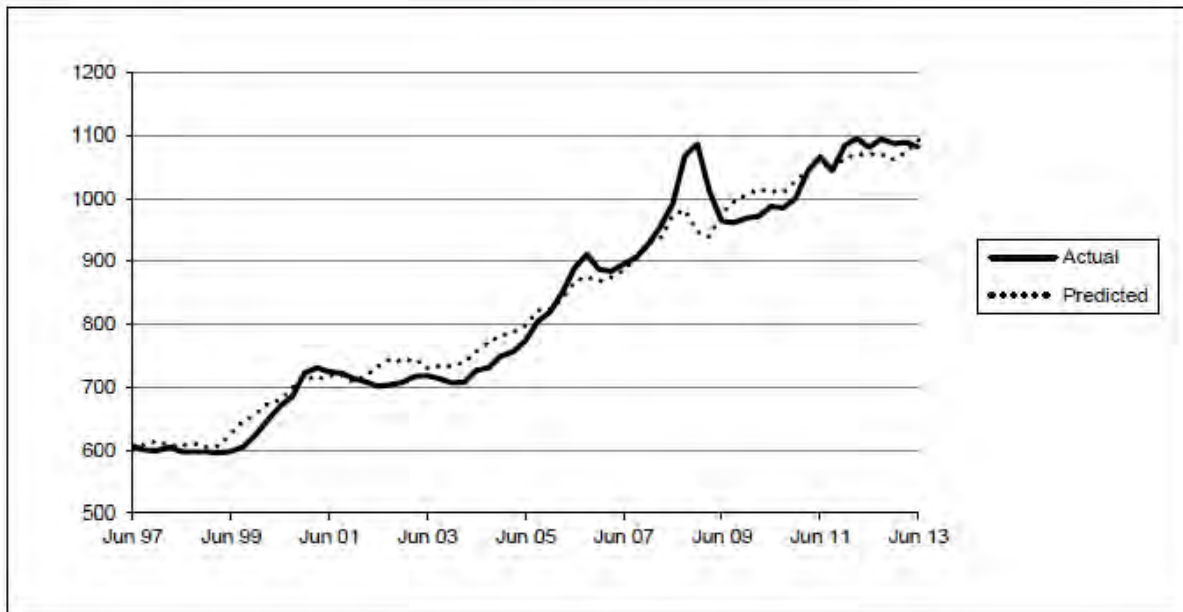
Table 4 lists the total (or cumulative) percentage change from the year ended June 2013 for each of the adjustors. This table can be used to calculate the increase of future year expenses based on 2013 costs.

**Table 4: Adjustors: cumulative % change from June 2013**

	Road	Property	Water	Energy	Staff	Other	Earth-moving	Pipe-lines	Private sector wages
Year ending	cumulative % change from Jun 2013								
Jun 14	2.2	2.3	1.6	2.3	2.2	2.7	2.2	1.3	2.1
Jun 15	4.8	4.5	3.6	5.7	4.5	5.1	5.1	3.8	4.4
Jun 16	9.0	6.9	6.5	9.3	6.9	7.7	10.0	7.8	6.9
Jun 17	13.7	9.5	9.7	13.3	9.5	10.5	15.0	12.9	9.4
Jun 18	19.0	12.3	13.2	17.7	12.4	13.4	20.2	18.0	12.1
Jun 19	24.3	15.3	16.9	22.5	15.3	16.7	25.5	23.2	14.9
Jun 20	29.8	18.6	21.0	27.8	18.4	20.1	31.0	28.6	17.9
Jun 21	35.5	22.1	25.3	33.6	21.7	23.8	36.7	34.2	21.1
Jun 22	41.2	25.8	30.1	39.9	25.2	27.8	42.6	40.0	24.4
Jun 23	47.1	29.9	35.2	46.8	29.0	32.1	48.6	46.0	28.0

Figure 2 to Figure 10 illustrate the performance of our estimated equations, for each of the adjustors, when compared to the actual data over the period June 1997 to June 2013.

**Figure 2: Roading adjustor**



## Appendix P 10 Year Budget Forecast

The following table shows the financial projections for the Roads and Footpaths activity over the next ten years.

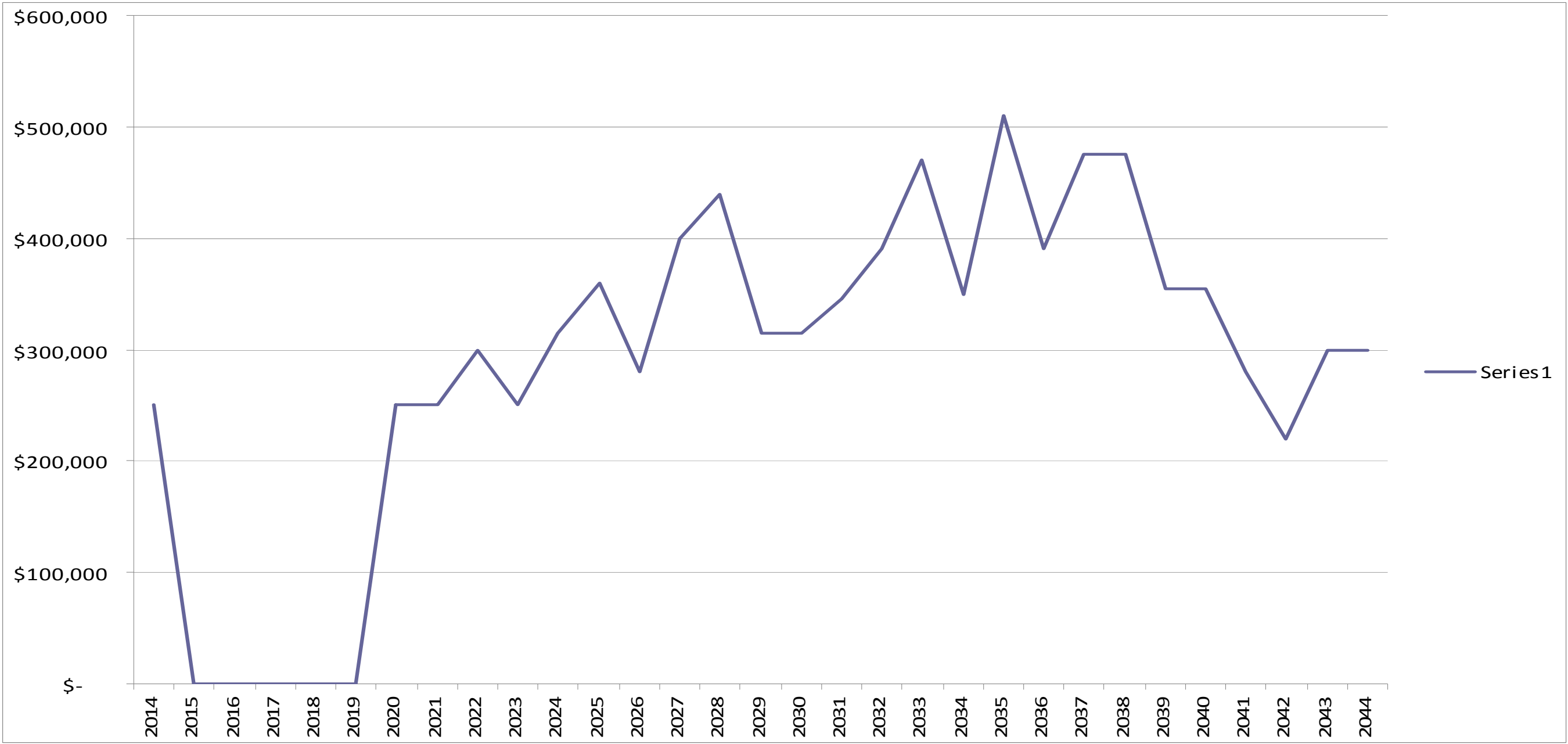
Roads and Footpaths	EAP 2014/15	LTP 2016	LTP 2017	LTP 2018	LTP 2019	LTP 2020	LTP 2021	LTP 2022	LTP 2023	LTP 2024	LTP 2025
<b>Operating Income</b>											
Subsidised Roads	5,911	6,839	7,052	7,335	7,624	7,945	8,299	8,661	9,061	9,501	9,950
Non Subsidised Roads	74	74	75	77	79	81	83	85	88	91	94
<b>Total Operating Income</b>	<b>5,985</b>	<b>6,913</b>	<b>7,127</b>	<b>7,412</b>	<b>7,703</b>	<b>8,026</b>	<b>8,382</b>	<b>8,746</b>	<b>9,149</b>	<b>9,592</b>	<b>10,044</b>
<b>Operating Expenditure</b>											
Subsidised Roads	8,995	9,273	9,332	9,571	9,876	10,166	10,438	10,738	10,994	11,341	11,604
Non Subsidised Roads	306	329	343	359	384	406	429	452	470	486	500
<b>Total Operating Expenditure</b>	<b>9,301</b>	<b>9,602</b>	<b>9,675</b>	<b>9,930</b>	<b>10,260</b>	<b>10,572</b>	<b>10,867</b>	<b>11,190</b>	<b>11,464</b>	<b>11,827</b>	<b>12,104</b>
<b>Net Operating Cost/(Surplus)</b>	<b>3,316</b>	<b>2,689</b>	<b>2,548</b>	<b>2,518</b>	<b>2,557</b>	<b>2,546</b>	<b>2,485</b>	<b>2,444</b>	<b>2,315</b>	<b>2,235</b>	<b>2,060</b>
<b>Capital Expenditure</b>											
Subsidised Roads	4,923	5,500	5,577	5,704	5,841	5,990	6,155	6,331	6,523	6,732	6,952
Non Subsidised Roads	340	315	320	327	335	344	353	363	374	386	399
<b>Total Capital Expenditure</b>	<b>5,263</b>	<b>5,815</b>	<b>5,897</b>	<b>6,031</b>	<b>6,176</b>	<b>6,334</b>	<b>6,508</b>	<b>6,694</b>	<b>6,897</b>	<b>7,118</b>	<b>7,351</b>
<b>Net Expenditure</b>	<b>8,579</b>	<b>8,504</b>	<b>8,445</b>	<b>8,549</b>	<b>8,733</b>	<b>8,880</b>	<b>8,993</b>	<b>9,138</b>	<b>9,212</b>	<b>9,353</b>	<b>9,411</b>
<b>Funded By</b>											
Internal Loans	371	188	357	364	372	381	390	400	411	423	435
Reserves	2,390	2,432	2,072	2,016	2,089	2,081	2,046	2,041	1,925	1,953	1,949
UAGC	186	83	85	87	88	90	91	93	95	97	97
Targeted Services Rate - Rural	26	27	29	30	33	35	37	39	41	42	43
Targeted Services Rate - Urban	206	228	240	252	272	291	309	327	341	354	364
Target Rate - Roads and Footpaths	5,399	5,547	5,663	5,800	5,880	6,004	6,120	6,237	6,398	6,485	6,523
<b>Total Funding</b>	<b>8,578</b>	<b>8,505</b>	<b>8,446</b>	<b>8,549</b>	<b>8,734</b>	<b>8,882</b>	<b>8,993</b>	<b>9,137</b>	<b>9,211</b>	<b>9,354</b>	<b>9,411</b>

## Appendix Q Bridge Renewal Programme

Renewal Period - 10 Year

No.	Road	RP	Material	Design Life	Date of Installation	Notes	Year due for replacement	Budget forecast (\$)
14	Harbour	0	Armco Culvert	50	1965	Corrosion evident	2014/2015	250,000
199	Mokauiti	2350	Armco Culvert	50	1984	Corrosion evident	2020/2021	250,000
71	Mairoa	7890	Armco Culvert	50	1979	Corrosion evident	2021/2022	250,000
41	Walker	4513	Armco Culvert	50	1981	Corrosion evident	2022/2023	300,000
203	Omaru	188	Armco Culvert	50	1981	Corrosion evident	2023/2024	250,000
75	Kaitaringa	680	Armco Arch Culvert	50	1982	Corrosion evident	2024/2025	250,000
91	Haku	5610	Stone masonry	70	Unknown	Fatigued	2024/2025	65,000

No.	Road	Date of Installation	Renewal Period Thirty Years																																	
			2014	15	16	17	18	19	20	21	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045		
1	Te Anga	1950														150,000																				
2	Kokokoroa	1983																	220,000																	
8	Te Anga	1964																														600,000				
14	Harbour	1965	200,000																																	
19	Speedies	1957																					950,000													
41	Walker	1981														300,000																				
45	Ahoroa	1963																														220,000				
48	Ahoroa	1982															360,000																			
49	Manu	1959																								390,000										
56	Oparure	1992																													280,000					
60	Pungarehu	1984																	288,000																	
63	Were	1961																	58,000																	
71	Mairoa	1979														219,000																				
75	Kaitaringa	1982																250,000																		
91	Haku	Unkn														65,000																				
102	Soundy	1985																			140,000															
122	Mokau Vall	1986																				250,000														
134	Ordish	1988																						230,000												
139	Mangaokev	1987																					350,000													
179	Waimiha	1982															440,000																			
187	Kopaki	1956																					710,000													
188	Mapara So	1983																	630,000																	
196	Waitataura	1984																		250,000																
199	Mokauiti	1984															250,000																			
203	Omaru	1981																250,000																		
226	Owen	1958																						280,000												
264	Mill, (Mang	1981															250,000																			
265	Toi	1957																						220,000												
267	Gribbons	1950															60,000																			
268	Mangatoa	1960																																80,000		
269	Mangatoa	1960																																50,000		
270	Aria	1960																																250,000		





## Appendix R Thirty Year Sealed Maintenance Programme 2015-16 to 2043-44

TREATMENT TYPE SUMMARY	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	40/41	41/42	42/43	43/44	% of Network	
Drainage Improvements	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Drainage Maintenance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Drainage Maintenance (Generic)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Milling and Removal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Granular Overlay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 100mm Granular Overlay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
< 100mm Granular Overlay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Recycling	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rehabilitation	5124	5094	5135	5181	5151	5036	4762	3581	2195	2313	2663	2229	876	1607	0	3102	160	0	0	2837	0	0	0	118	4110	4082	1402	1920	0	7.46%	
Recycling with Make Up Material	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
> 100mm Recycling with Make Up Material	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
< 100mm Recycling with Make Up Material	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Structural Asphaltic Concrete	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Stabilisation (Lime and/or Cement)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Development Project	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Open Graded Porous Asphalt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Slurry Seal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Thin Asphaltic Concrete	1833	384	818	188	42	0	134	331	0	289	245	0	2958	586	384	1352	188	61	262	0	331	0	0	245	0	0	2958	970	922	0.96%	
Resurfacing - Grade 2 Chip	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Resurfacing - Racked in 4 on 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sandwich Seal 4 on 2	1810	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	147	0	0	0	0	0	0	0	0	0	0	0.37%	
Resurfacing - Wetlock 4 on 2	14792	4045	10284	13947	16903	16842	9494	14723	6674	9740	9035	11752	2729	0	0	0	0	2417	8295	5641	0	0	0	0	0	0	0	0	0	21.75%	
Resurfacing - Grade 3 Chip	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Resurfacing - Racked in 5 on 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Resurfacing - Sandwich Seal 5 on 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Resurfacing - Wetlock 5 on 3	8315	9974	12504	10905	13893	12752	11277	5535	1362	10654	16926	2017	540	0	407	1811	277	699	1999	0	0	0	0	0	0	0	0	0	0	15.74%	
Resurfacing - Grade 4 Chip	0	72	3760	1598	4813	455	166	3408	0	0	0	833	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.04%	
Resurfacing - Grade 5 Chip	1706	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.32%	
Resurfacing - Wetlock 4 on 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Void Fill	11348	20030	12440	13289	3356	9944	2970	711	8606	3016	0	0	4894	0	0	0	0	596	2470	0	0	0	0	0	0	0	0	0	0	14.40%	
Reseal (Chip Unknown)	0	0	0	0	0	0	15552	15517	21891	15809	12508	22656	29365	36159	36784	33181	35223	29753	23610	31250	35711	37584	37266	36363	38022	36041	38429	31703	26511	2.93%	
Second Coat Seals, grade 2	1324	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.43%	
Second Coat Seals, grade 3	0	5663	0	0	0	0	0	0	1348	0	0	0	0	0	0	0	0	151	0	0	0	0	0	0	0	0	0	0	0	1.14%	
Second Coat Seals, grade 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Second Coat Seals, grade 5	587	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1016	0	0	0	0	0	0	0	0	0	0	0.50%	
Texturising Seal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Shoulder Grading	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Seal Widening	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Area Wide Wheel Rutting Repair	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Totals (km) per/year</b>	46.839	45.262	44.941	45.108	44.158	45.029	44.355	43.806	42.076	41.821	41.377	39.487	41.362	38.352	37.575	39.446	35.848	33.677	37.799	39.728	36.042	37.584	37.266	36.726	42.132	40.123	42.789	34.593	27.433		

<b>FUNDING CATEGORY SUMMARY - KM</b>		15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	40/41	41/42	42/43	43/44	TOTALS BY TRT
Area Wide Pavement Treatment		5.124	5.094	5.135	5.181	5.151	5.036	4.762	3.581	2.195	2.313	2.663	2.229	0.876	1.607	0.000	3.102	0.160	0.000	0.000	2.837	0.000	0.000	0.000	0.118	4.110	4.082	1.402	1.920	0.000	72.857
Maintenance Chip Seals		46.856	55.376	38.988	39.739	38.965	39.993	39.459	39.894	39.881	39.219	38.469	37.258	37.528	36.159	37.191	34.992	35.500	33.616	37.537	36.891	35.711	37.584	37.266	36.363	38.022	36.041	38.429	31.703	26.511	1141.287
Major Drainage Control		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	
Pavement Maintenance		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pavement Smoothing		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0
Preventative Maintenance		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0
Road Reconstruction		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0
Seal Widening		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0
Thin Asphaltic Surfacing		1.833	0.384	0.818	0.188	0.042	0.000	0.134	0.331	0.000	0.289	0.245	0.000	2.958	0.586	0.384	1.352	0.188	0.061	0.262	0.000	0.331	0.000	0.000	0.245	0.000	0.000	2.958	0.970	0.922	17.192
<b>TOTALS BY YEAR</b>		53.813	60.854	44.941	45.108	44.158	45.029	44.355	43.806	42.076	41.821	41.377	39.487	41.362	38.352	37.575	39.446	35.848	33.677	37.799	39.728	36.042	37.584	37.266	36.726	42.132	40.123	42.789	34.593	27.433	

<b>FUNDING CATEGORY SUMMARY - Cost (\$000)</b>		15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	40/41	41/42	42/43	43/44	TOTALS BY TRT
Area Wide Pavement Treatment		1345.050	1337.175	1347.938	1360.013	1352.138	1321.950	1250.025	940.013	576.188	607.163	699.038	585.113	229.950	421.838	0.000	814.275	42.000	0.000	0.000	744.713	0.000	0.000	0.000	30.975	1078.875	1071.525	368.025	504.000	0.000	19124.963
Maintenance Chip Seals		1475.964	1744.344	1228.122	1251.779	1227.398	1259.780	1242.959	1256.661	1256.252	1235.399	1211.774	1173.627	1182.132	1139.009	1171.517	1102.248	1118.250	1058.904	1182.416	1162.067	1124.897	1183.896	1173.879	1145.435	1197.693	1135.292	1210.514	998.645	835.097	35950.541
Major Drainage Control		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0
Pavement Maintenance		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pavement Smoothing		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0
Preventative Maintenance		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0
Road Reconstruction		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0
Seal Widening		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0
Thin Asphaltic Surfacing		549.900	115.200	245.400	56.400	12.600	0.000	40.200	99.300	0.000	86.700	73.500	0.000	887.400	175.800	115.200	405.600	56.400	18.300	78.600	0.000	99.300	0.000	0.000	73.500	0.000	0.000	887.400	291.000	276.600	5157.600
<b>TOTALS BY YEAR</b>		3370.914	3196.719	2821.4595	2668.191	2592.135	2581.7295	2533.1835	2295.9735	1832.439	1929.261	1984.311	1758.7395	2299.482	1736.646	1286.7165	2322.123	1216.65	1077.204	1261.0155	1906.779	1224.1965	1183.896	1173.879	1249.9095	2276.568	2206.8165	2465.9385	1793.6445	1111.6965	

## Appendix S REHABILITATION PROJECTS IN WAITOMO DISTRICT

Year	Road name	Distance km	Expected cost \$	Annual cost
2016	MANGANUI RD	1.087	507,000	
2016	ARIA RD	1.428	893,000	1,400,000
2017	HAURUA RD	1.525	604,000	
2017	MANGANUI RD	1.087	796,000	1,400,000
2018	YE OLD MILL RD	0.197	79,000	
2018	MANGANUI RD	1.087	620,000	
2018	MANGAOTAKI RD	1.347	712,000	1,411,000
2019	AHOROA FORD WEST	0.08	69,000	
2019	WALKER RD	0.6775	223,000	
2019	WAITOMO VALLEY RD	1.037	548,000	
2019	TOTORO RD	1.081	571,000	1,411,000
2020	WALKER RD	0.6775	433,000	
2020	SOMERVILLE RD	1.754	957,000	1,390,000
2021	IREDALE QUAY	0.089	57,000	
2021	MOKAU VALLEY RD	0.193	68,000	
2021	TAHAROA RD	2.274	1,341,000	1,466,000
2022	MANGATOA RD	0.033	13,000	
2022	RIVERSIDE LANE (NORTH)	0.114	44,000	
2022	MOANA QUAY	0.193	60,000	
2022	KUKU ST	0.19	97,000	
2022	MANGAORONGO RD	0.241	107,000	
2022	BRISCOE ST	0.177	110,000	
2022	MATIERE RD	0.471	232,000	
2022	ARIA TCE	0.801	239,000	
2022	KOPAKI RD	0.959	524,000	1,426,000
2023	HAINES TCE	0.134	89,000	
2023	HAURUA RD	1.525	604,000	
2023	WAIMIHA RD	1.311	762,000	1,455,000
2024	KING ST EAST	0.087	171,000	
2024	ESPLANADE (NORTH)	0.393	277,000	
2024	MANGARINO RD	2.077	1,006,000	1,454,000
2025	RANGI ST	0.196	94,000	
2025	AWAKINO HEADS RD	0.237	96,000	
2025	MOKAUITI RD	0.599	254,000	
2025	GADSBY RD	1.391	441,000	
2025	QUEEN ST	1.04	725,000	1,610,000

## Appendix T RESEALING PROJECTS IN WAITOMO DISTRICT

Year	Road name	Distance km	Expected cost \$	Annual cost
2016	Small Projects <\$50k	8.001	379,000	
2016	BODDIE RD	2.087	64,000	
2016	NGAPAENGA RD	2.324	70,000	
2016	ARIA RD	1.724	82,000	
2016	MANGATOA RD	2.880	82,000	
2016	TE WAITERE RD	2.674	109,000	
2016	KAWHIA HARBOUR RD	2.933	125,000	
2016	OPARURE RD	3.702	195,000	
2016	FULLERTON RD	4.737	208,000	1,314,000
2017	Small Projects <\$50k	19.490	633,000	
2017	ARIA RD	1.010	55,000	
2017	KAHUWERA RD	0.277	60,000	
2017	MAIROA RD	0.173	63,000	
2017	RANGITOTO RD	2.528	102,000	
2017	MANGATOA RD	0.039	120,000	
2017	MAROKOPA RD	2.994	127,000	
2017	MOKAUITI RD	3.613	166,000	1,326,000
2018	Small Projects <\$50k	19.567	530,000	
2018	PUKERIMU RD	1.455	59,000	
2018	MAROKOPA RD	1.567	64,000	
2018	PAPAKAURI RD	2.060	70,000	
2018	TUMUTUMU RD	0.400	79,000	
2018	MANGATEA RD	2.220	83,000	
2018	TAHAROA RD	1.957	84,000	
2018	OPARURE RD	3.461	147,000	
2018	TE ANGA RD	2.136	187,000	1,303,000
2019	Small Projects <\$50k	15.979	759,000	
2019	TAHAROA RD	1.267	53,000	
2019	TE ANGA RD	1.917	79,000	
2019	MAIROA RD	3.158	128,000	
2019	PUKERIMU RD	3.239	132,000	
2019	RANGITOTO RD	3.710	150,000	1,301,000
2020	Small Projects <\$50k	5.322	237,000	
2020	TAPUWAE RD	1.187	54,000	
2020	TATE RD	1.941	57,000	
2020	MANGANUI RD	1.433	65,000	
2020	RAMAROA RD	2.201	87,000	
2020	WALKER RD	2.410	114,000	
2020	MANGAOTAKI RD	2.981	121,000	
2020	TE ANGA RD	3.969	167,000	
2020	OHURA RD	3.966	175,000	
2020	AHOROA RD	5.884	227,000	1,304,000

## Appendix U One Network Transition Plan (DRAFT)

### Executive Summary

Over the period 2015 to 2018 Councils are expected to develop a detailed plan as how the gap between the ONRC CloS and the existing network levels of service. The transition plan will evolve over time as more information become available from early 2015.

The intention is that the ONRC Performance Measures will be implemented and the information gathered used to inform the detail of the transition plan.

The ONRC Performance Measures are presented as Outcome, Output and Efficiency measures. It does not measure inputs but are measuring how efficiently outputs are produced and how effective they are at delivery outcomes.

**Outcome Measures** – The outcome measure serves as the primary means of reporting performance of the network. These are the equivalent of customer performance measures that will be reported by RCAs. All RCAs will need to report these.

**Output Measures** - The measures or means of assessing that an RCA is effectively delivering the customer level of service specified and the associated outcome measure(s). Output measures are a mix of qualitative and quantitative measures so the means of reporting will vary. In most instances, measures will be demonstration within AMPs. These are the equivalent to the technical performance measures and provides the framework to establish if investment is in the right activity for the customer.

**Efficiency Measures** – Measures to assess that Value for Money and whole of life costs are optimized in the delivery of affordable customer levels of service (the cost of service provision). These measures are the critical means of establishing if investment is at the right time and at the right price. They also play a critical role in establishing fit for purpose. Many of these are being readily reported by RCAs by existing means. The framework will utilise this information more robustly in conjunction with the Outcome and Output measures. These measures advance the linkage between investment and outcomes and will drive improvement in asset management across the industry.

**Input Measures** – The ONRC Performance Measures currently do not specify input measures or operational performance measures. The REG considered that the performance measures should not be such that they prescribe to RCAs how to deliver the outputs except where a new standard or industry best practice is not currently available and requires development. RCAs will still have their own means of measuring performance at this level to ensure service levels are being delivered effectively and efficiently.

As a first cut assessment for WDC road network there are few gaps;

- A few sections of road that are too wide and maintenance width will be reduced in accordance with the diagrams in the AMP
- Significant lengths of road regarded as too narrow to meet the CloS and as presented to council at a workshop it is intended over time to widen first the tight corners to improve safety and address fit for purpose consideration within budgets applicable at the time and as part of rehabilitation and or maintenance works in an area unless through some development it is identified as a critical situation.

### **ONRC (One Network Road Classification) Implementation**

#### **a) Functional Classification:**

The current status of implementation of the ONRC is that the first phase is completed and submitted to NZTA. At Full Implementation, the ONRC is intended to reflect a standardized, fit-for-purpose classification for all roads across all of New Zealand.

At this stage it looks like WDC can expect to end up with the following four categories of roads:

	<b>Access – Low Volume (km)</b>	<b>Access Roads (km)</b>	<b>Secondary Collectors (km)</b>	<b>Primary Collectors (km)</b>
Urban Roads - Sealed	26,505	17,182	5,436	1,095
Urban Roads - Unsealed	3,050	0	0	0
Rural Roads - Sealed	23,748	265,191	117,706	2,394
Rural Roads - Unsealed	422,979	129,091	0	0
<b>Total Km</b>	<b>476,282</b>	<b>411,464</b>	<b>123,142</b>	<b>3,489</b>
<b>1,014,377</b>				

The next phases of Regional and then National moderation and final classification is expected to happen through a participatory process until March/April 2015.

At this stage it is not clear if the changes will reduce the effective amount from future FAR funding in comparison with current FAR funding, but it is unlikely to result in an increased amount.

#### **b) Customer Levels of Service (CLoS):**

The current practice is to maintain the Network to a standard that ensures safety and accessibility in a cost effective and manner within affordability limits.

The newly prescribed ONRC CLoS criteria is being further assessed and will be communicated for public consultation in order to avoid issues if it is lower than the current practice.

It is noted that the new ONRC CLoS are not fully tested and that the Transport Agency is accepting feedback to improve it further.

#### **c) Performance Measures and Targets** (for processes and physical network requirements):

WDC has applied the new ONRC CLoS performance measures as a desktop assessment, but not yet through a visual inspection of a representative sample of the Network.

We are planning to compare the current performance against the new ONRC performance targets once we have completed a current Network Audit.

The Audit will also clarify what our customers are receiving in terms of the condition of the Network. At this stage the indication is that service delivery is about right, considering that it is at current maximum affordability and just keeping up with demand.

The new long term Network Maintenance Contract specifications currently being developed will be adapted to reflect the requirements of the ONRC performance measures.

At this stage it is not clear how these new measures will link to and affect the financial system, but the expectation is that it should not cause any drastic changes.

The current regime for data collection on the WDC Network is in place and meets the requirements of the new ONRC measures.

## Business Case Approach (BCA) Implementation

### Strategic Context:

The strategic context for the WDC Network in terms of problems, benefits and support information is defined in the AMP.

The new BCA is not yet fully implemented in the AMP. It will be fully implemented as the AMP is further adapted with full implementation before 2018.

### Investment/Dis-investment Areas:

The new BCA may require some changes in investment to bring WDC assets to the ONRC classification and CLoS, but at this stage it still needs to be identified and programmed to address any gaps in time for the development of the 2018/21 NLTP.

### Other Work Identified

In order to fully implement the ONRC and BCA, we have to implement a performance monitoring programme, set up a programme to implement the outcomes of this transition plan in professional services/physical works contracts, develop data/inventory management and network modeling to confirm investments, check the implications of the ONRC on the District Plan.

### Opportunities and Risks Identified

In order to fully implement the ONRC and BCA, WDC will have to fill the vacant position of Asset Manager as soon as possible. Upskilling of staff will improve the understanding and effective implementation of these new requirements.

### Stakeholder and Public Engagement

WDC has a communications procedure in place for public consultation which can be used to communicate any changes in CLoS, performance and investment on the Network (increased or decreased), but this will only be finalized once decided on by WDC Council. It is envisaged that a Report will serve before Council during January 2015.

### Summary of Actions for Implementing the ONRC and BCA

Communications procedure in place for public consultation to communicate any changes in CLoS, performance and investment on the Network (increased or decreased), but this will only be finalized once decided on by WDC Council. It is envisaged that a Report will serve before Council during January 2015.

Improvement Description	Steps to achieve action	Time frame	Financial implications if any
Further review of ONRC and BCA	Consultation and meetings with user group	Est. January 2015 to March 2015	
Report back to WDC Council	Write up Business Paper	March 2015	
Possible Public Consultation	Public communication via WDC communications	March 2015 (Est.)_	



**WATER SUPPLY**

**ACTIVITY MANAGEMENT PLAN**

**2015 - 2025**

Adopted by Council on-----.



**DOCUMENT CONTROL SHEET**

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## SECTION 1: SUMMARY

This Activity Management Plan (AMP) represents Waitomo District Council (WDC) 2015-25 Water Supply Activity Management Plan LTP including the proposed long-term expenditure forecast for the water supply assets owned and managed by WDC. It is planned to review and update this document regularly, in line with the three yearly planning cycle of the Long Term Plan (LTP), to incorporate improved decision making techniques, better asset information and a better understanding of customer expectations.

The water supply activity budgets contained in the 2015 - 25 LTP have been informed by this AMP. It is intended that Council will adopt this AMP as a draft early in 2015 in support of the water supply activity budgets contained in the 2015 -2025 draft LTP. The AMP will be adjusted following any relevant changes made to the LTP arising from public consultation and after adoption of the final LTP on or before 30 June 2015.

This AMP is intended to demonstrate responsible stewardship of water assets by WDC on behalf of its customers and stakeholders. The AMP also acts as a vehicle for communication with all parties with an interest in WDC's asset management practices. It provides a focus within WDC for ongoing development of sustainable asset management practices and demonstrates that the service potential of the water supply infrastructure is maintained at optimum cost to provide a defined level of service over the long term.

The AMP aims to provide the tactics that will enable Council to achieve its strategic goals most cost effectively, via the LTP process. It should be read in conjunction with the Waitomo District Council's Long Term Plan 2015 - 2025. It is based on levels of service tested against resident satisfaction, currently available information and the knowledge, judgment and experience of Council staff and contractors.

The water supply assets at Waitomo Village are privately owned and operated, and do not form part of this AMP. It is noted however that the option of the Village water supply scheme, together with or independent of the other Village infrastructure, being handed over to the Council, has been the subject of ongoing discussion between the parties. Complexities relating to long-term tenure of the associated land is the current focus of discussions with the two local Trusts. The Waitomo Village system supplies predominantly commercial operations and an intermittent tourist population of up to 600,000 per year.

There is no plan to expand the water supply services to other small townships within Waitomo District, particularly as the low rate of population growth and urban development is not expected to place demand for further water supply infrastructure, consistent with WDC's current Water and Sanitary Services assessment. The main obstacle is the high unit cost of water meeting the Drinking Water Act 2007 for small communities (less than 500 people).

### 1.1 SCOPE OF ACTIVITY

This AMP covers the following four water supply schemes owned and operated by WDC:

- Te Kuiti
- Mokau
- Benneydale
- Piopio

Taharoa infrastructure is owned and operated by BHP Steel Mining Ltd. Waitomo Village infrastructure is owned by Tourism Holdings Ltd - neither forms part of this AMP.

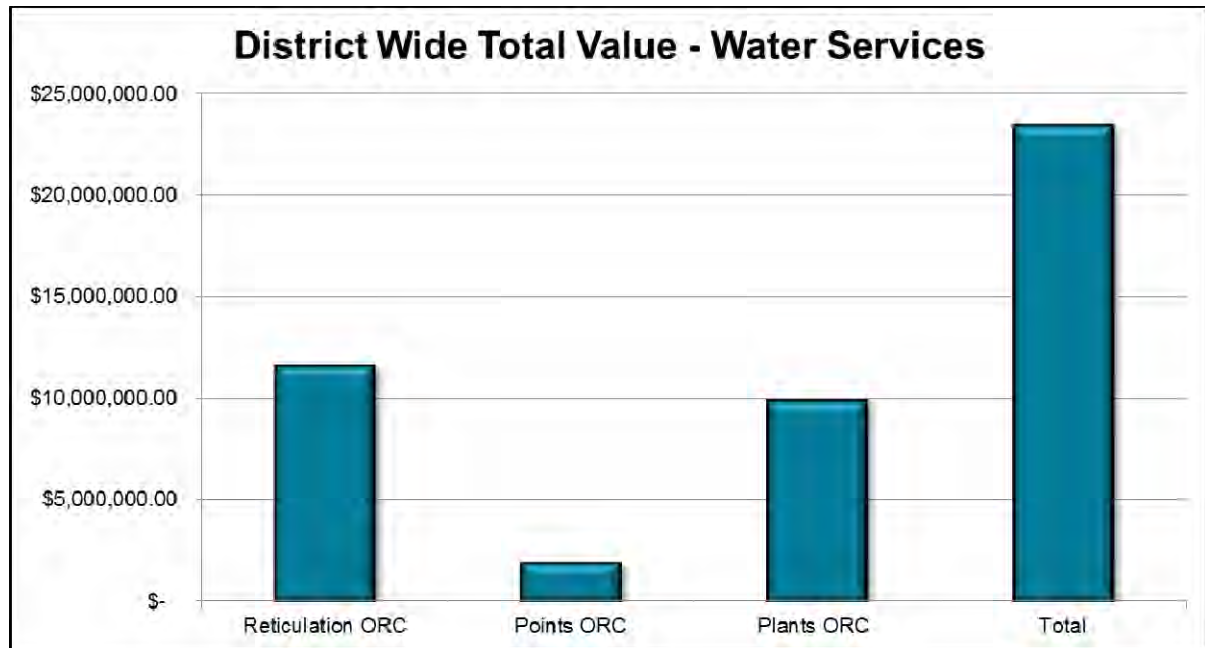
The district reticulation consists of 72,628m of pipes of various sizes and materials of which 86% has a remaining life expectancy of more than 20 years and 49% has a life expectancy in excess of 60 years. The bulk of the reticulation is in Te Kuiti (68%)

The assets comprising the above four schemes currently owned and managed by WDC have an optimised replacement value (ORC) of \$23.45 million and are summarised in the following table.

Summary of water supply assets

Community	Reticulation Mains ORC (\$)	Water Connections & Fittings ORC (\$)	Water Plants ORC (\$)	Value scheme by Community
Te Kuiti	8,553,427.49	1,406,597.44	6,206,489.86	\$16,166,515
Piopio	876,376.80	158,599.80	1,733,918.58	\$2,768,895
Mokau-Awakino	1,469,028.45	198,259.30	1,241,889.19	\$2,909,177
Benneydale	727,741.01	136,136.10	746,449.91	\$1,610,327
<b>Total</b>	<b>\$11,626,573.75</b>	<b>\$1,899,592.64</b>	<b>9,928,747.54</b>	<b>\$23,454,914</b>

Sum of Optimum Replacement Value (ORC) as in Council information 30 June 2014



**1.2 STRATEGIC ENVIRONMENT**

1.2.1 Vision

Councils Vision for the 2015 – 2025 Long Term Plan is:

“Creating a better future with vibrant communities and thriving business”

Council’s Water Supply activity supports this vision by:

- Maintaining the existing system
- preventing or mitigating flooding
- eliminating health and safety issues where possible
- managing pollution and mitigating effects of spills

1.2.2 Community Outcomes

The Water Supply Activity contributes to the following community outcomes:

Vibrant Communities
CO5 A place where we preserve the natural environment for future generations, ensuring that natural resources are used in a sustainable manner

Effective Leadership

**CO8** A place where the development of partnership for the delivery of programmes and services is encouraged and pursued.

CO10 - Sustainable Infrastructure

A place that provides safe, reliable and well managed infrastructure which meets the District community needs and supports maintenance of public health, provision of good connectivity and development of the District

### 1.2.3 Strategic Goals for the Group

- To protect public health
- To protect the environment from the adverse effects of extracting water
- To enable economic development

### 1.2.4 Rationale for Service Delivery

This Activity exists to provide a safe and reliable supply of potable water to support the needs of domestic, commercial and industrial users. It also exists to provide water supplies for fire-fighting capacity in urban areas.

## **1.3 SUMMARY OF ACTIVITY ISSUES**

### 1.3.1 Resource consents

Each scheme has a specific consented water take, issued and monitored by Waikato Regional Council. Details of each consent is summarised in the table below. Two of consents expire during the next 10 years, Te Kuiti and Piopio. New water take consent application has been made for the Te Kuiti water supply. Consent reviews for specific conditions of the existing water take consents for Piopio and Mokau are also being drafted.

Township	Consent Number	Consent Type	Consent expiry date	Map References	Population served	Surface water limit consent per day)	take in (m <sup>3</sup> )	Storage capacity (m <sup>3</sup> )	Storage at peak demand (Hours)	Pumping Stations	Reticulation (km)
Te Kuiti	110108	Surface water take	31/01/2015	S16:998-160	4,419	4,800	4,390 (across zones)	4	6	3	49.476
	103577	Land use structure	30/11/2035	S16:001-160							
	113038	Groundwater take	31/08/2020	S16:994-146							
Mokau	113544	Surface water take	15/09/2026	R18:518-799	250	1,000	340	24	1	11.002	
	113545	Discharge to water	15/09/2026	R18:518-799	>1000						
	116274	Groundwater take	15/05/2022	S17:166-938							
Benneydale	116844	Surface water take	07/04/2031	S:17:170-941	250	180	100	3	0	5.672	
	116843	Water permit Dam	07/04/2043	S17:170-941							
	116845	Surface water take	07/04/2031	S17:165-957							
	117945	Discharge to water	07/04/2031	S17:170-941							
Piopio	108776	Land Use bed structure	1/08/2023	R17:863-028	468	454.6	454	3	0	6.478	
	107477	Surface water take	1/08/2023	R17:863-028							
	107478	Discharge to water	1/08/2023	R17:863-028							

Table: Assets used to provide the service

A brief summary of each water supply scheme follows:

1.3.2 Te Kuiti Water Supply services a population of approximately 4,400 people plus several large industries. The water treatment plant is designed for peak production of 5,800m<sup>3</sup> per day with bulk storage to take care of demand peaks exceeding that or for emergencies is provided in four major reservoirs with a combined capacity of 4,390m<sup>3</sup> and a smaller 90 m<sup>3</sup> timber construction lined tank serving a small area along the top of Awakino Road. One of the reservoirs is the filter backwash storage in the present system therefore only 3290m<sup>3</sup> effective storage.

- The Te Kuiti Water Treatment Plant (WTP) needs significant upgrade to meet the Drinking Water Act 2007 (Amended 2008), that has application to the Te Kuiti supply with effect from 1 July 2014. In broad terms the following is required;
- Replacement of filter outlet pipe work and automation of backwash
- New Ultraviolet disinfection unit
- Dedicated chlorine contact tank
- Additional storage to bring storage to 24 hours of 3 day peak demand
- Renewal of pipe work in and out of main treated water pump supply (reservoir)
- Rehabilitation and upgrade of the clarifiers
- Replacement of the treatment plant inlet distribution channels including walkways and bridges
- A new building to fit the refurbished WTP requirements
- Electrical, SCADA and telemetry to bring all the above together to provide optimum service

Taking all of the above into consideration the WTP upgrade is programmed over the first 3 years of the 2015 – 2025 LTP with an overall estimated cost of \$6.6 million. The first phase to be constructed, commencing in 2014-15, involves installing a UV unit and dedicated backwash tank and replacement of the filter outlet pipe work.

- The Drinking Water Act requires storage equivalent to 24 hours of summer average peak demand which is 4,230m<sup>3</sup>. The refurbished plant will mitigate the insufficient bulk water storage and the treatment plant should seldom exceeds its design capacity during peak demand periods. Mitigating the risk of supply failure. A problem of this nature last occurred in December 2007.
- The reticulation consists of 49,476m of pipes of various sizes and materials. Previously it was understood that the reticulation was in poor condition and that large quantities of water were being lost as a result. Information gathered during the past three years does not bear that out. Bulk water meters installed at strategic points indicate that the losses are no more than what can be expected in an unmetered supply system and the odd property meter installed indicate that it is simply inefficient water use as result of the lump sum water rate payment regime.
- The age distribution shows a renewal “bulge” occurring in the 40 to 60 year period.
- Network renewal identified for the 2015 – 2025 period, which had been deferred in the past, has an optimised replacement cost (ORC) value of \$750,161. Over the 30 year period 2015 – 2045 it has a replacement value of approximately \$2.6million or around \$87,000 per year however for the following 50 years it shows a renewal requirement of about \$13.15 million or \$263,000 per year.
- To address this Council has settled on an average renewal programme of around \$100,000 per year for the 2015 -2025 period
- The location of the intake for the water treatment plant is deemed as a risk due to possible contamination from upstream industries and/or wastewater discharges. The cost of this is roughly estimated to be in excess of \$2 million and the work is not considered in this LTP. A change in the construction of the intake is considered and coupled with the refurbishment of the plant will reduce the risk of negative affect on treated water quality significantly.

1.3.3 Benneydale Water Supply services a population of about 250. Benneydale has a modern water supply system the last component upgrade comprising of Ultra-violet disinfection, was completed during 2013

- Treatment plant capacity is 140m<sup>3</sup>/day and consented take is 180m<sup>3</sup>/day
- The annual average daily demand is of 67m<sup>3</sup>/day with 3 day peak demand 135m<sup>3</sup>/day as a result of a truck wash. Treated storage is 140m<sup>3</sup>
- The water used by the truck wash plays a significant part in keeping the cost for the residential rate payers bearable because of economy of scale.
- Reticulation consists of 5,672m of uPVC, PE and MDPE materials with an expected remaining life of 100 years. All connections are metered although charging is not on a metered basis as yet.
- The discharge condition of the Take Consent compliance condition is not practical and the consent still has 19 years to run. An application to modify it will be lodged with Waikato Regional Council during the 2014-15 year.

1.3.4 Piopio Water Supply services a population of about 500 people. The water treatment plant capacity has been upgraded to 600 m<sup>3</sup> per day, although the consent is for 450 m<sup>3</sup> per day. An



application to increase the water take consent is being drafted, as operational requirements, mainly to low a rate of extraction) make it impractical to operate and maintain the upgraded plant within the old consent limits. The annual average demand is 373m<sup>3</sup>/day with summer average peak of 420 m<sup>3</sup> per day.

- Bulk storage to take care of demand peaks exceeding average demand or for emergencies has a capacity of 450m<sup>3</sup>.
- The reticulation consists of 6,478m of pipes of various sizes and materials most of that has a remaining life expectancy of <40 years.
- The reservoir is at the end of the reticulation and gets filled by pumping through the reticulation resulting in excessive high operating pressure in town. This is not good practice and will shorten pipe life especially that of the mainly AC system. A dedicated pump line needs to be considered as soon as it is affordable and provision for a two stage implementation is in 2015 – 2025 LTP for 2017.
- The upgrade of the WTP was completed during 2012-13 year. The new plant is a microfiltration plant preceded by primary filtration after clarification

1.3.5 Mokau Water Supply services a population of 250 people increasing to over 1,000 in the summer months. The water treatment plant capacity is up to 600m<sup>3</sup> per day. The annual average demand is 185m<sup>3</sup>/day with high peaks of 280m<sup>3</sup>/day in summer.

- Bulk storage, designed to take care of demand peaks exceeding average demand or for emergencies, has a capacity of 435m<sup>3</sup>.
- The Drinking Water Act requires storage equivalent to 24 hours of summer average peak demand which is 185m<sup>3</sup>.
- The new raw water supply storage reservoir has been completed and will be integrated with system by early 2015.
- The reticulation consists of 11,002m of pipes of various sizes and materials of most of it has a remaining life expectancy of <50 years. The main supply line to town follows the state highway and was AC, this has been replaced (2006-08) with PE pipe. It represents about 12% of network and has a life expectancy in excess of 100 years.
- There are indications that the condition of some of the AC pipe is poorer than what the asset information portrays. This has been investigated it was budgeted for renewal over 2015 -2025 period as far as possible within available resources.
- As a coastal town there is demand for development and with it will come the opportunity to reduce the very high unit cost of water.

#### 1.4 LEVELS OF SERVICE

This AMP is focused on clarifying and defining key levels of service for each WDC water supply scheme and then identifying and costing future operations, maintenance, renewal and capital works required to provide those levels of service. The levels of service set out in Section 5 are based on customer expectations, business strategic goals and statutory requirements as set and or interpreted by WDC staff. They will be used as the focus for future customer consultation.

##### Performance Measures

The Levels of Service and Key Performance Indicators for this Group of Activities are:

LEVEL OF SERVICE	PERFORMANCE MEASURE	PERFORMANCE TARGET
WDC provides safe drinking water supplies for public health purposes.	The extent to which WDC's drinking water supplies comply with Part 4 of NZ Drinking-water Standards 2005 (revised 2008) (bacteria compliance criteria)	100%
	The extent to which WDC's drinking water supplies comply with Part 5 of NZ Drinking-water Standards 2005 (revised 2008) (protozoal compliance criteria):	100%

WDC's Water Supply networks are maintained and operated adequately.	The percentage of real water loss from the Council's networked reticulation system in the year <sup>1</sup> :	≤ 25% (All WDC supplies)
Timely response and resolution of service requests	The median response times for attendance at urgent call-outs in a year (measured from the time that the Council receives notification to the time that the service personnel reach the site)	90 mins
	The median response time for resolution of urgent call-outs in a year (from the time that the Council receives notification to the time)	180 mins
	The median response times for attendance at non-urgent call-outs in a year (measured from the time that the Council receives notification to the time that the service personnel reach the site)	120 mins
	The median response time for resolution of non-urgent call-outs in a year (from the time that the Council receives notification to the time)	240mins
Provision of effective and reliable water supply system to the community	The total number of complaints per 1,000 water connections received by WDC, district wide, in a year regarding:  (a) drinking water clarity (b) drinking water taste (c) drinking water odour (d) drinking water pressure or flow (e) continuity of supply, and (f) Council's response to any of these issues	≤ 5
Efficient management of demand for water	Average consumption of WDC drinking water per day per resident within the district.	≤ 400 litres per person per day

Respondents to customer satisfaction surveys in 2010, 2011 and 2014, rated the cost, quality and reliability of WDC's water supply services. The table below shows the top 2 scores (satisfied or very satisfied) over the three survey years.

	2010	2011	2014
Cost of Water	61%	58%	-
Quality	51%	54%	49%
Reliability	-	-	88%

<sup>1</sup> Note: 'Water Losses' includes real losses through leaks in the network and apparent losses through metering inaccuracies or water theft. This does not include unauthorised consumption)

The key findings in relation to the water supply service, apart from cost, were generally positive with taste and quality (clarity) standards reflecting areas that require improvement. Cost is mainly driven by ever more stringent quality reporting requirements. The latter two issues under quality, normally revolve around taste of chlorine (regulatory requirement), clarity defined by “white” water which is entrained air at the users taps and localized coloring (black or brown) which is iron or manganese that settled out in the reticulation and gets dislodged following a pipe repair.

At a technical level, the key driver of levels of service is the Health (Drinking Water) Amendment Act, which came into force on 1 July 2008. The Act applies to all drinking water supplies serving a permanent population of 25 or more people. The Act provides for phased compliance depending on the size of population served.

All works envisaged in this AMP are targeted at reducing the risk of supply contamination through meeting or moving towards meeting the standards of the Drinking Water Act (DWA) and ensuring continuity of supply through the routine monitoring and replacement of assets that are at or past their useful lives.

**1.5 FUTURE DEMAND**

The main drivers of demand for water services are:

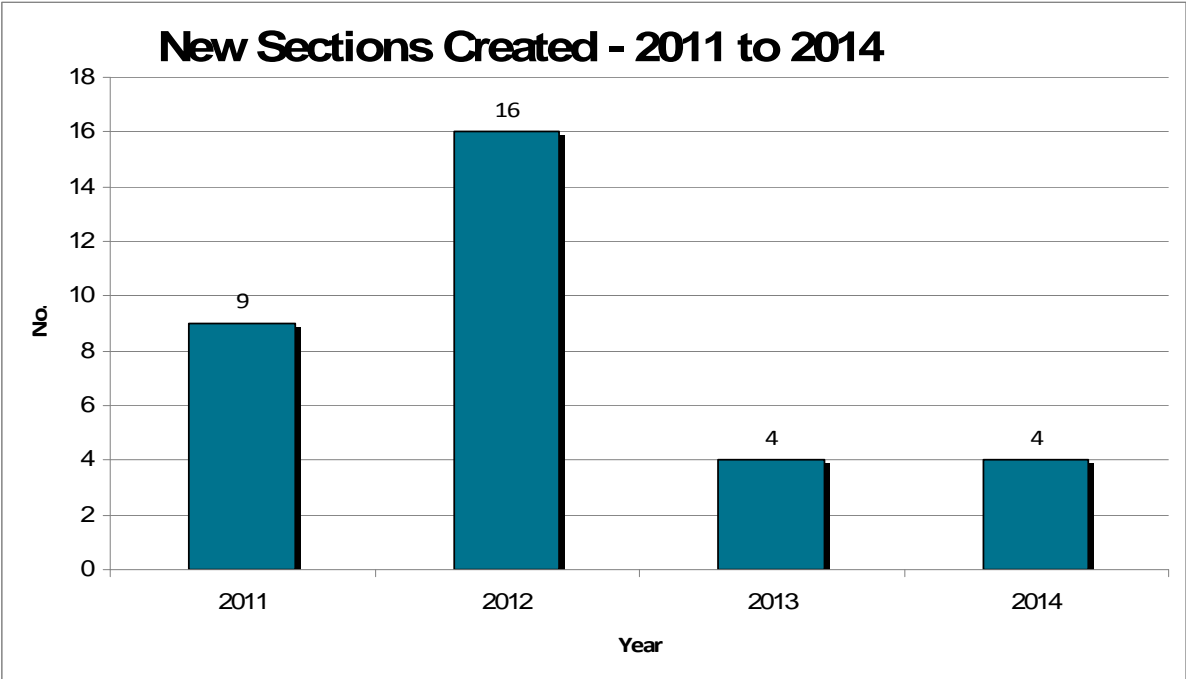
- Population growth
- Land use activities (e.g. land development, tourism and coastal settlements)
- Climate change
- Community expectations

1.5.1 Population

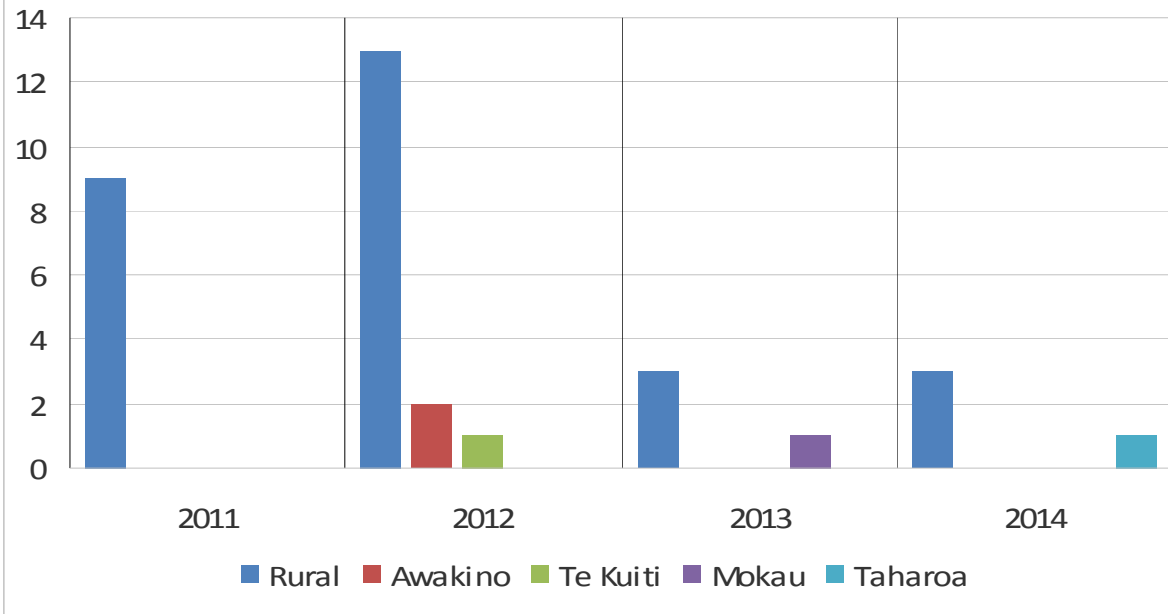
The district resident population has experienced a slight decline over the 2006 to 2013 inter-census period. The future population forecast prepared by the National Institute of Demographic and Economic Analysis (Waikato University) predicts a continuation of this downward trend for the district over the next 50 years. At a micro level, this pattern of population decline is expected to be consistent, more or less, across the district, including the coastal communities that were previously areas experiencing highest growth and demand. Overall, the demographic and development trends show that there is no population based demand for growth related infrastructure at the present time or in the foreseeable future.

1.5.2 Land-use development

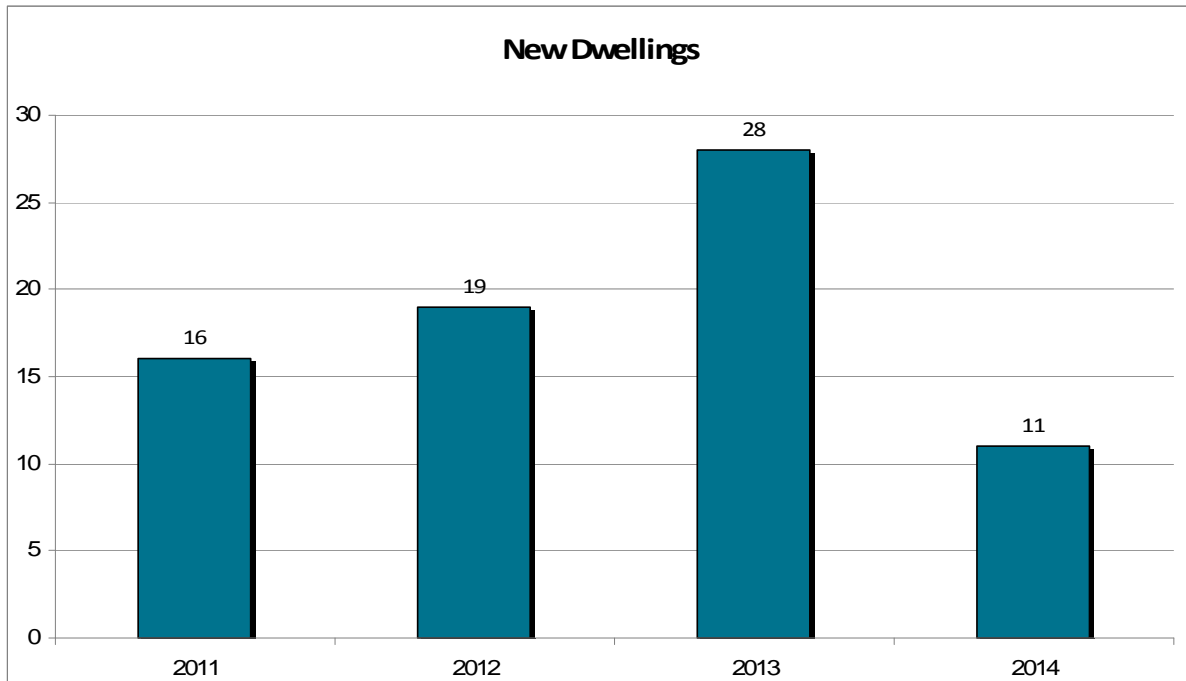
From a recent, informal, desktop planning exercise, drawing from development proposals which are known to officers and/or are in the early stages of consent processing, it has been identified that further growth is unlikely to place pressure on the provision of Council services. Indications are the recent trends of relatively slow development are likely to continue into the foreseeable future. It is expected that any increase in demand from residential development over the term of this AMP will be minor and won't impact on the existing capacity of the water supply infrastructure.

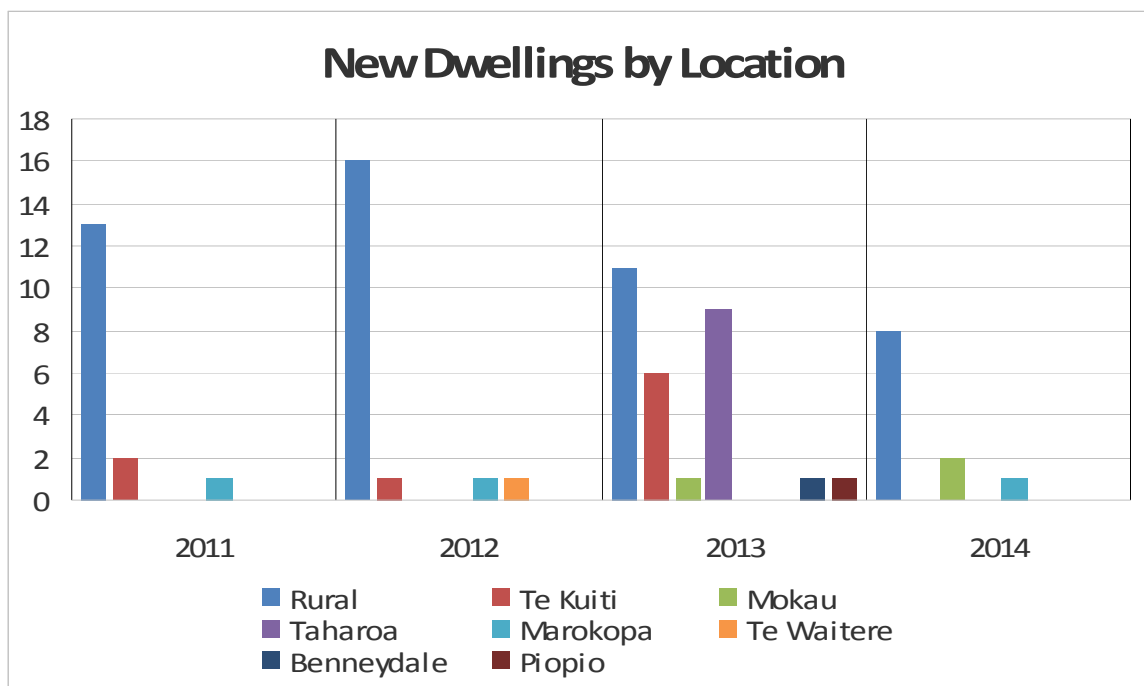


### New Sections Created - by Location



### New Dwellings





Of interest is the nine new houses at Taharoa during 2013. These were all relocated dwellings for the NZ Steel Mining Company, potentially indicating an increased scale of operation at that location. Water supply to houses at Taharoa is a private arrangement under the ownership and control of the Company.

Water supply services are investigated for any size subdivision, taking due consideration of existing capacity and/or alternative supply arrangements, particularly in the case of large scale developments, should they occur.

The current agricultural and pastoral based economy is expected to remain predominant in the district, with growth very dependent on economic conditions and export opportunities. Industrial growth, which can have a significant impact on water supply, is partly dependent on attracting new industries into the urban centres.

#### 1.5.3 Climate Change

The impacts of climate change may influence demand for water supply along parts of the district due to the frequency of drought conditions. This may impact on the capacity of supply sources to meet demand e.g. during low flow stream conditions.

#### 1.5.4 Community Expectations

The following trends are expected to impact on the quantity and quality of stormwater services provided:

- Continued public pressure for higher water quality standards specifically of taste and odour
- Increasingly stringent resource consent conditions for water supply takes

#### 1.5.5 Demand implications

The implications of these demand trends on the quantity and quality of water services over the next 30 years will be:

The implications of these trends on water services over the next 30 years will be:

- Future maintenance and renewals costs associated with the water supply infrastructure can be expected to increase within the planning period.
- Relatively minor changes to LoS could have major impacts on costs.
- Continued public pressure for availability of supply over dry summer conditions may require bulk raw water storage facilities
- Consent requirements for water takes will increase supply costs
- Demand for public water supply or improved public water supply services at beach communities

- Potential responsibility for the management and development of the Waitomo Village water supply scheme.

In the meantime, no provision has been made over the term of this AMP for additional water supply infrastructure to support growth planning. The following table provides an overview of current supply capacity for a “no-growth’ demand scenario:

WATER SUPPLY	Mokau-Awakino	Te Kuiti	Piopio	Benneydale
Current population served	250 - 1000+	4,400	500	250
Current supply	185 – 280 m3/d (summer)	4,800m3/d (consented volume)	337 - 373m3 /d	97-180m3/d (includes truck wash)
Current treatment plant design capacity	600m3/d	5,800m3/d	450 m3/d	180 m3/d
Current storage capacity	435m3	4,390m3	450m3	140m3

There are currently two major wet industries connected to the Te Kuiti water system, at peak operation they consume approximately 35% of the annual average daily supply. A large part of this water is for non-potable use and could be treated or partially treated by the industries for reuse. Most of this volume is discharged to the wastewater system, offering potential for water recycling measures to be applied depending on the economic incentives in place.

The financial implications of what has been considered for the 2015 -2025 LTP are summarised in Sections 5 and 7 of this Water Supply AMP.

## 1.6 LIFE CYCLE ASSET MANAGEMENT

*Asset management tactics* focus on lifecycle activities (creation, maintenance, renewal) for each asset group to improve the decision making and evaluation of options associated with each asset and to optimise lifecycle costs.

Although water assets are generally in a satisfactory condition, some assets are showing signs of deterioration or are not performing at full design capacity. In particular, the following specific issues are noted;

- **Te Kuiti:** the reticulation network contains a number of dead end mains which should be ring fed to improve quality and reduce waste resulting from regular flushing. A project is required to fully analyse the model developed, identify all the required improvements and develop an implementation programme. In the mean time dead end mains are addressed during renewals as is possible.
- The Te Kuiti intake and head works are located downstream from a sewer pump station as well as the industrial area. There is the potential for an overflow of the pump station and or an industrial spill that could contaminate the raw water supply. Options for relocation of the intake are to be reviewed There is a possible upstream intake offering the advantage of a gravity supply with increased capital cost but significant reduction in energy costs. This is perceived to be not economically feasible but could be investigated after 2025.
- The Mangaokewa is the only raw water supply for Te Kuiti and in a severe drought could lead to major water restrictions or in a worst case failure of supply. It is considered prudent to investigate an off-stream raw storage to bridge such an event. Funding has been allocated in the 2015 – 25 LTP for a preliminary investigation.
- The Te Kuiti treatment plant requires upgrading particularly in light of the Health (Drinking Water) Amendment Act 2007 (Amended 2008) which came into force on 1 July 2008. The required upgrade will be done in 3 phases with target completion date for all three phases June 2018
- Treated water storage for the Te Kuiti scheme does not meet the industry standard of 24 hours however the upgrade of the water treatment plant will improve the situation significantly and remaining deficit in storage capacity is not regarded as critical.

- Additional storage may be considered after 2025.
- The upgrade of the water main along Rora Street in the CBD has been postponed and will be addressed at the next main street road rehabilitation after 2025.
- **Benneydale:** The reticulation was replaced in 2008. An auxiliary bore supply is available for use during spikes in turbidity in the raw surface water supply following heavy rainfall events. Treatment plant improvements were completed in light of the new Drinking Water Act 2007 (Amended 2008). Further work necessitated by the Act, protozoal treatment, has been completed.
- **Piopio:** The WTP was upgraded during 2012 - 2013. The reticulation shows a very peaky age with replacement of the majority of the reticulation around 2029. Pipe failures experienced in recent years indicate that the renewal needs to be accelerated and the 2015 - 2025 LTP makes provision for replacement over the life of the LTP influenced by active condition assessment of existing reticulation. The majority of the old 50 mm AC pipe has been replaced in 2013 due to failure.
- **Mokau:** The security of the raw water supply for Mokau has been resolved with the construction of a 12,000m<sup>3</sup> storage dam in addition to the existing dams. The existing earth dams need work to meet the latest legislative requirements under the Building Act and will be completed by June 2016 depending on the outcome of consultation required under the RMA consent process
- The reticulation consists of 11,002m of pipes of various sizes and materials all pipe work has a remaining life expectancy of <50 years and 12% of reticulation has a life expectancy in excess of 100 years. The main supply line to town follows the state highway has been replaced (2006-8) with a PE pipeline.
- There are indications that the condition of some of the AC pipe is poorer than what the asset information portrays. It is anticipated that pipe renewal needs to be accelerated and the 2015 - 2025 LTP makes budget provision for replacement, the timing of which will ultimately be influenced by active condition assessment
- As a coastal town there is demand for development and with it the opportunity to reduce the unit cost of water if security of the supply can be resolved.
- Waitomo Village and Taharoa supplies are privately owned and operated. There has been discussion in the past that the Waitomo Village water supply infrastructure should be passed over to WDC in the interests of public health and safety. Reports on the feasibility and risks of this scheme were submitted to Council in June 2008, 2010, 2012 and 2014. The very small user base makes the cost per unit of water produced, high.
- Awakino, Marokopa, Te Waitere and Aria do not have public water supply schemes, apart from a limited supply from the Mokau scheme to the hotel at Awakino. No provision has been made for investigation of new supply schemes during the planning period.

## 1.7 RISK MANAGEMENT PRACTICES

A pragmatic approach has been taken to risk management, with identified risk events grouped into:

- Natural events, where there is no real control over the timing or extent of the event, although probabilities may be understood, e.g. floods, lightning strikes, earthquakes.
- External impacts, where other service providers impact on continuity of the water supply activity, e.g. power supply failures, material supply failures.
- Physical failure risks, where condition, performance of the asset or third party damage could lead to failure.
- Operational risks, where maintenance and or management of the asset or asset management activities may impact adversely on the asset.

Part of WDC's asset management practices includes risk management decision making tools used to prioritise long term renewal, upgrade and development expenditure for water supply infrastructure.

The risks currently impacting on WDC's water supply services, to be investigated and/or addressed during the term of this plan, are summarised below:

Supply	Risk
Te Kuiti	<ul style="list-style-type: none"> <li>• Demand exceeding consented raw water take during summer conditions with no raw storage facilities or planning</li> <li>• Potential contamination from sewer pump station and spills from industrial activities upstream of intake</li> <li>• Unsecured source hence protection against potential protozoa (e.g. giardia, cryptosporidium) contamination i.e. Treatment plant non compliant with Drinking Water Act 2007 (Amended 2008)</li> </ul>

	<ul style="list-style-type: none"> <li>• Condition of trunk mains supplying reservoirs</li> <li>• Back flow prevention</li> </ul>
Benneydale	<ul style="list-style-type: none"> <li>• Affordability</li> </ul>
Piopio	<ul style="list-style-type: none"> <li>• Unsecured source hence protection against potential protozoan contamination</li> <li>• Backflow prevention</li> </ul>
Mokau	<ul style="list-style-type: none"> <li>• Unsecured source hence potential for protozoan contamination</li> <li>• Treated water storage marginally meeting Drinking Water Act 2007 requirements</li> <li>• Affordability a significant issue</li> <li>• Backflow prevention</li> </ul>

Critical assets are defined as those where the impact of failure would have the highest consequences on the services that must continue to operate to an acceptable level to avoid damage to community well-being. Critical assets for the water supply activity include the high criticality assets in the table below:

Criticality	Asset Description
1 (High)	<ul style="list-style-type: none"> <li>• Supply intake/groundwater well</li> <li>• Open storage dams</li> <li>• Disinfection units</li> <li>• Storage reservoirs</li> <li>• Trunk mains</li> <li>• All assets with a Risk Assessment of high or above</li> </ul>
2	<ul style="list-style-type: none"> <li>• Control systems</li> <li>• Filtration units</li> <li>• Coagulation/sedimentation tanks</li> <li>• Pipelines 200mm diameter or greater (other than trunk mains )</li> <li>• All other assets with a Risk Assessment of moderate</li> </ul>
3 (Low)	<ul style="list-style-type: none"> <li>• All other pipelines</li> <li>• Telemetry units</li> <li>• All assets with a Risk Assessment of low</li> </ul>

Asset management practices are also supported by:

- Processes: The necessary processes, analysis and evaluation techniques needed for life cycle asset management. It includes risk management.
- Information systems: The information support systems used to store and manipulate the data.
- Data: Data available for manipulation and interpretation by information systems to produce the required outputs.

## 1.8 FINANCIAL SUMMARY

During 2014 the provisional 10 year financial forecast for the water supply activity was determined by identifying new works, and the continuation/evaluation of current maintenance and renewal strategies.

The following table summarises financial forecast for the water supply activity:



Water Supply	EAP 2014/15	LTP 2016	LTP 2017	LTP 2018	LTP 2019	LTP 2020	LTP 2021	LTP 2022	LTP 2023	LTP 2024	LTP 2025
<b>Operating Income</b>											
Te Kuiti	1,407	1,389	638	659	682	706	733	763	794	828	855
Mokau	30	54	56	58	60	62	64	67	70	73	76
Piopio	26	33	35	36	37	39	40	42	43	45	47
Benneydale	23	22	23	24	25	26	27	28	29	30	32
<b>Total Operating Income</b>	<b>1,486</b>	<b>1,498</b>	<b>752</b>	<b>777</b>	<b>804</b>	<b>833</b>	<b>864</b>	<b>900</b>	<b>936</b>	<b>976</b>	<b>1,010</b>
<b>Operating Expenditure</b>											
Te Kuiti	1,784	1,538	2,021	2,196	2,249	2,266	2,320	2,332	2,373	2,411	2,442
Mokau	306	355	367	386	391	401	412	418	426	436	449
Piopio	316	357	364	394	389	417	417	445	454	464	456
Benneydale	181	174	179	184	187	195	202	205	212	217	224
<b>Total Operating Expenditure</b>	<b>2,587</b>	<b>2,424</b>	<b>2,931</b>	<b>3,160</b>	<b>3,216</b>	<b>3,279</b>	<b>3,351</b>	<b>3,400</b>	<b>3,465</b>	<b>3,528</b>	<b>3,571</b>
<b>Net Operating Cost/(Surplus)</b>	<b>1,101</b>	<b>926</b>	<b>2,179</b>	<b>2,383</b>	<b>2,412</b>	<b>2,446</b>	<b>2,487</b>	<b>2,500</b>	<b>2,529</b>	<b>2,552</b>	<b>2,561</b>
<b>Capital Expenditure</b>											
Te Kuiti	1,540	5,225	1,445	170	184	166	172	154	191	194	208
Mokau	80	168	45	58	56	64	70	67	80	83	92
Piopio	65	34	128	107	174	130	75	85	88	89	94
Benneydale	3	3	8	3	3	3	4	4	4	4	4
<b>Total Capital Expenditure</b>	<b>1,688</b>	<b>5,430</b>	<b>1,626</b>	<b>338</b>	<b>417</b>	<b>363</b>	<b>321</b>	<b>310</b>	<b>363</b>	<b>370</b>	<b>398</b>
<b>Net Expenditure</b>	<b>2,789</b>	<b>6,356</b>	<b>3,805</b>	<b>2,721</b>	<b>2,829</b>	<b>2,809</b>	<b>2,808</b>	<b>2,810</b>	<b>2,892</b>	<b>2,922</b>	<b>2,959</b>
<b>Funded By</b>											
Internal Loans	905	4,418	1,339	74	162	122	70	67	80	83	92
Reserves	353	279	746	775	661	529	435	370	365	339	351
TK Water Supply Service Charge	901	939	948	1,031	1,114	1,234	1,361	1,401	1,453	1,486	1,499
MK Water Supply Service Charge	258	282	315	328	334	343	353	358	362	370	378
PP Water Supply Service Charge	213	276	292	343	387	402	403	427	437	448	439
BD Water Supply Service Charge	159	161	165	170	172	179	185	187	193	196	201
<b>Total Funding</b>	<b>2,789</b>	<b>6,355</b>	<b>3,805</b>	<b>2,721</b>	<b>2,830</b>	<b>2,809</b>	<b>2,807</b>	<b>2,810</b>	<b>2,890</b>	<b>2,922</b>	<b>2,960</b>

The overall water activity forecast for the next 10 years proposes:

- Total projected operating and maintenance cost (excluding inflation) of \$15.018M over the 2015 – 2025 period.
- Reticulation renewals in Te Kuiti of \$872,000 is envisaged over the next 10 years.
- Capital works: a treatment plant upgrade and additional storage programme for Te Kuiti totaling \$6.61M is envisaged over the next 10 years.
- No provision has been made for new water supply schemes in support of managed growth planning concepts proposed for Mokau – Awakino, Te Waitere, and Marokopa.
- These projections and the AMP will be reviewed in 2017/18 ahead of the 2018-28 LTP in light of updated asset information that will be collected and recorded over the next 2.5 years.

The strategy for the financial forecast is to:

- assign realistic timing to projects given the resources available with WDC's current funding sources and in relation to impacts on other Activity Management Plans
- optimise timing of projects
- generate consistent budgeting philosophies across all asset groups
- align expenditure with growth predictions
- continue to do works identified as asset information improves.

The key issues relating to the 10-year forward projections are summarised below, based on the assumptions noted on each lifecycle.

Maintenance:

Operation and maintenance costs are estimated to increase due to demand for higher level skills in operation and maintenance of treatment plant upgrade to meet the DWA 2007 in addition to any other cost increase that may occur.

Renewals:

Renewal funding requirement fluctuate year to year as assets reach the end of their useful lives and need renewing or replacing. This trend has been smoothed by applying sound engineering judgment to available asset information.

New Works (Augmentation):

Large variations in capital costs from year to year are smoothed by managing the expenditure through incremental construction, for example, upgrade of the WTP is spread over 3 years. This will mean the plant will not meet legislative compliance for a number of years but progress towards such compliance will be made each year. There is a risk of monetary penalties should the Act be applied to the letter.

## **1.9 ASSUMPTIONS**

The following basic assumptions have been made in preparing the 10 year cash flow forecasts.

- All expenditure is stated in dollar values as at 30 June 2014 with no allowance made for inflation over the 10 year planning period.
- At this stage it is anticipated that there may be a gradual increase in operations and maintenance expenditure in real terms over the planned period due to the continued ageing of the asset and more stringent statutory quality and reporting requirements. This may be offset by improved asset renewal decision that may reduce maintenance needs made possible by enhanced information used in the asset management system. As this reduction is difficult to quantify it has not been allowed for in the financial forecasts.
- There is no provision in this AMP for additional assets vested in Council from subdivisional development - it will be re-assessed in the next 3 year planning cycle
- Maintenance allocations are largely based on maintaining current levels of expenditure.
- Significant increases in the required funding may however result from more detailed evaluation of asset renewal requirements at the treatment plants and more stringent consent and legislative requirements. Although such costs may be offset slightly by resultant reductions in maintenance costs for the assets involved. However increased depreciation is expected to equal or exceed such saving.
- The most significant changes may result from further changes to legislation and or Waikato Regional Council (WRC) review of its Regional Plan as it affects water assets and the need to

meet higher environmental standards and more stringent water management requirements in control and reporting.

- No allowance has been made for any costs associated with the Waitomo Village Scheme.

The current funding options available for the water supply activity include:

- Rates
- Development contributions (no current policy)
- Financial Contributions
- Capital works subsidies from Ministry of Health
- Capital contributions (e.g. from past subdivisions pre LGA 2002)
- Special funds – reserves, investment funds, etc
- Water by meter charges

#### **1.10 AMP IMPROVEMENT PROGRAMME**

An improvement plan that outlines steps required to improve the quality of both the content and presentation of this AM plan is included as Section 8 (Improvement Plan section). This has been compiled in conjunction with the plan update.

Key activities/programmes identified in the improvement plan are:

- Consult to ascertain the community's service needs and priorities and to ensure their views are considered when selecting the best level of service scenario.
- Incrementally upgrade Te Kuiti WTP including automation of processes and automated monitoring equipment to provide evidence for compliance with MOH gradings and the Health (Drinking Water) Act 2007 and any amendments.
- Continue flow monitoring at Te Kuiti to quantify actual water consumption and losses.
- Continue incremental renewal of all water reticulation and improve supply reliability, including automation of processes, monitoring of performance and collection of data.
- Improve asset data collection procedures and improve maintenance reporting
- Continue development of accurate and complete asset registers for each scheme.
- Develop a greater focus on risk identification and management, obtaining more detailed information on critical assets.
- Prioritise the works developed from a risk assessment exercises.
- Review and improve on the individual asset strategies outlined in Section 5 and produce an updated financial forecast in line with the next LTP planning cycle.
- Confirm the right level of funding is being allocated to maintain the asset service potential.
- Develop strategies to meet more stringent water quality standards and consent requirements
- Review pump station and treatment plant maintenance programmes.
- Review and implement water treatment plant operating procedures.
- Investigate universal metering across all water supply schemes
- Implement predictive modeling techniques that will allow consideration of alternative long term cost scenarios.

## SECTION 2: INTRODUCTION

### 2.1 WAITOMO DISTRICT

The Waitomo District occupies a large area extending from the west coast of the North Island between Mokau and Te Waitere through to Pureora forest in the east, and from Mapiu in the south to Waitomo Village in the north. The District is situated within the Waikato Region and comprises 3363.57 sq km of land. The total population is 8,910 (2013 Census), with Te Kuiti the main residential and service center having a population of 4,419. Other towns include Mokau, Waitomo, Piopio, Awakino, Marokopa and Benneydale. The local economy is based on farming, forestry, mining and tourism, some of which are key users of the district's water supply infrastructure.



## 2.2 PURPOSE OF AM PLANNING

Council is responsible for the management of four urban water schemes which have a combined optimised replacement cost (ORC) value of approximately \$23,454,914 million (July 2014).

The size of this investment and the importance of water services to the community demands excellence in the management of these assets. The community expects water assets to be managed in such a way that costs are minimised while providing the levels of service that the community desires.

This activity management plan (AMP) is the tool for combining management, financial, engineering and technical practices to ensure that the level of service required by customers is provided at the lowest long term cost to the community. The AMP is intended to demonstrate to the District's ratepayers that Council is managing their assets responsibly and to optimised price / quality trade-offs resulting from alternative levels of service.

## 2.3 BENEFITS OF ACTIVITY MANAGEMENT PLANNING

The main benefits derived from AM planning are:

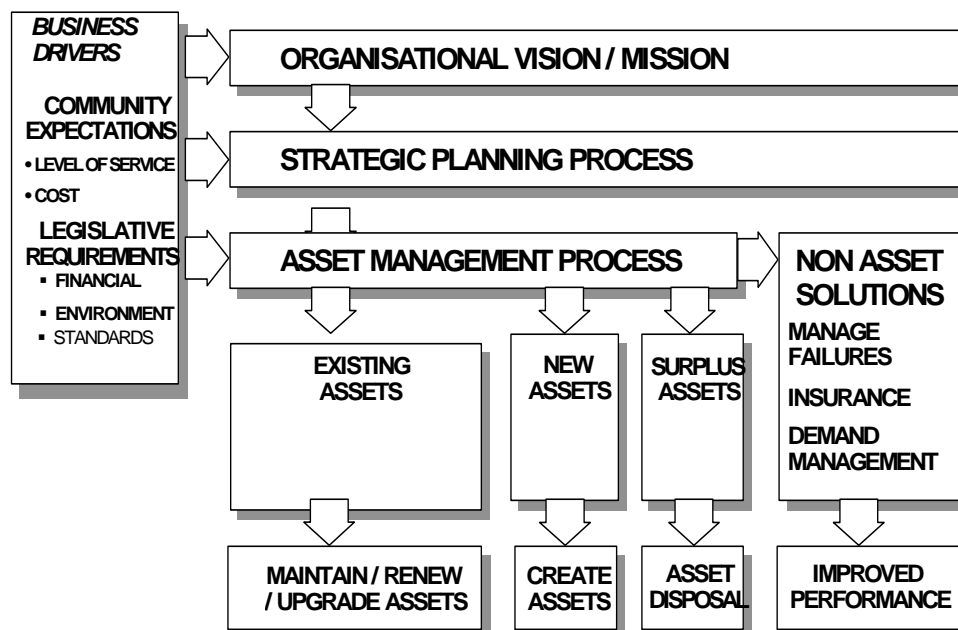
- Improved understanding of service level options and standards
- Minimum lifecycle (long term) costs are identified for an agreed level of service
- Better understanding and forecasting of asset related management options and costs
- Managed risk of asset failure
- Improved decision making based on costs and benefits of alternatives
- Clear justification of forward works programmes and funding requirements
- Improved accountability over the use of public resources
- Improved customer satisfaction and organisational image

A fundamental objective throughout the preparation (and future review) of this plan will be to identify potential opportunities for reductions in asset lifecycle costs.

## 2.4 PROCESS FOR DEVELOPING ACTIVITY MANAGEMENT PLAN

This plan is the latest version of the Council's stormwater activity management plan through a "living" process of regular updating and improvement. The first version was prepared in 2001 then revised in 2003, 2004, 2006, 2009 and 2012, linking asset management planning to the processes and principles outlined in the Local Government Act 2002 for long term planning.

AMP's are a key component of the Council's planning process, being prepared within the context of Council's strategic and financial planning processes. These links, and the key outputs of the asset management planning process, are illustrated in the figure below.



(Source: NAMS Manual)

The timing of this version is consistent with the three yearly review of the Council's 2015-25 Long Term Plan (LTP). This AMP is one of several AMP's prepared within the current planning cycle as part of a much larger, organisation wide project.

The establishment of the organisation wide project plan, known as the "Road Map", is led by the Group Manager - Corporate Services and sponsored by the Chief Executive. The Road Map is a detailed organisational work programme for the adoption of the Long Term Plan 2015 – 2025. It ensured that key organisational planning issues were addressed systematically.

A specific AM planning strategy/work plan for the AMP section of the Road Map was developed to facilitate cross organisation coordination and to improve alignment of expectations between Council and management. Input to the project included the Group Manager – Assets and asset management staff, and Corporate Services. The project was coordinated and quality managed internally and some documents peer reviewed externally.

The AMP's will be subject to ongoing review, particularly in relation to changing service delivery standards and expectations, and changes in the demand for and use of services. By monitoring community service delivery requirements, Council will be better able to develop and manage its assets and ensure community demand and service levels are met in the most effective and timely manner.

## 2.5 POSSIBLE NEGATIVE EFFECTS OF PROVIDING THESE ACTIVITIES

An inadequate or ineffective urban water supply system without adequate levels of treatment can lead to adverse health, economic and environmental consequences. On a large scale, these have the potential to adversely affect environmental, social and economic well-being.

Water source contamination, excessive abstraction from raw water sources, accidental discharge of water treatment chemicals to natural waterways, insufficient fire fighting capacity in urban areas, and inability to pay the rates associated with provision of the water supply service are examples of potential negative effects from the provision of water services.

## 2.6 PLAN FRAMEWORK

The sections are structured to develop the AM plan in a logical manner as follows:

Section Number	Section Title	Description
1	Summary	A succinct overview of the key issues contained in the body of the AMP
2	Introduction	A summary of all the elements of the water activity, the rationale for ownership of the asset components, and the reasons for preparing the AMP
3	The Activity	A description of the assets making up the water supply activity and the potential significant negative effects.
4	Strategic Environment	A discussion on the planning and statutory framework and the context of where the AMP is situated within it.
5	Levels of Service	An outline of the levels of service that are proposed and the basis for these.
6	Future Demand	Details of growth forecasts impacting on the management and utilisation of the assets and which form the basis for proposed new works.
7	Risk Management	Identifies the risks associated with the activity and the resilience of critical assets to natural disasters

<b>Section Number</b>	<b>Section Title</b>	<b>Description</b>
8	Lifecycle Asset Management	Details of what is planned to manage and operate the water supply activity at the agreed levels of service and optimal lifecycle cost.
9	Asset Management Practices	The information available, the information systems and processes used to make decisions on how the assets will be managed
10	Financial Summary	The financial requirements resulting from all the information in the previous sections
11	Assumptions	The assumptions used and uncertainty in forecasting the expenditure required to achieve the agreed levels of service over the term of the plan
12	Improvement Plan	Details of the plan for monitoring implementation and effectiveness of the AMP and improvements to AM systems to improve confidence in the AMP, particularly over the next three years.
13	References	Details of information sources used to prepare this AMP
14	Appendices	Complementary material referred to in the body of the document

## SECTION 3 - THE ACTIVITY

### 3.1 ACTIVITY DESCRIPTION

This AMP covers the 10 year period from 1 July 2015 to 30 June 2025 with reference to trends over the 30 year period from 1 July 2015 to 30 June 2045. This AMP covers the water supply assets, which include the reticulation network, pumping stations, treatment plants and wash water disposal systems.

This AMP covers the four water supply schemes, serving an urban population of approximately 5,200 in Te Kuiti, Benneydale, Mokau and Piopio, out of a total district population of 8,910 people

The total scope of assets which make up these schemes is:

Asset Type	Quantity
Water treatment plants (including pump stations)	4 (no.)
Water reticulation	72.627 km
Fire hydrants	434 (no.)
Storage volume	4,773.6 m <sup>3</sup>
Booster pump stations	4
Raw water storage (Mokau)	3 dams 20,000m <sup>3</sup>

Taharoa infrastructure is owned and operated by BHP Steel Mining Ltd. Waitomo Village infrastructure is owned by Tourism Holdings Ltd - neither forms part of this AMP.

The district reticulation consists of 72,628m of pipes of various sizes and materials of which 86% has a remaining life expectancy of more than 20 years and 49% has a life expectancy in excess of 60 years. The bulk of the reticulation is in Te Kuiti (68%)

The assets comprising the above four schemes currently owned and managed by WDC have an optimised replacement cost (ORC) of \$23.45 million and are summarised in the following table.

Community	Reticulation Mains ORC (\$)	Water Connections & Fittings ORC (\$)	Water Plants ORC (\$)	Value scheme by Community
Te Kuiti	8,553,427.49	1,406,597.44	6,206,489.86	\$16,166,515
Piopio	876,376.80	158,599.80	1,733,918.58	\$2,768,895
Mokau-Awakino	1,469,028.45	198,259.30	1,241,889.19	\$2,909,177
Benneydale	727,741.01	136,136.10	746,449.91	\$1,610,327
Total	\$11,626,573.75	\$1,899,592.64	9,928,747.54	\$23,454,914

This plan is based on stated levels of service, the latest available asset information and knowledge of council staff. The 30 year financial projections are based on knowledge of key customer expectations. A programme of AM improvement (see Section 8) will be undertaken to improve the quality of decision making, the knowledge of assets and customer expectations and the accuracy of the financial projections.

Council funding approval is required for all work programmes identified in this AMP, and the timing and scope of the works may differ from that shown. Generally the initial three year period has robust expenditure estimates whilst the remaining seven years are considered to be more indicative due to the absence of detailed concept development, price variability over time, and possible changes in levels of service at both a technical and customer level.

### 3.2 MANAGEMENT STRUCTURE

The WDC Assets Group manages the water supply activity. The organisational structure is illustrated in

APPENDIX M - WAITOMO DISTRICT COUNCIL MANAGEMENT STRUCTURE – 2014

### 3.3 PHYSICAL WORKS & PROFESSIONAL SERVICES DELIVERY

WDC contracts out all non-routine maintenance, renewal and new stormwater works. The management of these contracts is undertaken by WDCs in-house resources. Future operation and maintenance service delivery arrangements are currently under review



### 3.4 SIGNIFICANT EFFECTS OF PROVIDING WATER SUPPLY ACTIVITY

An inadequate or inefficient community water supply system can lead to social, economic and environmental consequences. On a large scale, these impacts have the potential to adversely affect environmental, social and economic well-being.

Lack of or inadequate water supply can create unsanitary conditions leading to development of health hazards and impair economic activity, poor quality water can lead to water borne sickness. These are a few of the potential positive and negative effects from poor provision of water services.

Positive Effects	Negative Effects
Maintaining / improving community health and wellbeing by providing safe drinking water and fire-fighting protection to urban communities	<p>Cost of compliance with NZ Drinking Water Standards for NZ.</p> <p>Potential for wasteful use of raw water resource necessitating additional capital investment for storage capacity.</p>
Good water supply planning and design mitigates the effects of the take and treatment plant on the environment.	<p>Cost of consent monitoring and compliance.</p> <p>Potential for negative impacts on raw water source downstream from intakes.</p>
Effective water supply services facilitate the use of land for commercial and industrial development.	High industrial use of WDC water supplies could compromise the supply capacity for residential users.
Facilitates hosting of traditional community gatherings and events.	Life supporting capacity of water sources could be compromised by excessive takes.

### 3.5 SIGNIFICANT CHANGES TO THIS ACTIVITY

In addition to informing the 2015-25 LTP, this AMP provides the asset management basis for WDC's Infrastructure Strategy in accordance with s.101B of the Local Government Act 2002. The financial projections in Section 10 of the AMP have therefore been added to include indicative values for a 30-year term in keeping with the statutory term of the Infrastructure Strategy.

## SECTION 4 - STRATEGIC ENVIRONMENT

### 4.1 VISION

Councils Vision for the 2015 – 2025 Long Term Plan is:

***“Creating a better future with vibrant communities and thriving business”***

Council's water supply activity supports this vision by:

- maintaining the existing system
- eliminating public health issues associated with water borne diseases, where practicable
- facilitating the development of new industries and employment in the district through the provision of essential water supply infrastructure

### 4.2 COMMUNITY OUTCOMES

The Water Supply Activity contributes to the following community outcomes:

CO5 - *Preserving the Environment*

A place where we preserve the natural environment for future generations, ensuring that natural resources are used in a sustainable manner

Effective Leadership

**CO8** A place where the development of partnership for the delivery of programmes and services is encouraged and pursued.

CO10 - *Sustainable Infrastructure*

A place that provides safe, reliable and well managed infrastructure which meets the District community needs and supports maintenance of public health, provision of good connectivity and development of the District

### 4.3 STRATEGIC GOALS FOR THE GROUP

- To protect public health
- To protect the environment from the adverse effects of extracting water
- To enable economic development

### 4.4 RATIONALE FOR COUNCIL INVOLVEMENT

This Group activity exists to facilitate the maintenance of public health and development of the District.

The rationale for Council's involvement stems in part from statutory requirements. The legal authority for Council to be involved in the provision of water supply services is contained in the Local Government Act 2002 (LGA), specifically Sections 10-11A inclusive regarding the purpose, role and core services of local government, and the Section 101B requirement to prepare an Infrastructure Strategy for its infrastructure assets, including water supply.

The LGA requires local authorities to act in accordance with the principles set out in Section 14, namely prudent stewardship and the efficient and effective use of its resources, including effective planning for the future use of its assets, and to take a sustainable development approach that takes into account the social, economic, and cultural interests of people and communities, the need to maintain and enhance the quality of the environment, in the present and for the future.

WDC's water supply network in its entirety is defined as a strategic asset in its Significance and Engagement Policy. In accordance with the provisions of the Local Government Act 2002, WDC cannot transfer ownership or control of a strategic asset, or construct, replace or abandon a strategic asset unless it has first consulted with the community and included the proposal in its Long Term Plan.

The Local Government Act 2002 also empowers Council to acquire land for public works:

- ⇒ Section 181 empowers Council to construct work on private land that it considers necessary for (inter alia) water supply
- ⇒ Section 189 (1), "Power to Acquire Land": empowers Council to 'purchase, or take in the manner provided for in the Public Works Act 1981, any land or interest in land, whether within or outside its district, that may be necessary or convenient for the purposes of, or in connection with, any public work that the local authority was empowered to undertake, construct or provide immediately before 1 July 2003'.

Council intends to continue with its present involvement with the water supply activity, and this AMP has been developed on this basis. The vision that Council is working to achieve is set out in the community outcomes adopted for the District. The water supply activity is generally regarded as an essential activity associated with protecting public health.

#### **4.5 JUSTIFICATION FOR OWNERSHIP**

Schedule 10 of the Local Government Act 2002, places requirements on councils to justify their role and the method of funding each of its groups of activities, including the water supply activity. Political decisions on these strategic issues involve the scope, standard, cost, delivery and funding of services.

WDC's ownership of urban water supply infrastructure assets is justified by the following factors relating to the service;

- Core Business - Council accepts responsibility for providing essential services. These services include water supply.
- Natural monopoly - Council is empowered by the LG Act 2002 to provide domestic water supply services, with the decisions as to the standard of service and allocation of resources being legislative and political rather than market driven.
- Funding - Council has access to more favourable financing options for the level of expenditure required over the long term (next 30 years).
- Community Opinion - the public and Council have expressed preference for key infrastructural assets to remain in public ownership
- Exclusivity - it is impractical to exclude customers from utilising the service by stopping supply
- Public Benefit - the service is generally assessed as providing mainly public benefits associated with economic growth, public health and environmental protection.
- Legislation - the LG Act 2002 makes it mandatory for Council to continue to maintain its public water supplies except in very special circumstances and subject to formal consultation and agreement processes

Through the provisions of the Health Act 1956, Council is directed to control, monitor and report results of water quality and services to the national water information database (WINZ) Council also works with the District Health Board to undertake projects and maintenance that form part of a national water capital assistance programme. Council has received financial assistance from Ministry of Health under the CAPS scheme towards new construction costs where the work was related to public health protection in the past and will apply for further funding where applicable.

#### **4.6 THE EXTENT OF COUNCIL'S RESPONSIBILITY**

Council is the primary service provider for the construction, maintenance and repair of the public water systems within Waitomo District Council and may maintain the District's water systems as it sees fit, subject to government and regional council requirements.

The activity comprises a number of elements including intakes, distribution pipes, pumping stations and treatment plants. Council oversees this responsibility by coordinating and contracting physical works to outside organisations and delivering some operation and maintenance work in-house.

#### **4.7 OTHER RELEVANT LEGISLATIVE REQUIREMENTS**

Council is a "Network Utility Operator", a "Requiring Authority" and a consent holder, as defined in the Resource Management Act 1991. It is legally responsible for the control of its water systems.

The Council also has a separate role as a Consent Authority for the purposes of the Resource Management Act. This will occasionally mean that the Council must apply to itself for a designation or land use consent in respect of its water operations.

#### 4.8 KEY STAKEHOLDERS

In addition to the general public, there are a number of key stakeholders who have an important role in the planning and delivery of service standards for the District's Water network. These organisations were approached directly during the AMP development process to obtain feedback on the current and desired levels of service. They included:

##### External

- Council's water maintenance contractor (Veolia Water)
- Waikato Regional Council
- Ministry of Health
- Ministry for the Environment
- Fish and Game
- Ngati Maniapoto
- Residential and commercial users
- NZ Fire Service

##### Internal

- Councilors
- Chief Executive
- Asset Group Manager and staff
- Finance Manager
- Corporate Group Manager
- Information Technology Manager
- Customer Services Staff

#### 4.9 LINKS TO PLANNING DOCUMENTS

The key internal planning document influencing this AMP is the Council's 2015 – 2025 Long term Plan (LTP) which sets out Council's role in maintaining and promoting community well being in the district. The AMP is a "tactical" plan in support of the Council's LTP, with linkages to the Council's District Plan, Structure Plans and Council bylaws pertaining to water related matters.

The following table summarises the linkages between AMP's and the other key components of the strategic planning and management of Council:

<b>Long Term Plan</b>	The broad strategic direction of Council set in the context of current and future customer requirements, many of which relate to the performance and financial requirements of the assets which are the subject of AM planning. The Activity Management Plan is the means for developing appropriate strategies and policies for the long-term management of Council's assets, and the basis for analysing the impact of Corporate strategic options on levels of service and long term funding needs.
<b>Annual Plan</b>	The Annual Plan is an annual installment of the LTP. The service level options and associated costs developed in the Activity Management Plan are fed into the Annual Plan consultation process.
<b>District Plan</b>	The District Plan regulates the shape and form of sustainable land use and activities pertinent to achievement of the District's environmental outcomes. It identifies and protects anticipated growth areas and formalises urban supply boundaries for utility services. It establishes standards for the construction and protection of the roading network and provides the mechanism for mitigating adverse effects on the natural and physical environment.
<b>Financial Strategy:</b>	Financial plans developed in each AMP are consolidated into the financial strategy of Council. AM plans improve financial planning by instigating planned long term maintenance and operating programmes and provide justification for works programmes and levels of funding.
<b>Infrastructure Strategy</b>	The Water AMP informs the content of WDC's Infrastructure Strategy by considering levels of service, life cycle asset management programmes and risk and resilience of the infrastructure

<b>Business Plans</b>	The service levels and budgets defined in an AM plans are incorporated into Business Plans as performance measures for each department and individuals.
<b>Contracts</b>	The service levels, strategies and information requirements contained in the AMP become the basis for performance orientated Contracts let for service delivery
<b>Corporate Information</b>	Quality activity management is dependent on suitable information and data. This requires the availability of sophisticated AM systems which are fully integrated with the wider corporate information systems (e.g. financial, property, GIS, customer service, etc.).
<b>Community Development Plan</b>	Community development relies on essential infrastructure to underpin economic, environmental and social wellbeing.

The Water Supply AMP has synergies with a number of other Council AMPs. For example, the wastewater network is pivotal in collecting, treating and disposing of liquid wastes following human and industrial water consumption. Similarly, the roading network provides the corridor for hosting many underground infrastructural services such as the water reticulation.

At an external level, this AMP is consistent with Waikato Regional Council's Regional Plan – Water Module. This will have an increasing impact on minimum levels of service over time, particularly in relation to water take standards.

At an internal level, future work on Council's growth strategy followed by the preparation of structure plans for its urban communities will help define the area boundaries for current and future water supply services.

#### 4.10 ACTIVITY MANAGEMENT STRATEGY & POLICY

Activity Management practices undertaken through contract procurement is reviewed and made more timely and relevant to the requirements of the Water Supply activity group as time goes.

The Activity Management policies and strategies guide and integrate Activity Management practice for urban water supply activity within WDC. The Activity Management policy states the overall intention and includes such items of Activity Management as:

- focus on delivering the required level of service to existing and future customers in the most cost-effective way
- legislation, regulatory and statutory requirements will be complied with
- long term stewardship of assets, with planning undertaken for a minimum of 10 years
- commitment to continuous improvement of Activity Management, with consideration to a correlation between the nature and scale of Council assets and Activity Management.
- risk management to support all Activity Management activities
- Activity Management will be directed to the achievement of the Council's Community Outcomes and strategic goals as stated in the Long Term Plan
- Activity Management outputs will be communicated to relevant employees and third parties to ensure they are aware of their Activity Management responsibilities.
- periodic reviews will be carried out to ensure it remains relevant

The District Plan establishes zones for residential (and other) development. The minimum lot size for a residential property connected to a reticulated sewerage scheme is defined by minimum yard separation distances and maximum building site coverage of 35%. Without sewerage, a larger minimum lot size of 2500m<sup>2</sup> is required. With reticulated sewerage, the minimum lot size reduces to 600m<sup>2</sup> in a greenfield development, or 300m<sup>2</sup> in an infill development. No similar limitation on lot size is specified where reticulated stormwater drainage is not available.

In practice, this has resulted in an increasing trend towards infill development in towns such as Te Kuiti where lot sizes historically tend to be larger than the minimum size for a property connected to sewerage. Although not quantified by survey, it is anticipated that this pattern of development will eventually impose additional demands on the existing water supply network.

## SECTION 5 - LEVELS OF SERVICE

### 5.1 INTRODUCTION TO LEVELS OF SERVICE

The statutory background against which water supply services are delivered goes beyond simply enabling the Council to provide and maintain public water services. Either directly (e.g. the Resource Management Act) or indirectly (e.g. through consultation required with key organisations under the Resource Management Act 2001), statutory processes can impose minimum levels of service beyond those identified by the community. The ensuing cost of compliance with statute and regulation (e.g. Health and Safety in Employment Act requirements) is transferred back to the ratepayer through contract payments at the time of water supply maintenance and construction.

Levels of service (LoS) are defined in the NAM's International Infrastructure Management Manual as the identified service quality for a particular activity (e.g. water supply) or service area (e.g. discharge quality) against which service performance may be measured. Service levels usually relate to quality, quantity, reliability, responsiveness, environmental, acceptability and cost.

An objective of AM planning is to match the level of service provided by the asset with the expectations of customers. AM planning will enable the relationship between level of service and cost of service (the price/quality relationship) to be determined. This relationship can then be evaluated in consultation with customers to determine the optimum level of service they are prepared to pay for.

Defined levels of service can then be used to:

- Inform customers of the proposed type and level of service to be offered.
- Develop AM strategies to deliver the required level of service.
- Measure performance against these defined levels of service.
- Identify the costs and benefits of the services offered.
- Enable customers to assess suitability, affordability and equity of the services offered.

### 5.2 LEVELS OF SERVICE DRIVERS

The following LoS drivers define the scope and scale of services provided by the activity:

#### **Statutory and Regulatory requirements**

Statutory requirements set the minimum standards of service which the water supply activity has to meet and are generally not negotiable. The relevant legal requirements include:

- Local Government Act 2002
- Resource Management Act 1991
- Health Act 1956
  - Health (Drinking Water) Amendment Act

#### Local Government Act 2002

The Act empowers Council with a 'general power of competence' which encompasses the power to create, operate and maintain assets for the purpose of (inter alia) water supply. The following sections further specify the powers and responsibilities of Council with respect to water supply services:

- Section 125 requires that Council undertake an assessment from time to time of water and other sanitary services within its district
- Section 130 establishes the obligation for Council to continue to maintain water services
- Sections 131-135 provide for the closure or transfer of small water services
- Section 136 provides for the contracting out of water services
- Section 137 provides for joint local government arrangements and joint arrangements with other parties for the delivery of water services
- Section 181 empowers Council to construct work on private land that it considers necessary for (inter alia) reticulated water supply and the supply of water through water races.
- Section 189 (1), "Power to Acquire Land": empowers Council to 'purchase, or take in the manner provided for in the Public Works Act 1981, any land or interest in land, whether within or outside its district, that may be necessary or convenient for the purposes of, or in connection with, any public work that the local authority was empowered to undertake, construct or provide immediately before 1 July 2003'.

### Resource Management Act 1991

The Act requires Council to manage the use, development and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic and cultural well-being and for their health and safety while:

- Sustaining the potential of natural and physical resources to meet the reasonable foreseeable needs of future generations.
- Avoiding, remedying or mitigating any adverse effect of activities on the environment.
- Safeguarding the life-supporting capacity of air, water, soil and ecosystems.

In managing the use, development, and protection of natural and physical resources Council must:

- recognise the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu and other taonga and comply with.
- take into account the principles of the Treaty of Waitangi in exercising functions and powers under the Act relating to the use, development, and protection of natural and physical resources.
- comply with planning documents prepared under the Resource Management Act that impact on the management of wastewater assets, which include the Regional Plan prepared by the Waikato Regional Council (refer to Appendices 6, 7 and 8) and Council's District Plan and Water Bylaw.
- comply with discharge consents issued by the Waikato Regional Council for disposal of treated effluent, disposal of bio solids and sludges to land, and discharge to air.

### Health (Drinking Water) Amendment Act 2007 (as at 1 April 2008)

This amendment Act, which came into force on 1 July 2008, requires all drinking water suppliers to permanent populations of 25 or more people to take "all practicable steps" to implement a risk management approach to drinking-water supplies, with the maximum acceptable level of contaminants prescribed by the 2005 Drinking Water Standards. Development and implementation of Catchment Assessments, Water Safety Plans and Water Demand Management Plans are required to comply with the legal duty of "all practicable steps"

The Act allows a stepped programme for compliance depending on the size of the population served with drinking-water.

A supply to 16 to 100 people is defined as a neighbourhood supply.

A small water supply is defined as a supply used to supply drinking water to between 101 and 500 people (inclusive) for at least 60 days per year and comes into effect from 1 July 2012.

A minor supply is defined as a drinking-water supply that is used to supply drinking water to between 501 and 5,000 people (inclusive) for at least 60 days per year and comes into effect from 1 July 2011.

Supplies serving populations over 10,000 people will need to start complying by 1 July 2009, with the last date for neighbourhood supplies being 1 July 2013. The main obligations of the supplier are:

- Apply to be included on the register of community drinking-water supplies.
- Take all practicable steps to comply with the (previously voluntary) Drinking Water Standards.
- Introduce and implement Public Health Risk Management Plans for the water supply (if serving more than 500 people).
- Take reasonable steps to contribute to the protection from contamination of sources.
- Water Supply Protection Regulations - regulations required to be enacted under the Health Act to ensure adequate measures are taken to prevent contamination of public water supplies. The measures cover:
  - Installation and maintenance of backflow preventers and air gap separators.
  - Storage of toxic substances.
  - Prohibition of ball-type fire hydrants.
  - Adequate covers for service reservoirs on public supplies.
  - Identification of water pipes.

The requirements of the Health (Drinking Water) Amendment Act 2007 amend and are now incorporated in the Health Act 1956 (as Part 2A Drinking Water).

### Health Act 1956

The Act requires:

- Local Authorities to provide 'sanitary works', the definition of which includes waterworks, drainage works, wastewater works, works for collection and disposal of refuse, cemeteries and crematoria

and includes all lands, buildings, machinery, reservoirs, dams, tanks, pipes and appliances used in connection with any such works.

- Empowers the Minister to require local authorities to undertake works necessary to protect public health.
- Requires provision in any dwelling house of suitable appliances for the disposal of refuse water and sufficient sanitary conveniences.
- Empowers councils to make bylaws covering conditions to be observed in the construction and approval of drains.

Water Supply Protection Regulations

Regulations required to be enacted under the Health Act to ensure adequate measures are taken to prevent contamination of public water supplies. The measures cover:

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- Storage of toxic substances.
- Prohibition of ball-type fire hydrants.
- Adequate covers for service reservoirs on public supplies.
- Identification of water pipes.

Health & Safety in Employment Act 1992 (as Amended)

Council must ensure the safety of the public and all workers (including contractors) when carrying out works.

Building Act 2004

The Act requires WDC to ensure all buildings and facilities constructed comply with this Act, including the provision of sanitary services and fittings.

**5.3 COUNCIL BYLAWS AND POLICIES**

Water Supply Policy

The following policies are stated in other Council documents:

(a) Water Quality

Existing water reticulation and treatment facilities will be improved to comply with NZ Drinking Water Standards: 2008, as a minimum. Risk to health can arise from microbiological or chemical contamination of drinking water. The Ministry of Health carries out regular grading of water supplies in New Zealand, grading the water source/ treatment facilities and the water distribution network on a scale of 'A' to 'E' and 'a' to 'e' respectively. The grading is based on an assessment of the following factors:

- The consistency and quality of the source of the water which is used for the water supply
- The suitability of the treatment process for that particular source of water
- The adequacy of the qualifications of the process staff
- The security of the distribution system against contamination
- Whether the supply authority carries out adequate checks to ensure that safe wholesome water is consistently supplied.

A 'C' grading is described as marginal (moderate level of risk), may be acceptable for small communities), and a 'D' grading as unsatisfactory (high level of risk). An "E" grade corresponds to 'unacceptable' (unacceptable level of risk to the community)

The 'Drinking Water Standards of New Zealand' detail how to assess the quality and safety of drinking water and how to demonstrate compliance. This is achieved through a water quality monitoring programme carried out by a certified laboratory and reported in the Water Information New Zealand (WINZ) database monitored by the Ministry of Health. Compliance with the standard, demonstrates a low risk of contamination.

The standards are based on World Health Organisation guidelines and are an accepted measure of water quality. The current grading standards applying to Council's water supply services are:

Supply	Water source and treatment grade	Storage and distribution grade	Target Grading
Te Kuiti	E	b	Bb
Mokau	U	u	Bb
Benneydale	U	u	Bb
Piopio	E	b	Bb



Mokau and Benneydale are graded Uu (ungraded) following a MoH decision in 2006. Both treatment plants had been upgraded to a level where it should be graded Bb when actual grading gets done. Piopio had a grading just before the upgrade of the treatment plant began and should also be graded Bb. Te Kuiti has been graded since 2006. Once the upgrade of the treatment plant, due to start in January 2015, is completed its grade should be Bb.

(b) Water Conservation

To encourage conservation of water from Council supplies and avoid restrictions on domestic and trade use so far as is practicable.

(c) Supply of Water

Where it is practicable and economically viable, an adequate and potable water supply will be provided, maintained or developed for the residents and visitors of the District. Demand for supply from out of District may be refused. Where conceded to supply, Out of District charges will not be less than in-district charges. Water mains will not be extended unless those requesting the extension pay for it.

The existing Te Kuiti, Benneydale, Mokau and Piopio water supply systems will be operated and maintained in an efficient manner, with a steady renewal of water mains as required and planned Roading works where reticulation replacement falls within the lifecycle of the road works. Additional mains will be installed where required to improve the existing supply. Improvements to the water treatment plants will be carried out to provide safe drinking water supplies.

The treated piped water supply system at Taharoa will continue to be owned and operated by N.Z. Steel Mining Ltd; any improvements will be funded by BHP.

(d) Metered Supplies

Ordinary supply of water as defined in the Water Supply Bylaw is generally not metered. Average usage is 470 cubic metres per annum per connection, significantly above the generally accepted industry average of 365m<sup>3</sup> per annum. This is inclusive of water losses as result of breakages, firefighting incidents and drills, flushing of dead-end pipes, etc. Where consumption at a connection is in excess of 292m<sup>3</sup> per annum (based on 200L per person per day for a 4 person household) a meter may be installed, and if usage stays consistently above the allocation, a charge may be made on a unit rate basis.

Where a supply is deemed to be extraordinary, as defined in the Water Supply By-law, a meter is installed and a charge made on a unit rate basis.

(e) Sale of Water

Sale of water from fire hydrants is only permitted with specific approval, which may be revoked by Council at any time.

(f) Supply not Guaranteed

The uninterrupted supply of water is not guaranteed and no allowance or compensation will be made on the account of water not being supplied, whether by accident or for the purpose of scheme construction, extension or maintenance.

(g) Other Provisions

The Policy document also includes policies covering connections, agreements for supply, wastage of water, water charges, and damage.

### Council Bylaws

WDC operates the Water Services Bylaw (WSB) which was last reviewed in 2014 and adopted on 10 February 2015 following public consultation. The bylaw provides regulations to support the effective management, use and protection of WDC's water supply, stormwater and wastewater activities. The stated scope of the WSB is to:

- Protect public health and the security of the public water supply;
- Detail the responsibilities of both the Council and the consumers with respect to the public water supply and other water related services;
- Ensure the safe and efficient creation, operation, maintenance and renewal of all public water services, sewerage and stormwater drainage networks;
- Ensure proper hazard management to prevent or minimise flooding and erosion;
- Minimise adverse effects on the local environment particularly freshwater ecological systems and beach water quality, and assists in maintaining receiving water quality;
- Ensure that watercourses are properly maintained;

- Ensure protection of Council's water services, sewerage and stormwater drainage assets and the health and safety of employees;
- Set out acceptable types of connection to public water services, sewerage and stormwater networks.

Council is defined under legislation as the "Road Controlling Authority" for the district's roads. As such, it is required by law to control the location and performance standards for water supply (and other utilities) reticulation within the road corridor.

#### Customer Expectations

Customers require community water supplies to maintain agreed levels of service through adequate infrastructure maintenance, management and construction services delivered reliably, efficiently and economically. The use of AM techniques provide the following benefits in satisfying these demands;

- Focuses on identifying and satisfying customer requirements.
- Provides the basis for customer consultation for determining level of service preferences by identifying the range and cost of service level and service delivery options
- Improves reliability of asset performance and availability of consequent services to the customer
- Enhances customer confidence that funding is being allocated in an equitable and cost effective manner and that assets are being well managed
- Improves understanding of service level options and requirements.

#### Environmental Responsibility

WDC is required under the provisions of the Resource Management Act to provide water supply services in an environmentally responsible manner. This AM plan demonstrates how WDC plans to address sustainable management of the natural resources and achieve environmental protection associated with the maintenance and development of its water supply activity.

#### Safety

Asset management planning addresses WDC's safety obligations through the:

- adoption of appropriate safety standards for the creation of new assets.
- specification of works to maintain assets in a safe condition.
- enforcement of safe operating and work practices.
- compliance with industry standards and codes of practice.

#### Financial Responsibility

The Local Government Act 2002 places an emphasis on the preparation of long term financial strategy. The Act requires Local Authorities to:

- prepare and adopt, every three years, a long term (10 years plus) financial strategy which takes into account asset creation, realisation, and loss of asset service potential
- in determining the long term financial strategy, consider all relevant information and assess the cost/benefit of options
- adopt a financial system consistent with generally accepted accounting practices.

The development of the optimised work programmes and resulting long term financial plans in this AMP for the management of WDC's water supply infrastructure is the mechanism used to define the LoS for this activity.

#### Efficiency and effectiveness

Council manages the water supply infrastructure on behalf of the affected district ratepayers. Delivery of agreed LoS needs to be carried out in a manner that can be shown to be both effective and efficient.

The techniques of asset management support efficiency and effectiveness by:

- providing a basis for monitoring asset capacity, performance and utilisation
- enabling asset managers to anticipate, plan and prioritise asset maintenance and renewal works
- identifying under funding of asset maintenance and replacement
- quantifying risk, allowing the minimisation of high impact (financial and service level) failures and environmental effects and resulting in savings where asset renovation is less than for replacement
- extending the life of an asset by optimising maintenance and refurbishment treatment selection.

#### Corporate Profile

Council aims to be a customer focused organisation and a good corporate citizen. Effective water supply asset management planning reflects this corporate aim.

## 5.4 METHODOLOGY

The first step is to identify the key service criteria for each service area from the customer's perspective (the objectives of the services provided) and identify defined levels of performance for key service criteria.

Asset managers then plan, implement and control both the technical or outcome related dimensions and the functional or process related dimensions of service levels. These technical and functional dimensions are not always independent of each other. In some cases high technical quality may contribute to high functional quality or vice versa.

Recognition of the differences and relationships between the technical and functional levels of service is an important part of understanding levels of service.

Typical Technical Levels of Service	Typical Customer Levels of Service
Process related – measures define how the customer receives the service	Outcome related - measures define what the customer receives in an interaction with WDC
Quality – bacteriological, protozoa	Intangibles
Quantity	Responsiveness
Pressure – drinking water and fire-fighting	Pressure
Availability	Courtesy
Legislative requirements	Assurance (knowledge, trust, confidence)
Maintainability	Empathy (understanding, individual attention)
Capacity	Cost
Reliability and performance	Safety
Environmental impacts	Comfort
Cost / affordability	Quality – taste, odour, colour
Comfort	Availability
Safety	Safety
Reliability and performance	Reliability

## 5.5 STATEMENT OF SERVICE PERFORMANCE

The development of this AMP plan has been based on a combination of technical levels of service, using internal knowledge and experience of such matters, and functional service levels. The following levels of service, performance measures and targets correspond to the DIA mandatory measures for the water supply activity:

LEVEL OF SERVICE	PERFORMANCE MEASURE	PERFORMANCE TARGET
WDC provides safe drinking water supplies for public health purposes.	The extent to which WDC's drinking water supplies comply with Part 4 of NZ Drinking-water Standards 2005 (revised 2008) (bacteria compliance criteria)	100%
	The extent to which WDC's drinking water supplies comply with Part 5 of NZ Drinking-water Standards 2005 (revised 2008) (protozoal compliance criteria):	100%

WDC's Water Supply networks are maintained and operated adequately.	The percentage of real water loss from the Council's networked reticulation system in the year <sup>2</sup> :	≤ 25% (All WDC supplies)
Timely response and resolution of service requests	The median response times for attendance at urgent call-outs in a year (measured from the time that the Council receives notification to the time that the service personnel reach the site)	90 mins
	The median response time for resolution of urgent call-outs in a year (from the time that the Council receives notification to the time)	180 mins
	The median response times for attendance at non-urgent call-outs in a year (measured from the time that the Council receives notification to the time that the service personnel reach the site)	120 mins
	The median response time for resolution of non-urgent call-outs in a year (from the time that the Council receives notification to the time)	240mins
Provision of effective and reliable water supply system to the community	The total number of complaints per 1,000 water connections received by WDC, district wide, in a year regarding:  (a) drinking water clarity (b) drinking water taste (c) drinking water odour (d) drinking water pressure or flow (e) continuity of supply, and (f) Council's response to any of these issues	≤ 5
Efficient management of demand for water	Average consumption of WDC drinking water per day per resident within the district.	≤ 400 litres per person per day

Target levels of service proposed by WDC are communicated to the public and key stakeholders via Council's draft LTP/Annual Plans. The formal consultation process ultimately leads to these documents being finalised and adopted. They are reviewed on a three yearly basis and monitored six-monthly.

## 5.6 CUSTOMER RESEARCH AND EXPECTATIONS

<sup>2</sup> Note: 'Water Losses' includes real losses through leaks in the network and apparent losses through metering inaccuracies or water theft. This does not include unauthorised consumption)

Key to effective activity management planning is understanding customer needs and service satisfaction. To date customer contact has been in the form of:

- occasional public meetings
- newsletters and pamphlets
- answering customer enquiries and complaints
- annual customer satisfaction surveys

Customer satisfaction surveys were commissioned annually from 2009. Not all WDC services were surveyed, with the water supply activity surveyed in 2010, 2011 and 2014.

Whilst results prior to 2009 are available, they were measured on a different scale and direct correlation with more recent results is not achievable.

The results show the top 2 scores (satisfied or very satisfied) over the 3 survey years 2010, 2011 and 2014, summarised as follows:

	2010	2011	2014
<b>Cost of Water</b>	61%	58%	-
<b>Quality</b>	51%	54%	49%
<b>Reliability</b>	-	-	88%

Cost is mainly driven by increasingly stringent quality based regulatory requirements and reporting thereof. As noted above, effectiveness and efficiency of service delivery is an important factor in mitigating the impacts of costs. It is noteworthy that despite the high cost of WDC 's water services in small communities, cost was well down the list as a reason for dissatisfaction.

Poor taste, discolouration and odour were the main reasons given for dissatisfaction with water quality, and in that order, across all four water supply schemes. Taste is influenced by the presence of chlorine. "White" water is entrained air at the user taps while black or brown water is iron or manganese that settles out in the reticulation over time and is dislodged following a pipe repair.

These factors are either beyond Council control, or in the case of the coloring, involve harmless metals (in the small quantities present) that are otherwise extremely expensive to remove. Also the occurrence is seldom, short lived and disappears within a few minutes if the tap is left running.

The main reasons given by the small minority who were dissatisfied with the reliability of the water supply service were loss of supply, slow to respond and leaks/damaged pipes. At Mokau, water restrictions and Council responsiveness were mentioned as a concern.

## 5.7 PROCESS FOR ADDRESSING GAPS

Identified areas for improvement relate mainly to the aesthetic (taste, odour, colour) aspects of Council's water supplies. Addressing these issues to some extent will require additional capital investment, whereas the first call on available funds is targeted at ensuring the supplies are safe to drink from a public health perspective.

The relationship between agreed levels of service, customer expectations and willingness to pay are important to the management of the assets. In this context, a full service delivery review will ultimately be necessary across the full range of Council activities to add to current information and knowledge and to provide a basis for comparing the relative acceptance of different levels of service with cost. It will include:

- The aspects of water supply services most valued by customers
- The special user needs of groups and individuals
- The level of service appropriate for these services
- How customers perceive Council's performance in delivering these services
- How much customers are prepared to pay for enhanced services
- The relative importance of water supply compared with other Council services.

## SECTION 6 - FUTURE DEMAND

### 6.1 ANTICIPATED CHANGES IN DEMAND

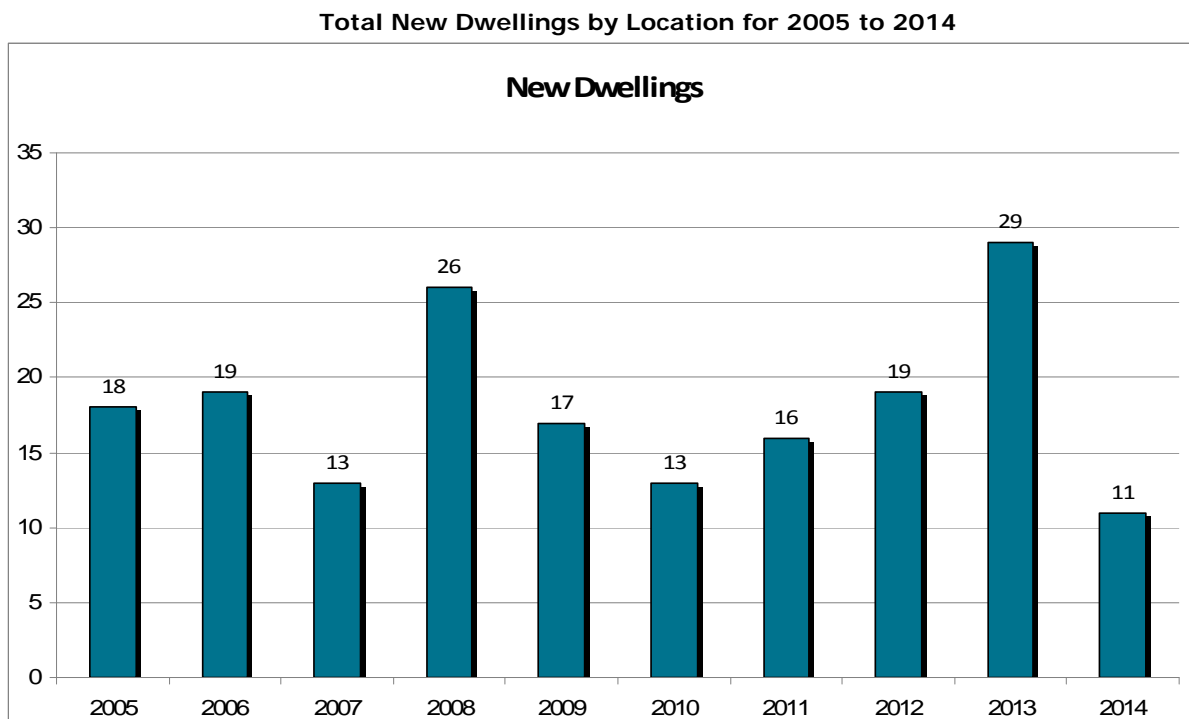
The main drivers of demand for water supply are:

- Land use activities (e.g. industrial development, tourism and coastal settlements)
- Population growth
- Urban infill and expansion
- Global warming
- Community expectations e.g. garden irrigation, environmental enhancements

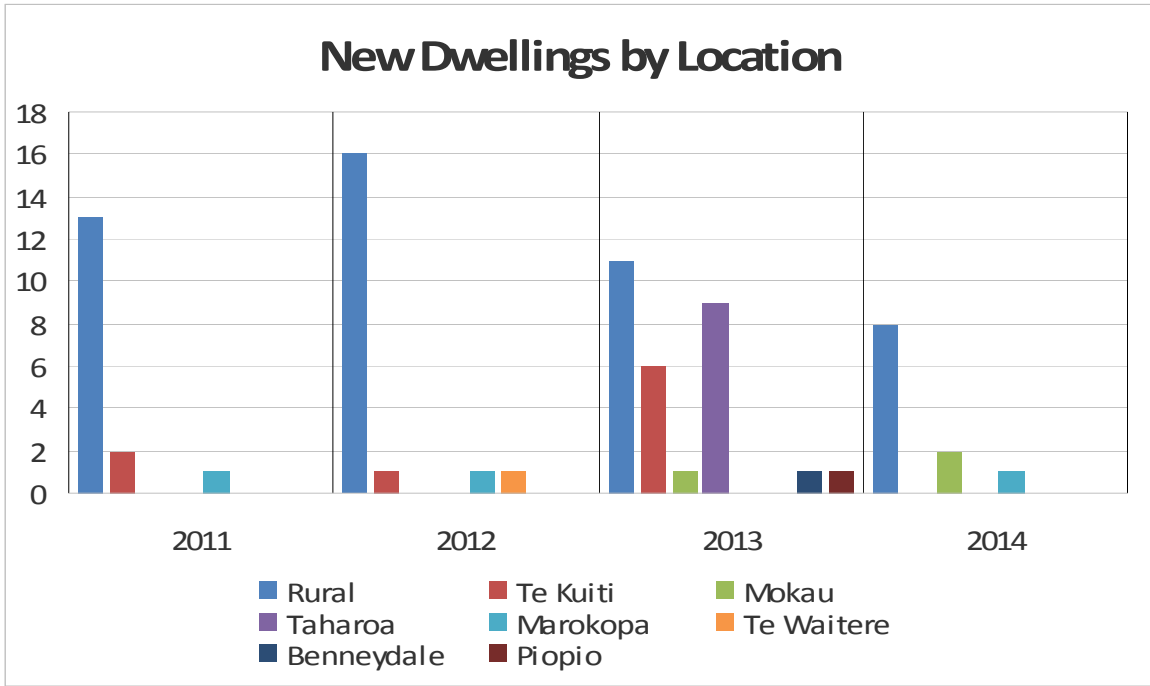
### 6.2 LAND USE ACTIVITIES

In so far as the water supply activity is concerned, land development and associated urban building construction, together with population change will have greatest impact on water supply demand.

The number of new dwellings constructed in the district over the past 10 years totals 180, distributed on an annual basis as below:



Over the past four years, 75 new dwellings were established in the district, distributed as follows:

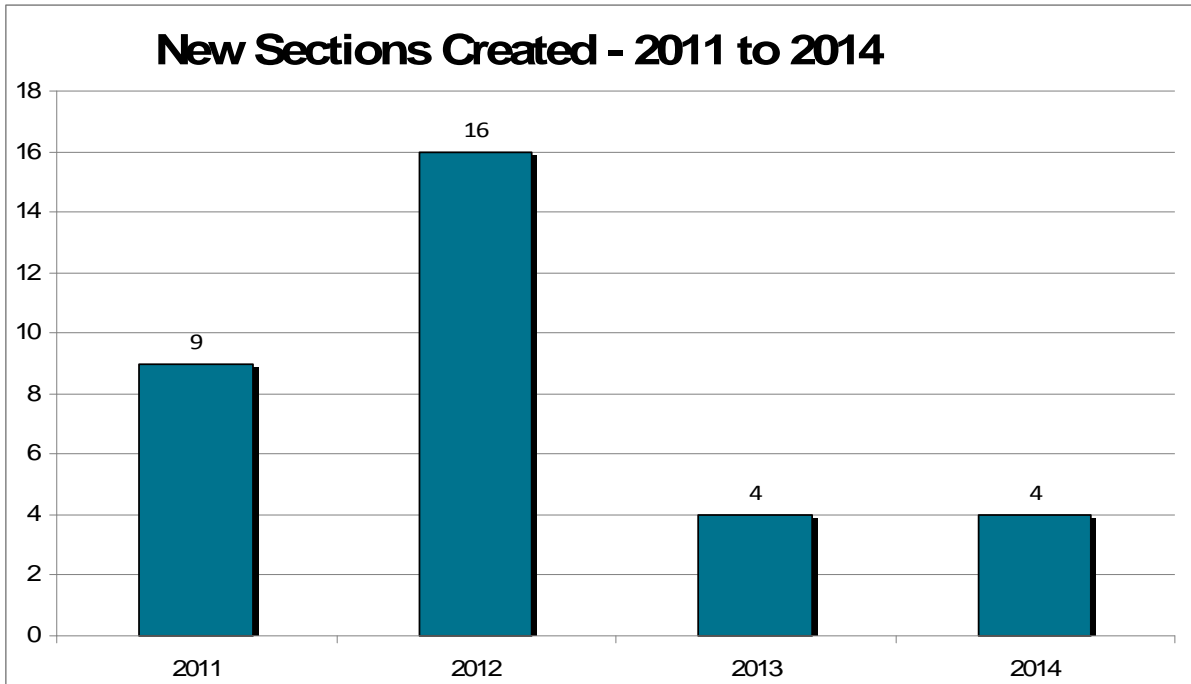


Of interest is the nine new houses at Taharoa during 2013. These were all relocated dwellings for the NZ Steel Mining company, potentially indicating an increased scale of operation at that location.

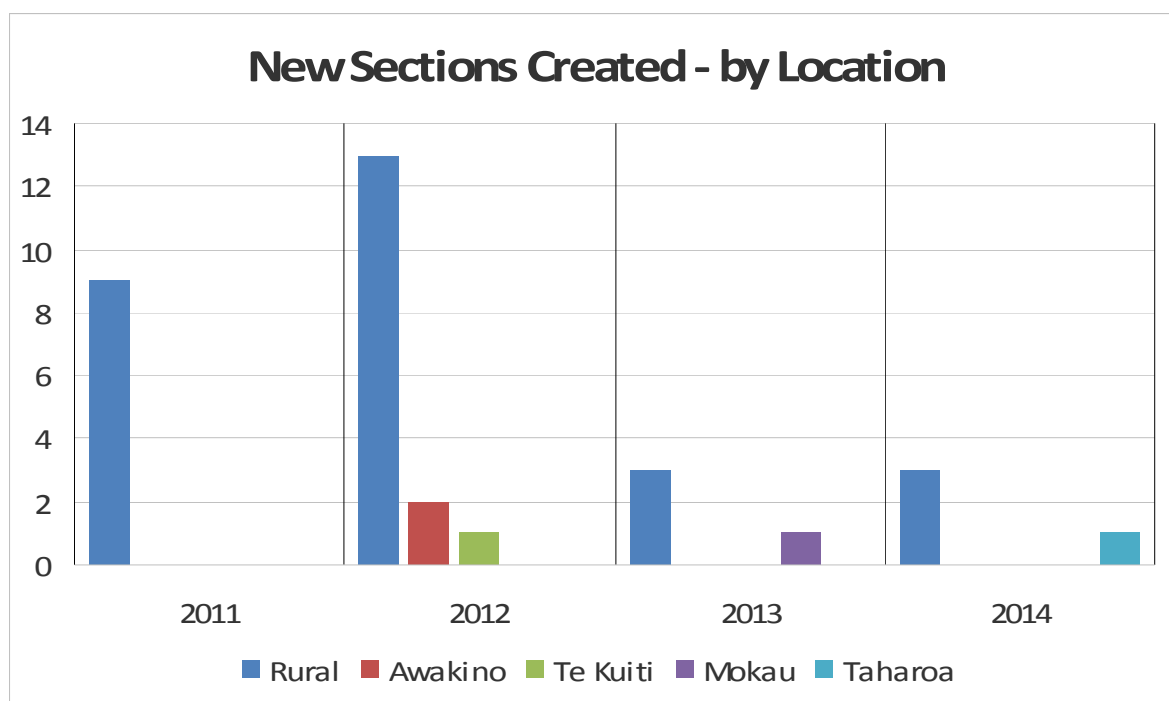
The “rural” entry comprises mostly new dwellings located immediately adjacent to urban areas, reflecting demand for lifestyle sized units. Of these, Te Kuiti and the beach settlement areas remain the preferred locations for new dwellings on rural lifestyle properties.

The growth in the number of new dwellings is underpinned by subdivisional activity. There is often a delay between new lot creation and building consents, partly due to the time involved in processing resource consents, and other external factors such as the economy and the market for new dwellings.

There were 33 new lots created over the four year period, 2011 – 2014. The graph below shows that while there was spike in new lots created during 2012, the overall trend for the number of new lots per year is very modest.



The distribution of new lots is shown below:



Further land development is to be monitored during the term of the 2015-2025 LTP in conjunction with the staged review of Council's District Plan.

The current pastoral based economy is expected to remain the economic base of the district, with growth very dependent on economic conditions and export opportunities. Industrial growth, which may impact on water supply demand, is partly dependent on attracting new industries. At this point, there are no known new industrial developments expected to occur in urban areas during the planning period.

Tourism is a major economic activity in the district, with Waitomo Village being a tourism site of national and international repute. Scope exists for developing opportunities for adventure tourism, building on Waitomo Village as the major tourism hub. The infrastructure at the Village is held under private ownership with the water treatment plants and reservoirs on private or leased land.

### 6.3 POPULATION GROWTH

The above pattern of modest land subdivision and new dwellings, is reflective of a slight decline in the normally resident population of the district, across both the rural and urban areas, over the past 7 years of the 2006 – 2013 inter-census period. The exceptions are the Taharoa and Waipa Valley (east of Te Kuiti) area units where slight population gains were recorded in 2013 – both consistent with the new dwelling and subdivisional activities identified above.

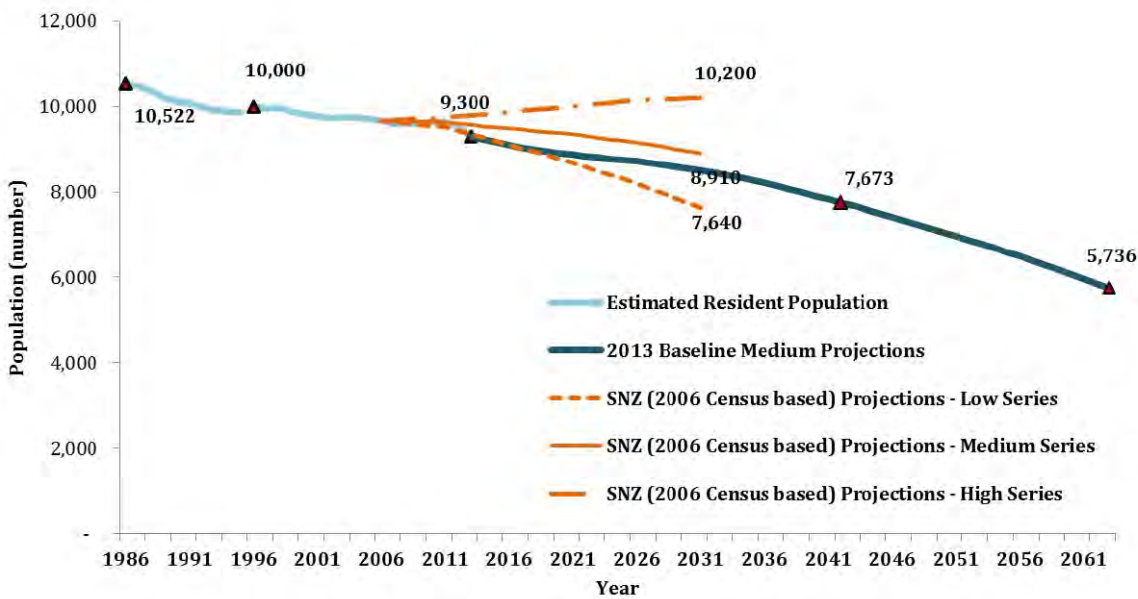
Waitomo District	Census usually resident population count			Population Change		
	2001	2006	2013	2001-2006	2006-2013	2001-2013
<b>Area Units</b>						
531500 Piopio	468	468	393	0	-75	-75
531600 Taharoa	246	216	231	-30	15	-15
531710 Mahoenui	528	480	399	-48	-81	-129
531720 Marokopa	1,569	1,572	1,536	3	-36	-33
531731 Waipa Valley	960	984	1,050	24	66	90
531732 Tiroa	72	81	51	9	-30	-21
531800 Mokauiti	1,218	1,182	1,029	-36	-153	-189
532000 Te Kuiti	4,392	4,455	4,218	63	-237	-174
619201 Inlet-Waitomo District	-	-	-			
<b>Total Waitomo District</b>	<b>9,453</b>	<b>9,438</b>	<b>8,910</b>	<b>-15</b>	<b>-528</b>	<b>-543</b>



The 2013 census, usually resident population of the district is ranked 58<sup>th</sup> out of 67 districts in New Zealand. This compares with Otorohanga District at 56<sup>th</sup> place, Ruapehu District at 52<sup>nd</sup>, and Waipa District at 21<sup>st</sup>.

The future population forecast prepared by the National Institute of Demographic and Economic Analysis (Waikato University) predicts a continuation of this downward trend for the district over the next 50 years. At a micro level, this pattern of population decline is expected to be consistent, more or less, across the district, including the coastal communities that were previously areas experiencing highest growth and demand. Overall, the demographic and development trends show that there is no population based demand for growth related infrastructure at the present time or in the foreseeable future.

The graph below presents the 2013-base medium population projection for Waitomo District to 2063, along with historical population estimates from Statistics New Zealand back to 1991. The 2006-base Statistics New Zealand (SNZ) high, medium and low projections (October 2012 update) are also included for comparison.



**Baseline Medium Population Projections for Waitomo District and Comparison with Statistics NZ (2012) Sub-national Projections**

**6.4 URBAN INFILL AND EXPANSION**

The District plan allows for smaller lot sizes in the residential zone where sewerage services are available, defined by minimum yard separation distances and maximum building site coverage of 35%, without resource consent. Otherwise, a minimum lot size of 2500m2 is required.

With reticulated sewerage in place, infill development can occur in residential areas as a permitted activity, with minimum lot sizes reducing to 300m2. In a “Greenfield” residential development with reticulated sewerage, the minimum lot size is 600m2 No similar restriction applies in the case of stormwater availability.

Further growth, especially in the form of lifestyle blocks around the Te Kuiti/Oparure rural areas is expected to continue but with only minor impact on existing network infrastructure. A development pattern comprising lifestyle blocks of 1.0 to 5.0ha units is occurring around Te Kuiti, together with a trend towards infill subdivision in Te Kuiti itself. Current lot sizes average 1000m2, with infill allowing surplus land to be used for residential property development. This potentially facilitates a more efficient use of existing infrastructure, assuming adequate surplus capacity is available.

**6.5 GLOBAL WARMING**

Current predictions of the effects of global warming on the west coast of New Zealand could mean increasing frequency and duration of high intensity rainfall events, with longer drought periods during summer months more likely to occur on the east coast. These are long run predictions, with localised variations on the overall

trend expected to continue at least over the term of the current planning period. Higher intensity rainfall has been noticed in recent year with short duration heavy rain spells occurring.

The impacts of climate change might contribute to increased demand for water storage to cope with increased drought periods, particularly at Te Kuiti and Mokau where peak demand summer periods already stretch the existing storage capacity.

## 6.6 COMMUNITY EXPECTATIONS

The following trends are expected to impact on the quantity and quality of WDC's water supply activity:

- Increasingly stringent resource consent conditions associated with the cumulative effect of takes on the sustainability of river and groundwater sources
- Implementation of drinking water legislation which took effect on 1 July 2008 and which places emphasis on the identification and management of risks by increasing the number of treatment barriers throughout each water supply scheme.
- Higher levels of monitoring and reporting on all aspects of water supply
- Impact of industrial demand on the Te Kuiti water supply
- Increased water usage per head of population and higher customer expectations regarding supply flow rates associated with the use of garden irrigation systems, automatic household appliances, etc.

The implications of these trends on existing water services over the next 20 years will be:

- Extensions to the utility networks will only take place if funded by developers
- Significant increased demands on the capacity of utility networks cannot be accommodated without substantial upgrading.
- Future maintenance and upgrades associated with the growth of the networks will be nil or minor within the planning period.
- Most of the water schemes are very small and hence sensitive to increases in demand. Even the largest of the schemes, at Te Kuiti, is of average size on a national scale. Changes to LoS could have substantial impacts on costs to consumers (e.g. drinking water standards and resource consent conditions)
- Demand for installation of public water systems at Awakino, Marokopa and Te Waitere
- Potential acquisition of the Waitomo water supply system.

## 6.7 DEMAND MANAGEMENT STRATEGY

Council is desirous of managing growth to avoid the current ad-hoc pattern of development continuing with its cumulative impact on the local natural landscape and an inevitable liability in years to come, requiring replacement of the existing self-contained water supply and wastewater disposal arrangements with public services at the expense of wider Council ratepayers.

Development, especially residential style development around the beach communities and at Waitomo Village needs to be managed to avoid over-subscription of the existing scheme capacities. Structure plans, which will feed into a future review or change to the District Plan, are needed to provide guidance for developers and to protect the design capacity and or source capacity of the respective water supply schemes. The strategy is to avoid ad-hoc connection that may lead to exceedance of scheme capacity with the attendant risk of additional expense for the ratepayers who funded the original capital cost of the water supply schemes to meet original demand. Planning and quantifying all future development, consistent with a development strategy that facilitates implementation of the future vision and form of the district, is necessary.

### Mokau

A high level development strategy (December 2008) has been mooted for the growth areas identified above. Preliminary planning maps have been prepared identifying where officers believe or understand development is most likely to occur, starting with the coastal strip bordered by the Awakino River to the north and the Mokau River to the south and including the land affected by the above subdivisional consent applications. Additional asset capacity would be required in the form of an upgraded water supply and new wastewater treatment and disposal services. Introduction of reticulated sewerage to service the combined area would open the door for infill subdivision to occur down to a minimum lot size 300m<sup>2</sup>. Without reticulated sewerage, the minimum lot size is 2500m<sup>2</sup>, a concept developed gave an indicative cost \$17 million for a sewer system for Mokau and Awakino. An upgraded water supply main extending from Te Mahoe Road through to Awakino would provide the impetus to develop the additional network capacity required to facilitate such development. The project timetable would commence once a concept design had been prepared, followed by construction beginning in subsequent years. Funding of the additional capacity associated with the upgraded water main capacity could be met from development contributions at the time of building consent application in the case of the approved subdivisional consent applications, and at the time of subdivisional consent application for future development.

Additional raw water supply storage dam has been completed that will relieve the pressure during drought periods and influx of holiday visitors making the supply more reliable.



1Newly Completed Mokau Raw Water Supply Dam

### **Te Waitere**

At Te Waitere, a similar high level development strategy has been considered involving provision of water and upgraded sewerage services. A staged sewerage scheme with initial capacity for an additional 50 dwellings at the apex end of the peninsular, would facilitate infill development as for Mokau – Awakino, was considered. A project to investigate water supply options for this settlement will be needed in the future, partly driven by the consequential requirements of the Health (Drinking Water) Amendment Act for supplies to permanent populations of 25 or more people and associated new drinking water standards. This should however be preceded by a geotechnical investigation of the area to determine suitability for development. Replacement of the ageing discharge pipe was completed. The bulk of the accessible pipe line has been done with only a small section through dense bush and rock left after a pressure test the pipe is deemed to be durable for at least another 20 years. This section is only about 200 m long.

### **Te Kuiti**

In Te Kuiti, a 37 lot residential subdivision in 2007/8 at the north-west end of Te Kuiti help to fill the gap in the housing market created by a predominantly ageing housing stock. The rate of uptake of these new sections are slow but even fully developed will not impact on the existing water supply scheme within the planning period.

While the predicted demand for additional water supply capacity is relatively low, there remains a need to manage the existing water supply resources and assets efficiently. Demand management strategies such as water conservation programmes, are the first order non-asset solution to this issue. Especially when the high annual water usage per connection is considered. Work in this area has provided positive results with several large leaks being repaired and the average consumption reduced throughout the district.

New works were executed on the reticulation in the previous 3 years which alleviated the peak demand issues that exists. It will however only mitigate current water storage inadequacies of the system in the short term.

Universal water metering remains an option for reducing consumption in the event of future demand exceeding supply capacity at any of Council's water supply schemes. The costs and benefits of this option would need to be evaluated against the cost of increasing the supply capacity as the capital and on-going operating and maintenance costs and cost of administering universal metering can be substantial. Meters have been installed in terms of the Water Services Bylaw 2010 when properties are identified as Extraordinary Use consumption.



Backflow preventers are being installed, a requirement of the Ministry of Health, on a replacement basis when toby's are found to be faulty or when water mains are replaced. This makes fitting the meters a much easier and cost effective activity.

Water consumption campaigns are used as a mechanism to increase resident awareness of unnecessary or wasteful water use, particularly during peak summer demand periods when water source and storage capacity is under greatest stress. Council participated in the past in a region wide summer based Smart Water Use Campaign which provides educational information on water savings tips via local media.

This however proved to have very little if any long term effect on water use in Waitomo district in the past, although during the media campaigns in the dry summer periods water consumption is much reduced.

### Waitomo Village

The expected growth at Waitomo Village has also been investigated. However, the water and wastewater infrastructure is held in private ownership and is therefore not currently part of Council's asset management responsibilities. Discussions with the owners and community is ongoing. There is no provision for any work on the water infrastructure of Waitomo Village in this AMP for the 2015-25 LTP.

## 6.8 ADDITIONAL ASSET CAPACITY REQUIRED (*Growth related, including new assets and asset improvements due to growth*)

- Growth that will require additional capacity is not expected in the next 10 years and there is no provision for creating additional capacity in this 10 year plan.
- If any additional water capacity becomes necessary, it is expected that reduction in usage will provide the extra capacity that may be required in the first instance.
- Reduction in the very high usage across schemes will have to come voluntarily or it would be enforced through regulation and universal metering at a significant additional cost.
- Although not specifically provided for in this LTP period apart from preliminary investigation, it is of importance to think of a dedicated off stream supply storage reservoir for Te Kuiti.

## 6.9 NON ASSET SOLUTIONS

Universal Metering has been conceptualized and the outcome is shown below.

Water use change in last 7 years are shown in the table below

Year	Te Kuiti	Benneydale	Piopio	Mokau
2007	1,473,103	88,460	163,994	52,097
2014	1,303,106	26,290	109,605	54,886

Significant reduction in treated water produced has been achieved except for Mokau where it is affected by the increasing popularity and use of Mokau as a summer holiday area with related increase in water use.

It is expected that water by meter will reduce water use by about 20%. Considering that the base cost of water production will for practical purposes stay the same means that the unit rate for water will increase significantly

The estimated cost to implement operate and maintain universal metering is shown in the table below

Scheme	Capital	Wm read and O & M	Annual Cost / connection
Te Kuiti	\$714,000	\$32,585	\$198
Benneydale	\$0	\$3,974	\$474
Piopio	\$84,000	\$6,152	\$334
Mokau	\$69,300	\$7,245	\$748

This means that cost of water to the communities is going to go up by the amounts shown with the only benefit being an environmental one i.e. that approximately 20% less water will be used.

Considering the headway made in reducing water use and the continuous effort to reduce water use a water by meter regime is not regarded as a feasible option for Waitomo District water supplies.

## 6.10 OTHER SCHEME PROPOSALS

Other areas currently not supplied with a public water service but which may demand a supply in the future or the takeover of existing systems are summarised below:

### Taharoa

The Taharoa scheme is owned and operated by BHP Steel Mining Ltd. Water is abstracted from Lake Taharoa and treated prior to distribution. There is no provision in this plan for Council assuming responsibility for this scheme

### Marokopa

The Marokopa community relies on private rainwater tanks and bores, the latter is perceived of being at risk of contamination by the septic tanks in coastal sand formations. It is unlikely that Council will initiate a community scheme in the short term, although this may be introduced in a future planning period. The quantity of water required is of the order of >100m<sup>3</sup> per day based on a population of 500. There is no provision in the 2015 – 2025LTP for any work of this kind.

### Aria

The Aria community relies on private rainwater tanks, perceived to have minimal risk. Council has not provided for any work on a water scheme for this community during the 2015 – 2025 planning period.

## SECTION 7 - RISK MANAGEMENT

### 7.1 RISK MANAGEMENT CONTEXT

Risk identification and management for the Water Supply Activity has been modelled on AS/NZS 4360. A pragmatic approach has been taken to risk management. In identifying risk events they have been grouped into:

- Natural events, where there is no real control over the timing or extent of the event, although probabilities may be understood, e.g. floods, lightning strikes, earthquakes.
- External interdependencies, where other service providers are not providing services which impact on the organisation or individuals, e.g. power supply failures, material supply failures.
- Physical failure risks, where condition or performance of the asset could lead to failure.
- Operational risks, where management of the asset or asset management activities may impact adversely on the asset. This includes unsustainable, funding deficiencies resulting in lack of resources.

As well as direct impacts on assets, the events will usually pose a risk by impacting directly or indirectly on customers and possibly others.

The legal liability for nuisance, negligence and third party damage needs to be recognised.

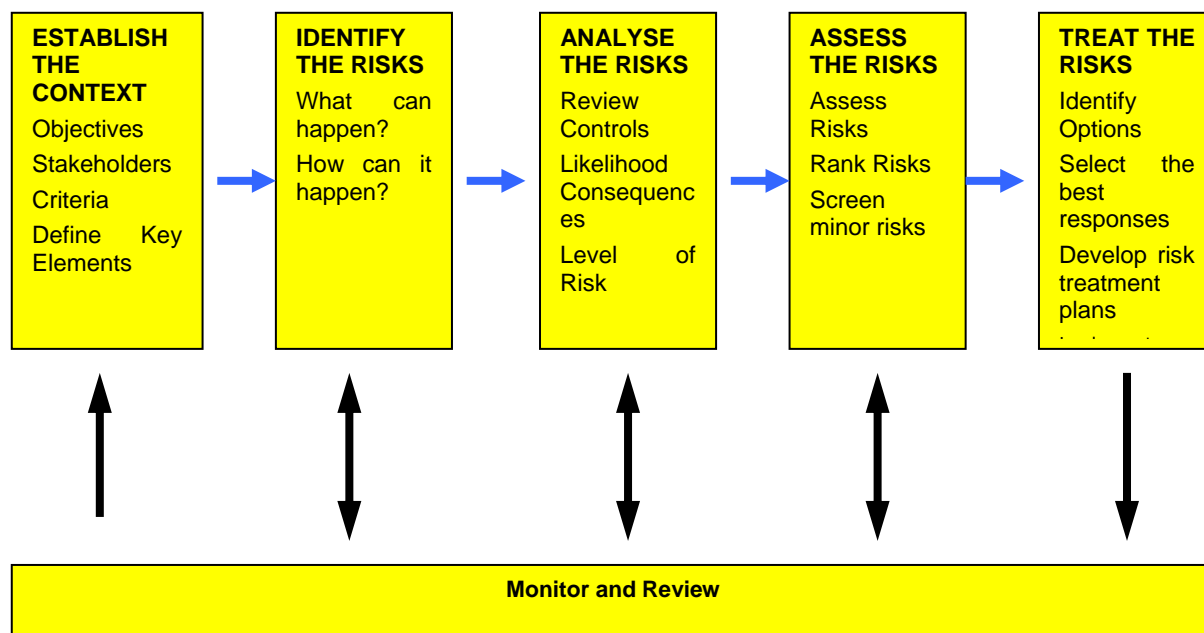
Consequences of failure are linked to the asset types and include:

- Repair costs
- Loss of income
- Loss of service
- Loss of life, or injury
- Health impacts
- Environmental impacts
- Damage to property
- Failure to meet statutory requirements
- Third party loss
- Loss of image

The probability of physical failure of an asset is related directly to the current condition of the asset, hence the importance of realistic and accurate condition assessment.

The effort put into assessing and managing risk needs to be proportional to the risk exposure.

**Risk management flow chart (Refer AS / NZS 4360)**



**7.2 RISKS TABULATION**

The following table lists the risks rating matrix:

Consequence ↑	Major Extraordinary Events	Strategic Imperatives "Action"
	Minor or Insignificant	Operating and Compliance Risks
	Likelihood (probability of failure) →	

Risks are aligned to: Public Health; Environment; Security of Service; Quality; Asset Protection and Capacity.

The following table explains the risk rating matrix used to assess the risks tabulated below for the water supply activity assets. Risk is assessed as the product of Consequence and Probability, thus a high likelihood of the event occurring with a major consequence leads to an extreme risk that requires immediate action.

EVENT	Consequence				
	E Negligible	D Minor	C Moderate	B Major	A Catastrophic
<b>Likelihood Rating</b>					
<b>9 - 10 Almost Certain</b>	Moderate	High	High	Extreme	Extreme
<b>7 - 8 Likely</b>	Moderate	Moderate	High	Extreme	Extreme
<b>5 - 6 Moderate</b>	Low	Moderate	Moderate	High	Extreme
<b>3 - 4 Unlikely</b>	Low	Low	Moderate	High	Extreme
<b>0 - 2 Rare</b>	Low	Low	Moderate	High	High

**Table: Risk Rating**

Measures of Likelihood or probability are explained in the table below:

Likelihood	Descriptor	Description	100% Probability of Failure	Probability
9 – 10	Almost Certain	The event is expected to occur in most circumstances	Within 1 year	0.9
7 – 8	Likely	The event will probably occur in most circumstances	Within 2 years	0.5
5 – 6	Possible	The event should occur at some time	Within 3 – 10 years	0.15
3 – 4	Unlikely	The event could occur at some times	Within 11 – 20 years	0.07
1 – 2	Rare	The event may occur but only in exceptional circumstances	After more than 20 years	0.02

**Table: Probability Table**

Measures of consequence or impact are explained in the table below:

Consequence	Descriptor	Financial	Technical	Personnel Incident or Accident	Social	Political	Commercial
1	Negligible	< \$10,000	Minimal impact to production	First Aid Treatment. Limited lost time	Minimal impact or disruption	Minimal Interest	Minimal Impact
2	Minor	> \$10,000 < \$50,000	Limited disruption & some loss of production	Medical treatment required. Lost time injury	Some disruption to normal access or community systems	Minor Impact or interest. Questions raised in local Forums. Local media reports	Claims from business or repairs to other services. Customers inconvenienced.
3	Moderate	> \$50,000 < \$500,000	Significant impact, production reduced or stopped for up to two weeks	Serious injury. Extended medical treatment required	Disruption to public access and other systems. Increased potential for incidents.	Community discussion. Broad media cover. Questions raised in parliament.	Significant claims. Customers forced to other options. Questions from regulator.
4	Major	> \$500,000	Disruption and damage to system or incident involving other structure	Serious Injury or loss of life	Extensive disruption. Incidents / accidents involving the public	Loss of confidence in facility management. Corporate credibility affected.	Loss of substantial business opportunity. Rebuke or threat from regulator
5	Catastrophic	Very high. Extensive losses within & beyond the system	Extensive disruption and damage with broad impact on other infrastructure	Loss of more than one life and or extensive injuries	Broad impact on community health or the environment	Public furore and investigations. Management changes demanded	Loss of substantial part of business. Loss of licence for large area or region

**Table: Measures of Consequence or Impact**



### 7.3 MITIGATION MEASURES

Mitigation measures typically include design and engineering measures to strengthen the ability of the asset to withstand the hazard event and or prevent public access.

When an asset has failed or is expected to fail in the future, strategies are developed to avoid or react to the failure. If the failure mode of an asset is critical to the organisation, failure avoidance is likely to be more effective than reactive activities.

Depending on the failure mode, the strategies may include: changed maintenance activities, rehabilitation works, replacement works, back-up systems or abandonment of the asset.

These Strategies can provide a list of works, which may be further broken down into:

‘Should Do’ – Complete within 5 years

‘Could Do’ – Works which may possibly be deferred for 5 years

‘Defer’ – Works which can be deferred for 5 years based on the risk rating matrix above. The table below gives guidance on mitigation measures:

Risk Category	Action
Extreme	Immediate Action Required to reduce risk
High Risk	Treatment options must be reviewed and action taken to manage risk
Significant Risk	Treatment options reviewed and action taken dependent on treatment cost
Low Risk	Manage by routine procedures

**Table: Risk vs Action**

### 7.4 CRITICAL ASSETS

The critical urban water supply assets have been defined as those which would have the greatest consequences, including major impact on minimum environmental and public health service levels, in the event of failure.

Critical assets for the Water Supply Activity are to those assets in the Risk Assessment table below rated as having high criticality:

Criticality	Asset Description
1 (High)	<ul style="list-style-type: none"> <li>• Supply intake/groundwater well</li> <li>• Open storage dams</li> <li>• Disinfection units</li> <li>• Storage reservoirs</li> <li>• Trunk mains</li> <li>• All assets with a Risk Assessment of <b>High</b> or above</li> </ul>
2 (Medium)	<ul style="list-style-type: none"> <li>• Control systems</li> <li>• Filtration units</li> <li>• Coagulation/sedimentation tanks</li> <li>• Pipelines 200mm diameter or greater (other than trunk mains )</li> <li>• All other assets with a Risk Assessment of <b>Moderate</b></li> </ul>
3 (Low)	<ul style="list-style-type: none"> <li>• All other pipelines</li> <li>• Telemetry units</li> <li>• All assets with a Risk Assessment of <b>Low</b></li> </ul>

The detailed risk assessment for the assets comprising the Water Supply Activity is shown in Appendix D.

The attached summary document outlines the risk based priorities for the 2015 - 25 LTP planning period, relevant to each WDC water supply scheme. Technical risks have been assigned priority over functional risk.

Water Supply	Risk Description	Risk Category	Mitigation measure	Implementation Date	Cost Estimate			
Te Kuiti	Supply failure – inadequate storage capacity and ineffective use of current storage	Medium	Increase treated water storage capacity	2023-25 - Investigate new reservoir	\$100,000*			
				2026–2035 Construct new reservoir	\$1.5M*			
	Potential contamination from sewer pump station and industrial land upstream of intake	High	Investigate costs and benefits of relocating intake upstream of sewer pump station	2023-25 - Planning and design	\$80,000*			
				2025-35 Implementation	\$2.5M*			
	Unsecure source hence vulnerable to potential protozoan (e.g. giardia, cryptosporidium) contamination.	High	Upgrade treatment plant through additional treatment barriers – coagulation, upgrade sedimentation and filtration, UV disinfection Upgrade on-line monitoring equipment	2012-22	\$6.6M*			
				Condition of rising mains supplying reservoirs – critical assets.	High	Investigate Replace trunk mains	2023- 2025	\$150,000
				Age and condition of mains.	Medium.	Replace mains in order of age, condition and criticality	2025-2035	\$827,000
Piopio	Condition and performance of rising main (critical asset)	High	Design and implement rising replacement main	2017-2018	\$176,000			
Mokau	Unsecured source hence potential for protozoan contamination	High	Upgrade treatment plant	2013-14 Upgrade on-line monitoring equipment	\$67,000			
			Strengthen existing dams	2015/16	\$250,000			

A number of the above projects correspond to improved levels of service. These have been marked with an asterisk, thus\*. They include higher levels of protection against potential contamination, increased storage capacity and conversion to UV disinfection (with the associated aesthetic benefits). The remaining projects relate to maintaining current levels of service.

## 7.5 NATURAL HAZARDS

The natural hazard events considered relevant to this AMP are those most likely to impact on lifelines as defined in the Civil Defence and Emergency Management Act 2002.

### Climate change

Climate change is expected to cause sea-level rise and increased frequency and intensity of rain-storm events. WDC recognises it is prudent to consider climate change impacts in the design and planning of all major long-life infrastructures such as urban water supply systems, over the assets' working life. WDC's current approach is to focus on structures with an assessed remaining life of 25 years or longer and where condition indicates the need for renewal or replacement. The approach encourages consideration of existing natural hazards likely to be exacerbated by climate change, in particular the risk to infrastructure with the longest life. During the design phase, it is recommended that consideration be given to future-proofing the design so that later retrofits are both feasible and cost-effective. When looking at construction and maintenance it is important to consider infrastructure that is at risk from the cumulative effects of multiple climate change impacts.



## 2 Damage to house after king tide in Mokau

Climate change impacts to stormwater design will initially be monitored through the NIWA's High Intensity Rainfall Design System (HIRDS). HIRDS is designed to estimate rainfall duration and intensities for hydrological design purposes and to assess observed storm events

The Ministry for the Environment provides a series of guidance manuals to help local government assess and manage the impacts of climate change in their planning and decision-making processes, as well as infrastructure and Activity Management. The most recent MfE guidance on climate change for New Zealand has been referenced in the Council's assessment of the potential impacts of climate change.

Climate change is expected to influence:

- the frequency and intensity of extreme rainfall. The intensity of extreme rainfall may increase by up to 8 per cent by 2040 and up to 16 per cent by 2090.
- average annual rainfall. In the Waitomo District average annual rainfall is expected to increase by up to 2.5% by 2040. Seasonally the district could expect increases in winter rainfall and decreases in spring rainfall.

Extended drought periods over the peak summer demand period may impact on water storage capacity and increase the risk of water supply shortages, particularly at Mokau where there is a population influx over the summer holiday period, and Te Kuiti where the impact of the current take on low flow conditions will be an issue to be addressed in the context of the next consent renewal process.

There is some uncertainty about the extent and impact of climate change on social, economic and environmental change. That makes it necessary to consider a range of possible futures when assessing climate impacts, and whether adaptive responses are needed. A precautionary approach requires action based on our current understanding of the effect of climate change on water supply security. An overestimation of the impacts of climate change may result in unnecessary expenditure. However an underestimation could impact on the Council through the need for emergency project works. Either scenario would affect ratepayers.

Decisions will need to be informed by a combination of advice from the best expertise and information available at the time, balanced with WDC funding and planning processes and priorities. Measures should be flexible enough to take into account further improvements in recognition of the potential impacts of climate change and not lock in options that minimise the ability to adapt at a later date.

This AMP has considered the longer term consequences of climate change, especially in consideration of new capital works in areas with potential to be affected. While limited population growth and land use change is expected in the period of this AMP, the activity should consider the longer term consequences of climate change as part of future demand management strategies resource management processes.

Given the initiatives already in progress to address the potential effects of climate change, it is considered there will be minimal impact over the period of this AMP. However, a distinguishing feature of climate change-related risks is that the underlying risks themselves change over time. In addition, ongoing research will continue to add to the understanding of the potential impacts of climate change. This means that from time to time WDC may need to reconfirm that its infrastructure and services will continue to perform in future climate affected operating conditions

#### **Seismic event**

A major earthquake with a shaking intensity of MM9 (return period of 1,000 years) would pose a major threat to WDC's urban water supply assets. Replacement of water supply pipes with flexible joints and pipe material at the time of renewal, and seismic resistant water storage structures, are means of mitigating the impacts of a major seismic event.

#### **Volcanic eruption**

An eruption of Mount Ruapehu with a 12km high ash column could block water supply surface intakes and contaminate open topped water storage facilities (eg Mokau), with resulting impact on continuity and security of supply to the affected communities.

#### **Resilience to natural hazards**

The main risks to the critical stormwater assets resulting from natural hazards relates to a significant earthquake, or flooding.

### **7.6 IMPACT OF RISKS ON PROGRAMME FUNDING**

The funding of measures to protect water supply assets from high risks would impact on current budget provisions. That in itself introduces a further risk; that asset condition may decline in the short term because of the diversion of funding away from core maintenance and renewal programmes in the absence of additional funding.

Further analysis of risk criticality and mitigation measures will be carried out over the next three years as part of the AMP Improvement Plan to quantify and prioritise priorities within available budgets.

### **7.7 RISKS AND RESILIENCE IMPROVEMENT PLAN**

Aspects that require further development include:

- Further investigation and better information about the impact of natural hazards.
- Further assessment of risk and programmes to mitigate risk in the light of the above investigations
- Development a more advanced approach to identifying critical assets that incorporates rating and other dimensions of criticality.
- Further assessment of current levels of resilience
- Develop a more comprehensive method of assessing resilience using risk based evaluation and optimised decision making tools to assist decision making around the desired level of resilience
- On-going review of the risk register

## SECTION 8 - LIFECYCLE ASSET MANAGEMENT

### 8.1 INTRODUCTION

This Section outlines the management strategies for operating and developing the Council's water supply assets to the established levels of service (defined in section 3) while optimising lifecycle costs.

The strategies cover all asset life cycle work activity:

- Operation
- Maintenance
- Renewal
- Development/Augmentation
- Disposal

The strategies are translated into detailed work programmes and budget projections for each water scheme in Section 10.

### 8.2 ASSET OPERATIONS

#### Background

Asset operational activity is work or expenditure which has no effect on asset condition but which is necessary to keep the asset functioning, such as the provision of staff, consumable materials, resource consent applications and compliance, monitoring, and investigations. Asset operational activities exclude maintenance work.

Operational requirements, procedures and activities are documented and supplemented by local knowledge and judgement of experienced staff.

#### Operational strategies

- Prepare quality AMP's based on a sound knowledge of customer needs and preferences,
- Optimise asset management practices and decision-making;
  - Review computer based asset management systems
  - Document existing, and develop new business processes
  - Continue to collect AM data (physical attributes, asset performance, condition, and service costs) and record data in a usable format (GIS) to make data available to inform optimised decision making on maintenance, renewal or development options
- Determine the condition and decay rates of the networks by analysing condition information collected by contractors and/or works staff during the day to day operation of water assets and, as necessary, carrying out material testing. Operate water assets in accordance with current resource consents.
- Minimise asset ownership costs by:
  - considering all life cycle costs, including operational costs, when evaluating asset renewal/acquisition options
  - identify, evaluate and introduce new technologies that may improve operational and management efficiency and modify standards as appropriate
  - review competitive tendering procedures for asset maintenance, renewal, and construction works.
- Resource Consents:
  - Discharge consent applications (take, backwash operations etc) will be assessed to ensure they are practical, reflects operational realities and consider community wishes with respect to environmental protection, public nuisance and affordability
  - Consents to take water from groundwater and surface water resources to include limits which maintain the sustainability of the stream or groundwater resource, and measures designed to avoid or mitigate in-stream maintenance operations at the intakes
  - Land use consent applications will propose measures that avoid, remedy or mitigate any adverse effects of the water supply operation

#### Operational Standards and Specifications

Operate assets in compliance with:

- this AMP
- defined processes and procedures and recognised trade practice
- resource consents
- statutory requirements.

#### Asset Maintenance

#### Background



Maintenance can be defined as the regular work and immediate repairs necessary to preserve an asset in a condition that allows it to perform its required function. The ongoing efficiency of routine maintenance is critical to achieve optimum asset life cycle costs that best suit the desired levels of service. A recent survey (2014) concluded that most users of the water systems are satisfied with the current levels of service, with gaps in service more related to cost and qualitative rather than quantitative issues.

Maintenance falls into two categories; planned and unplanned, each having quite different triggering mechanisms and objectives;

**Unplanned maintenance:** Corrective work carried out in response to reported problems or defects with the Water system (e.g., collapsed / blocked sewer or storm water pipes or burst water mains, etc.).

**Planned maintenance:** Preventative maintenance carried out to a predetermined schedule with the aim of ensuring continuity of service, preserving asset design life and, if economic, extending asset life (e.g. annual pump servicing programmes)  
On-condition maintenance carried out as a result of condition or performance evaluations of assets and asset components (e.g., hydrant flushing, mains scouring, sign cleaning etc).

### **Deferred Maintenance**

Deferred maintenance refers to maintenance works that have not been completed on a timely basis and are overdue for attention, potentially leading to a decline in levels of service. Future maintenance budgets may need to be increased to catch-up with accumulated deferred maintenance items.

### **Funding of Operating and Maintenance Costs**

The funding of operating and maintenance costs is from rates.

### **Mode of Service Delivery**

Reticulation maintenance works are undertaken by external contractors in accordance with WDC's procurement procedures. The contract specifies the standards of materials, workmanship and response times to be met.

Treatment plant operations are currently undertaken by external contractors in accordance with WDC's procurement procedures. The contract specifies the water quality standards to be achieved, workmanship and response times to be met. Future mode of service delivery for water treatment is under review.

### **Operations and Maintenance Expenditure Projections**

The Financial summary in Section 10 below details anticipated Operations and Maintenance work needs and costs over the next ten years for:

- operational activity (monitoring, inspections, testing, meter reading, etc.)
- expected maintenance work requirements

The operating and maintenance costs have been calculated by the relevant asset manager but exclude adjustments for inflation. The introduction of new processes (see Section 12 - AM Improvement Programme) to record work tasks and costs will improve knowledge of operations and maintenance needs and enhance the quality of decision-making. These estimates will be revised annually.

## **8.3 ASSET RENEWALS OR REPLACEMENTS**

### **Background**

Asset renewal is major work, which does not increase the assets design capacity but restores, rehabilitates, replaces or renews an existing asset to extend its economic life and/or restores the service potential. Work which increases the design capacity of assets is defined as upgrading/development work.

### **Renewal Strategies**

The general renewal tactic is to rehabilitate or replace assets when justified by:

- Asset performance: Renewal of an asset where it fails to meet the required level of service. Non-performing assets are identified by the monitoring of asset reliability, capacity, and efficiency using information acquired during planned maintenance inspections and operational activity. Indicators of non-performing assets include:
  - structural failure
  - repeated asset failure e.g. breakages and major leaks
  - ineffective Water treatment
- Economics: Renewals are programmed with the objective of achieving;
  - the lowest life cycle cost for the asset (it is uneconomic to continue repairing the asset), or

- an affordable medium term cash flow, or
- savings by coordinating renewal works with other planned works in the area.
- Risk: The risk of failure and associated financial and social impact justifies action (e.g. probable extent of property damage, safety risk).



### 3Condition of old spiral weld steel pipe

In a total water supply system, the main components are the intake, treatment, reticulation and storage.

The WDC strategy to maintain levels of service is linked to the asset type, value and criticality. Decisions are based on a case by case basis to ensure that optimum value is extracted from the assets.

Mechanical and electrical assets are serviced regularly and repaired as needed. Other assets are assessed annually.

The two most critical facts forming the basis of decisions to repair or to renew are;

- Cost of repair compared with renewal
- Parts and or service availability – on occasion equipment models are discontinued or superseded by new technology. WDC endeavors to standardise equipment using reliable suppliers.

Pumps are a good example. During a quarterly service:

- Impeller and diffuser wear are checked and changed if needed
- Oil in the pump is changed together with the lower seal

Pumps are removed annually and fully serviced checking bearings, seals, windings and casing.

Sand Filters are another good example. When the sand is replaced in a filter then the following is also done

- Filter nozzles are checked and damaged filters replaced
- Under-drains are cleaned
- Filter structures are inspected and repaired

Concrete structures will normally be repaired instead of replaced as there is usually a significant cost involved with replacement and often there are spatial issues.

Small items such as small pumps, motors and metering and monitoring equipment, though relatively costly, is usually more economical to run it to the end of its working life and then replace it because refurbishment is extremely expensive if it can be done at all and often new development have overtaken the equipment to be replaced.

Contiguous renewal is another factor that may see a “healthy” asset being replaced when not necessary. An example is a section of pipe was replaced due to failure that forms part of a larger pipe asset. This new pipe has a lifespan of 80 years and the old section a remaining life of 5 years. After the 5 years are up the old section of pipe will be replaced, including the shorter new section of pipe with a remaining 75 year lifespan. It is, however, not necessary to fully dispose of the newer pipe section - it could be reused for a repair somewhere else. The same philosophy is used with valves and hydrants.

**Prioritisation of Renewals**

Renewal works are assessed and prioritised in accordance with the cost/benefit of each project, WDC’s objectives and strategies, and available funds.

The following priority ranking table is used as a guide for identifying and prioritising renewal works:

Priority	Renewal Criteria
1 (High)	<ul style="list-style-type: none"> <li>▪ Asset failure has occurred and renewal is the most cost effective option.</li> <li>▪ Asset failure is imminent and failure is likely to have major impact on the environment, public safety or property.</li> <li>▪ Asset performance is non-compliant with resource consent requirements.</li> </ul>
2	<ul style="list-style-type: none"> <li>▪ Asset failure is imminent, but failure is likely to have only a minor impact on the environment, public safety or property.</li> <li>▪ Asset failure is imminent and proactive renovation is justified economically.</li> <li>▪ Mains replacement scheduled within five financial years as asset is nearing end of economic life.</li> <li>▪ Asset renewal is justified on the basis of benefit cost ratio and deferment would result in significant additional costs.</li> </ul>
3	<ul style="list-style-type: none"> <li>▪ Asset failure is imminent, but failure is likely to have a negligible impact on the environment, public safety or property.</li> <li>▪ Asset renewal is justified on the basis of life cycle costs, but deferment would result in minimal additional cost.</li> </ul>
4	<ul style="list-style-type: none"> <li>▪ Existing assets have a low level of flexibility and efficiency compared with replacement alternative.</li> </ul>
5 (Low)	<ul style="list-style-type: none"> <li>▪ Existing asset materials or types are such that known problems will develop in time.</li> </ul>

**Table: Selection Criteria for Asset Renewal**

Refer to the appendices for details of the process used to determine the replacement programme for Council’s water supply pipeline and point assets. This includes application of failure modes, asset criticality, useful life projections and cost.

The renewal programme is reviewed annually and any deferred work re-prioritised, based on its life cycle costs and benefits, with all replacement work and a revised programme established.

Integral with the replacement strategy is a funding strategy. Essentially cash flow smoothing will be applied to balance income with expenditure through either raising loans, saving, or deferring work.

**Renewal Standards and Specifications**

The standards and specifications for renewal works are generally the same as for new works.

**Deferred Renewals**

Renewal works identified in terms of the renewal strategies may be deferred if the cost is beyond the community’s ability to fund it. This can occur when higher priority works are required on other infrastructure assets (e.g. wastewater), or there are short term peaks in expenditure or if an inadequate rating base exists.

When renewal work is deferred the impact of the deferral on economic inefficiencies and the system’s ability to achieve the required service standards will be assessed. Although the deferral of some renewal works may not impact significantly on the operation of assets, repeated deferral will create a liability in the longer term.



A register of all deferred works will be maintained, the total value of which will be recognised in the financial reporting.

#### **Funding of, Renewal or Replacements**

The funding of renewals/replacements is from the depreciation fund.

#### **Mode of Service Delivery**

Replacement and renewal works are undertaken by external contractors in accordance with WDC's procurement procedures.

### **8.4 ASSET DEVELOPMENT/AUGMENTATION**

#### **Background**

Development/augmentation works are those works that create a new asset that did not exist in any shape or form or works which upgrade or improve an existing asset beyond its existing design capacity.

Assets are acquired as a result of:

- Vesting of new water supply infrastructure consequent of subdivisional development (constructed at the developer's expense and to WDC's specifications)
- Extensions constructed by Council to service new areas
- Asset upgrading constructed by WDC to provide:
  - additional system capacity to overcome inadequacies or provide for growth (e.g. larger mains, increased pump capacity, additional storage and/or treatment plant capacity)
  - compliance with new resource consent or drinking water standards (e.g. treatment facilities).

## Development/Augmentation Strategies

- Water supply schemes will be developed to meet community expectations, growth projections over the next 30 years, and technical and environmental standards.

## Prioritisation of New Development/Augmentation

- New works are identified on the following basis
  - Growth - ability to meet the most likely demand projections
  - Regulatory - anticipated expenditure needed to meet resource consents required under the Resource Management Act and mandatory drinking water standards
  - Operational efficiency - to reduce costs and improve efficiency
- The selection criteria for the prioritising and programming of asset development projects is a function of Council preference, consideration of risk, costs and benefits, affordability and ranking with other projects, as follows:

Priority	Selection Criteria for New Capital Works
<b>1 (High)</b>	<ul style="list-style-type: none"> <li>■ Proposed work is consistent with relevant community outcomes and is driven by sustainable demand or required to augment existing capacity</li> <li>■ Work will provide long term environmental and/or public health benefits to community</li> <li>■ Work is required for compliance with statutory obligations</li> <li>■ Work involves completion of an earlier stage of the project</li> <li>■ Environmental safety represents a high proportion of work benefits</li> </ul>
<b>2</b>	<ul style="list-style-type: none"> <li>■ Proposed work is consistent with relevant community outcomes</li> <li>■ Work required for medium term environmental benefits</li> <li>■ Safety considerations represent a high proportion of work benefits</li> <li>■ Upgrading of infrastructure scheduled within five financial years as asset is nearing end of economic life.</li> <li>■ Work is strongly supported by community at large through a process of public consultation or involves work funded by a targeted rate</li> </ul>
<b>3</b>	<ul style="list-style-type: none"> <li>■ Proposed work is consistent with relevant community outcomes</li> <li>■ Work is strongly supported by local sector of community through a process of public consultation</li> <li>■ Capital work is justified on the basis of economic evaluation, but deferment would result in minimal loss of opportunity or additional cost.</li> </ul>
<b>4</b>	<ul style="list-style-type: none"> <li>■ Work is supported by interest group or small part of local community through a process of public consultation</li> </ul>
<b>5 (Low)</b>	<ul style="list-style-type: none"> <li>■ Project is discretionary and can be deferred with minimal loss of benefit to the community</li> </ul>

- Project approvals will be supported by an economic appraisal using cost/benefit analysis techniques which take into account ;
  - capital costs
  - any change in net annual operating costs
  - any change in annual maintenance requirements
  - any salvage value of existing assets or components.
- All options are examined when evaluating upgrading options, including;
  - repair
  - renovation techniques
  - replacement
  - augmentation
  - Added maintenance and operations impact
- The risk, cost and benefits of accepting new privately funded assets constructed in association with property development or as a result of an agreed ownership transfer (e.g. Waitomo Village infrastructure) will be reviewed and a decision to approve made on a case by case recommendation to Council by staff. Such assets will be accepted into public ownership by Council when satisfactorily completed in accordance with approvals given. Council will not contribute to the cost of such works unless there are health, exceptional level of service or equity issues to be resolved.

### **Funding of Additional Capacity**

Growth-related work will be funded initially from loan finance with Council maximising the use of external subsidies and development/financial contributions where possible. Other works will be funded from loans and rates. Refer to Council's Revenue and Financing Policy in its Long Term Plan (LTP) for further details.

### **Mode of Service Delivery**

Augmentation works involving the construction of new assets will be undertaken by external, arms-length contract, on a case by case basis.

## **8.5 ASSET DISPOSAL**

### **Background**

The assets comprising the Water Supply Activity as a whole are deemed to be strategic assets in accordance with WDC's Engagement and Significance Policy. Any proposal to dispose of the water supply assets as a whole would therefore initiate a formal consultation and decision making process in accordance with the Local Government Act 2002.

Disposal activity for individual water supply assets relates to the demolition of obsolete structures. In the 2015 -2025 LTP planning period, Te Kuiti Water Treatment Plant building and the raw water extraction pump station will be disposed of.

### **Asset Disposal Strategies**

- Rationalise asset stock or when assets become obsolete or uneconomic to own and operate.
- When considering disposal options all relevant costs of disposal will be considered, including:
  - evaluation of options
  - consultation/ advertising
  - obtaining Resource Consents
  - professional services, including engineering, planning, legal, survey
  - demolition / make safe
  - site clearing, decontamination, beautification.

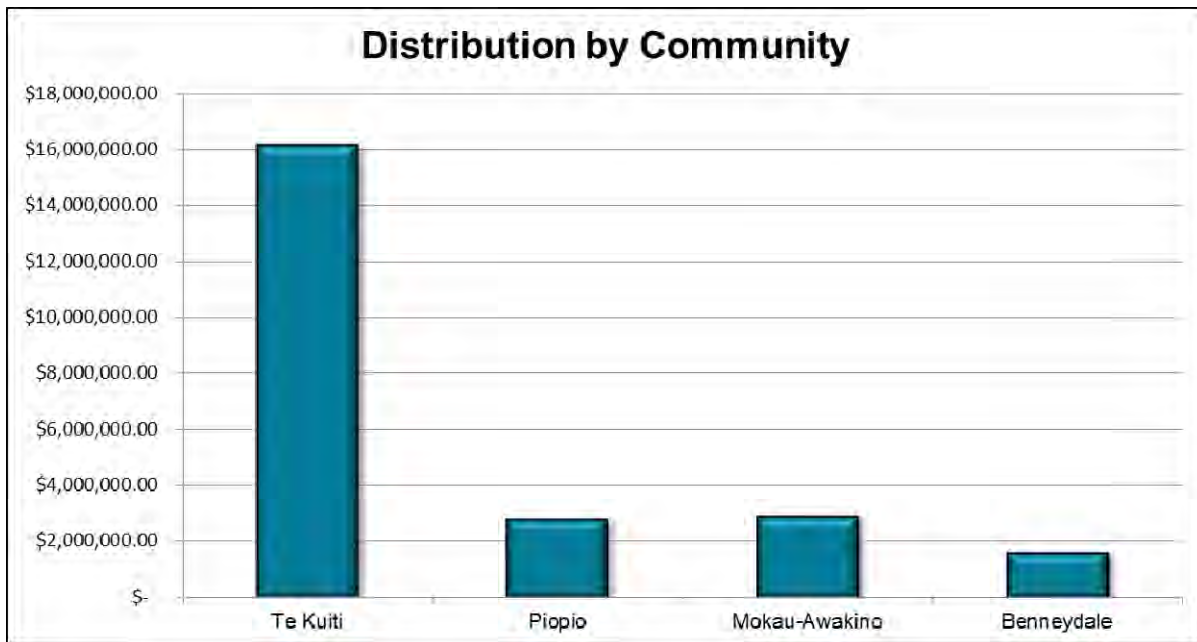
The use of revenue arising from the sale of any assets shall be decided by Council at the time of its consideration of the asset's disposal.

## **8.6 DESCRIPTION OF WATER SUPPLY ASSETS**

This section contains the lifecycle management plan for each WDC water scheme, describing:

- The scope and nature of the assets
- The current condition of assets
- The current capacity and performance of asset relative to the levels of service defined in Section 3 and demand projections of Section 4
- The needs, timing and costs of operational, maintenance, renewal, acquisition and disposal works required to action the life cycle asset management strategies developed in Section 5. Financial forecasts are shown for the short term (3 year) period. Forecasts beyond the three year period are at this stage of medium confidence because of the lack of detailed design and probable cost variability beyond that period.

The distribution of water supply asset value (optimised replacement cost) by scheme is as illustrated below:



## Te Kuiti Urban Water Supply

### Asset Information

The Te Kuiti water treatment was substantially upgraded in the 1970's. The plant is supplied with raw water from the Mangaokewa River. Water is extracted by way of a floating river intake, serviced by four Flygt submersible pumps, each with a capacity of 1,250 m<sup>3</sup>/day. The pumps are housed on a cantilever floating pump platform adjacent to the treatment plant sited 200m south of the edge of the CBD, it is accessed from Waitete Road. The plant is a conventional treatment plant with a flash mixer tower followed by sedimentation in four up flow clarifiers then four rapid gravity sand filters equipped with air scour for backwash. The treated water is pumped from the clear wells, by submersible pumps to the storage reservoir located on site.

Once extracted from the river the water is pumped through a 200mm Magflow meter to a flocculation tank. After alum dosing at the flocculation tank, the water is further dosed with polyelectrolyte and activated carbon prior to the water entering four upflow clarifiers. The water then flows to the four side entry rapid sand filters. pH correction is by the addition of soda ash solution to the treated clear well. Chlorine gas is contained within 900kg bullets stored in a separate chlorination building and injected into the pipe between the clear well and the reservoir. Water to backwash the filters is drawn from the storage reservoir under gravity. Four Lee Howl 22kw pumps push water into the urban reticulation and excess goes to the reservoirs.



**Te Kuiti Water Intake**

The data for this scheme was derived from a combination of existing plans, GPS survey, records, inspections and local knowledge. It is accepted that the accuracy of this data is variable, although improving.

The key issues relating to the scheme are:

- The plant will be upgraded to meet Drinking water standards during the 2015 – 2025 LTP period
- A new bank intake will be constructed
- Data collection to ascertain the condition of pipes and fittings for this scheme should be of high priority.
- Pro-active maintenance policies are required for this scheme to improve the operations.
- There are still several dead end sections of water reticulation that should be ring fed.

The operational parameters of the scheme are:

- Population served: 4400 plus several large industries. The water treatment plant is designed for peak production of 5,800m<sup>3</sup> per day. Bulk storage to take care of demand peaks exceeding that or for emergencies is provided in four reservoirs with a combined capacity of 4,390m<sup>3</sup>.

Water availability:	Limited by resource consent	4,800 m <sup>3</sup> /day
Consumption:	Average daily demand	4,230 m <sup>3</sup> /day
	Peak daily demand	5,500 m <sup>3</sup> /day
	Minimum winter demand	2,000 m <sup>3</sup> /day

#### Treatment Plant

The Table below describes the component assets of the water supply scheme:

Asset Type	Asset Parameters
<b>Water Source</b>	Mangaokewa River <ul style="list-style-type: none"> <li>• Intakes: River intake.</li> <li>• River Pumps: Four Flygt B2102</li> <li>• Magflow meter.</li> <li>• Raw water main.</li> <li>• Raw water main fittings.</li> </ul>

Asset Type	Asset Parameters
<b>Treatment Plant</b>	<ul style="list-style-type: none"> <li>• Building and laboratory components:</li> <li>• Receiving Water Tank</li> <li>• Coagulation/ Flocculation system</li> <li>• Carbon dosing system</li> <li>• Sedimentation system - 4 Upflow Clarifiers</li> <li>• Rapid sand filtration system - 4 sand filters</li> <li>• Sludge disposal system</li> <li>• Post pH control</li> <li>• Post chlorination</li> <li>• Contact Reservoir 903 m<sup>3</sup></li> <li>• (4) Lee Howell high lift pumps</li> </ul> <p>Maximum production: 6,100 m<sup>3</sup>/day  Average Raw Water Turbidity: 11.9 NTU  Average Raw Water pH: 6.8</p>
<b>Storage</b>	<p>Four reservoirs:</p> <ul style="list-style-type: none"> <li>• Awakino (Timber) 90 m<sup>3</sup></li> <li>• Hospital (concrete) 1100 m<sup>3</sup></li> <li>• Hetet (Concrete) 1100 m<sup>3</sup></li> <li>• Mangarino (Concrete) 1000 m<sup>3</sup></li> <li>• Waitete Road 1100m<sup>3</sup> (Also filter washwater)</li> </ul> <p>- all totaling 4,390 m<sup>3</sup> storage capacity. System configuration such that effectively 50% of storage service 70% of demand. The Drinking Water Act recommend storage equivalent to 24 hours of summer average demand which is 4,230m<sup>3</sup>. High peak demands by industry and system configuration mean that there is very poor utilization of existing effective storage. This in turn means treatment plant production on occasion exceeds design capacity during peak demand periods. This heightens the risk of supply failure and or poor water quality.</p>
<b>Pumping Stations</b>	Three - Tonga Street, Rata Street, and at Awakino Road
<b>Reticulation</b>	The reticulation consists of 49,476m of pipes of various sizes and materials of which 24% has a remaining life expectancy of less than 40 years. Previously information was that the reticulation is in poor shape and that large quantities of water were lost as a result. Evidence gathered in the past years does not bear that out. Bulk water meters installed at strategic points indicated that the perceived losses are no more that what can be expected in an unmetered supply system.
<b>Service Connections</b>	<ul style="list-style-type: none"> <li>• 1798</li> </ul>
<b>Fittings</b>	<ul style="list-style-type: none"> <li>• 298 Valves</li> <li>• 401 Fire Hydrants</li> </ul>

**Table: Asset Characteristics- Te Kuiti Urban Water Supply**

Asset Condition and Performance

The assessment of the current condition and performance of water supply assets available is contained in Bizeasset.

Headworks

The initial water supply was installed in the early 1900's and the water fed directly into the reticulation system with no storage. In 1969/70 the intake system was improved. An increased focus on risk management may require the water to be eventually sourced from the southern end of town at a point upstream of the industrial area with a new river intake to avoid known sources of potential contamination.

Significant investment was made in investigating ground water sources in the 2004/05 financial year, with 4 bores having been drilled in various parts of Te Kuiti. Two of these bores have produced limited yields, one at Blackman's is providing limited water to a small area of high lying houses the other on Mangarino hill is not used and are unlikely to be further developed due to the high cost of operating a dual system. It may be considered in future as a means of providing an alternative or emergency supply to avoid sole reliance on a surface water source when deemed feasible.

Treatment Plant

The treatment plant was initially constructed in 1957. In 1969/70 improvements were carried out with the installation of additional filters and clarifiers. Historical modifications left numerous openings in the building which allows access to birds and vermin. Poor ventilation around the clear water wells results in corrosion of nearby steelwork.



Alum storage tank has deteriorated and has come to the end of its useful life. The upgrade work makes provision for new chemical storage tanks. The poly storage tank is in reasonable condition. The alum and poly dosing facility however needs replacement. The caustic soda storage, handling, and dosing facilities were upgraded in 2004/05 and a Deplox 4 chlorine analyser and dosing controller was installed. Some of the chemical storage areas within the plant building are deteriorating and will require renewal. The other equipment is also getting close to the end of its economic life.

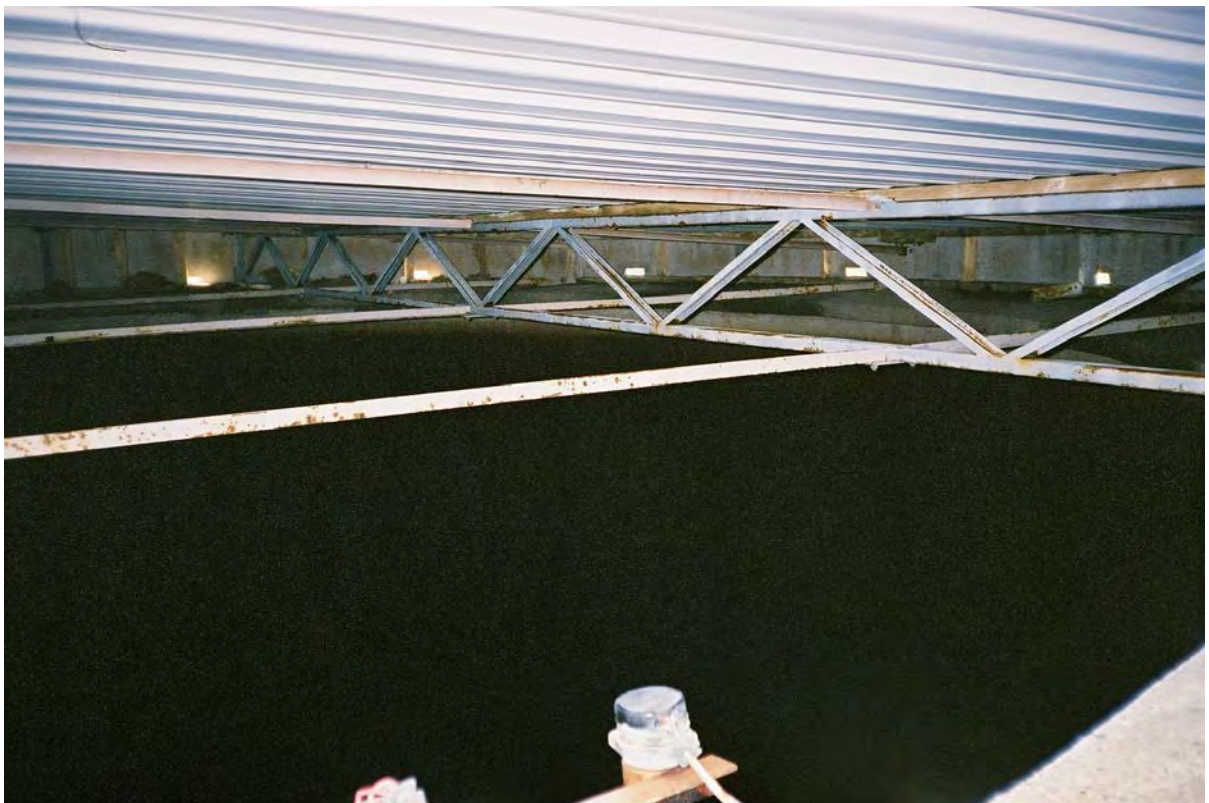
The SCADA system and the monitoring equipment needs upgrading to provide evidence of compliance with MoH drinking water standards. A small part of the SCADA and telemetry was upgraded during 2008/09 to provide the bare basic information required for the Water Information NZ (WINZ) data base.

The treatment train of the water treatment plant (coagulant dosing, mixing, flocculation, clarification and filtration) needs upgrading as it cannot consistently meet the required water quality during high summer demand.

The plant is operating well at present but requires upgrading to meet the higher regulatory standards required. This upgrade work is scheduled to start early in 2015.

The reinforced concrete reservoir has been constructed in four lifts cast in-situ with a horizontal construction joint between each lift. The roof is a separate structure consisting of light weight trapezoidal section steel supported on painted steel trusses which are in turn supported off the top of the reservoir walls.

Some cracking and minor leakage is evident in the horizontal construction joints of the reservoir. Roof support trusses are showing corrosion on the underside of the top and bottom chords. Openings at the edges of the roofing are allowing entry of birds to the reservoir (as shown in the photograph). There is provision for work on the reservoir in this period as part of the treatment plant upgrade process.



#### Storage Reservoirs - Waitete Road, Mangarino Road, Hetet Street, Blackmans and Te Kuiti Hospital

The town has four zones each with its own reservoir, the three main zones all about the same size, while the Blackmans zone is much smaller.

- Two of the zone reservoirs have 24 – 30 hour capacity
- The main zone, which includes the hospital and the schools as well as the industrial area, has less than 6 hours storage based on annual average use, and less than 4 hours during peak summer.

Ideally additional storage is required for the main zone to bring storage to at least 24 hours storage at peak summer consumption – an additional 3000 cubic meters.

The reservoirs are located as follows: -

Waitete Road reservoir is at the water treatment plant.

Mangarino reservoir is located in the hills to the east of Te Kuiti. Access is via a four wheel drive farm track off Mangarino Road.

Hetet reservoir is located to the west of the town and vehicle access is via a private access road off Hetet Street.

The Hospital reservoir is located on the western side of Te Kuiti and is accessed through the hospital. Direct vehicle access is available to the reservoir site.

Blackmans reservoir is at the top of Awakino Road overlooking Te Kuiti and is approximately 90 m<sup>3</sup> in size. It is fed by the Awakino Hill pump station and the borehole.

All four major reservoirs are of reinforced concrete and have been constructed using similar cast in-situ construction methods as the one at the treatment plant. This consists of 4 separate lifts with a horizontal construction joint between each lift. The reservoirs appear to be approximately 4m in height, and are fitted with a trapezoidal section lightweight steel roof. The support system for the reservoir roofs, based on a similar type of construction at the Waitete Road reservoir (Te Kuiti water treatment plant) have been assumed to comprise of several parallel trusses. It can also be expected that the corrosion that is evident at the water treatment plant reservoir's roof trusses will be present in the Mangarino, Hetet, and Hospital reservoirs.

Each reservoir has a reinforced concrete ring beam footing of which approximately half the Hospital reservoir ring beam was visible and the full ring beam for Hetet and Mangarino reservoirs are visible. All three ring beams appeared structurally sound with no evidence of cracking.

The horizontal construction joints of all three reservoirs show signs of cracking and, in isolated areas, obvious leakage. Mangarino reservoir has slight leakage at each construction joint and some calcium carbonate build-up where the leaks have self sealed.

The Hetet reservoir shows several minor leaks from the second construction joint (half reservoir height) as does the Hospital reservoir.

As with the water treatment plant reservoir, the trapezoidal profile of the roofing steel enables the entry of birds into the reservoir. Mesh has been firmly attached at the Hetet reservoir and birds have been unable to remove this.

The intake pipe work at Hetet reservoir has been improved with a new inlet valve installed.

All reservoirs will have to be treated with a water proof sealant as soon as it is affordable after completion of the treatment plant upgrade work to reduce risk of eventual failure.

All reservoirs roofs need detailed inspection and structural assessment in next 3 years

Blackmans reservoir is a timber construction tank with the liner which was replaced approximately 5 years ago. The roof requires some repair work, while the timber slats are showing signs of ageing. It is anticipated that this reservoir will be replaced with multiple plastic tanks to make up similar capacity.

#### Pump Station – Rata Street

The pump station is located in the berm on Rata Street and boost water to the Mangarino Road reservoir.

The pump building is a reinforced concrete building with a reinforced concrete monoslope roof. There is an attached transformer room next to the pump room. The floor of the building is concrete and all surfaces are painted. The access doors are fabricated powder coated aluminium complete with ventilation louvers.

The pumps consist of two CR64/3/1 Grundfoss close coupled centrifugal pumps with 15kW motors.

The pipe work is painted spiral welded steel with cast iron valves, the pump isolation valves are Saunders globe type valves, check valves are Hillen floating ball type valves and the pump station isolation valve is a sluice valve. A Kent Helix flow meter is fitted after the pumps.

#### Pump Station – Tonga Street

The pump station is located in the berm between Tonga Street and Awakino Road.



The pump building is similar to Rata Street water pump station, except that there is no transformer room associated with the pump station. The pumps are the same and the pipes and valves similar to Rata Street pump station.

The building is reinforced concrete with a monoslope concrete roof complete with monorails cast into the roof and a concrete floor.

The powder coated aluminium doors are in good condition as is the external paintwork.

#### Pump Station - Awakino Road

The pump station is located in the berm of Awakino Road (SH3) and pumps water to the Awakino Road reservoir.

The pump station is a below ground structure comprising masonry block walls, reinforced concrete floor and a steel chequer plate lid and steel access hatch. The depth of the pump station is approximately 1.2m below ground. A permanent access ladder is not fitted.

The station is equipped with two IEL VRD2, 2.5kW close coupled centrifugal pumps in series.

This pump station has been identified for replacement and is included in the 2012 – 2025 LTP.



4Awakino Hill Pump Station

Reticulation

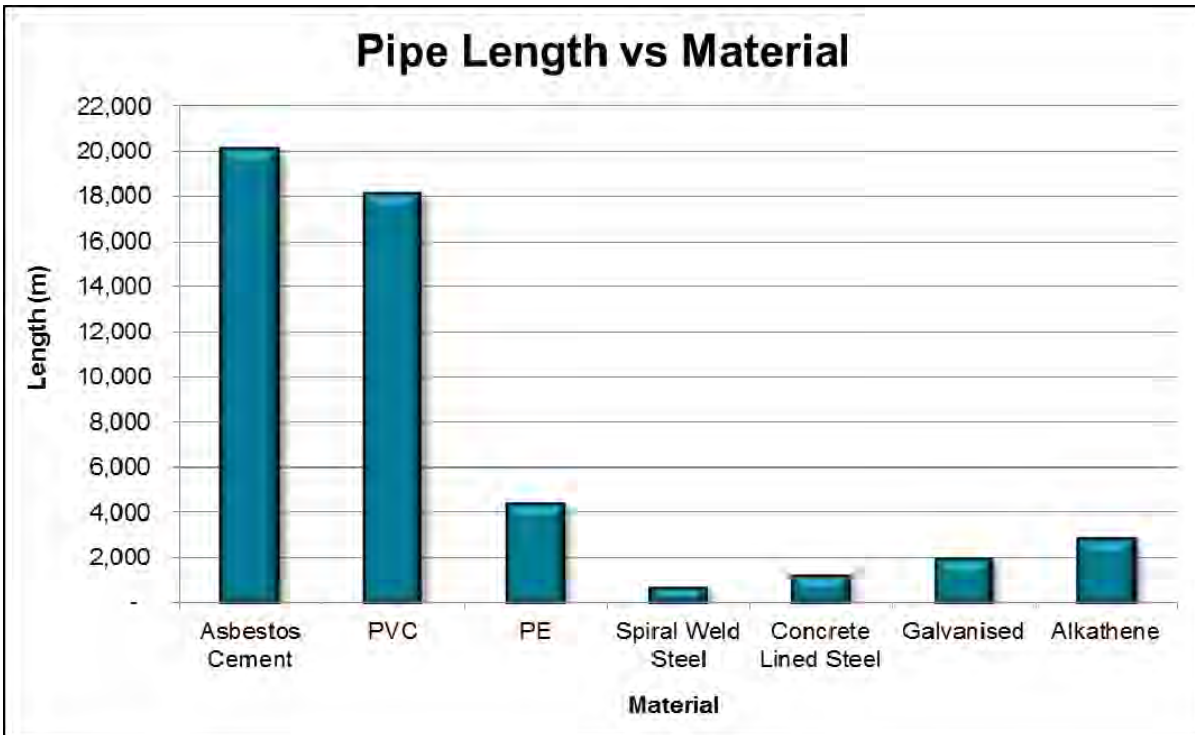
The composition of the reticulation is as follows;

Asbestos cement.	20,145m
PVC	18,163m
PE	4,420m
Spiral weld steel	661m
Concrete lined steel	1,241m
Galvanised	1,966m
Alkathene	2,879m

Spiral weld steel, galvanized steel and asbestos cement was first used in the early 1950's and has a life expectancy of 60 to 80 years; hence failures are expected to increase in these pipes. These will therefore be the first to be replaced.

The remaining life profile is evenly spread across the first 50 years. A spike in the > 80 year bracket reflects recent renewals work, with smoothing required in future years to achieve a sustainable forward programme. Renewal priorities are identified from the asset data in the asset management system and are shown in the 10 year projection.

Pipe sizes are dominated by the 100 and 150 mm range, partly because 100mm is the minimum diameter that can provide fire fighting requirements.



Service Fittings

Over the previous years an upgrade programme has been carried out to ensure that all hydrants meet with current standards. This involved the replacement of all ball type hydrants with screw-down type hydrants. Condition of the existing hydrants valves, many of which were installed 50+ years ago is unknown. Data collection on these assets is essential.

Testing of hydrants is carried out annually by the local fire brigade along with a flushing and remarking exercise. The Fire Service also provide information of hydrants that are not up to standard and these are, maintained, reconditioned or replaced as is needed.

The MoH require backflow prevention to all properties and there is a program based on replacement of broken/leaking tobys with meter boxes with backflow manifolds already incorporated. Meters are easily fitted afterwards if required for monitoring purposes or Extraordinary User volumetric charging.

Water Quality

At present the treatment is graded 'E' in accordance with the NZ Drinking Water Standards. The distribution network is graded 'b' under these same standards. The target for the treatment plant is B. An A grade is not

feasible due to the location of the intake and the catchment of mainly developed farmland with significant and increasing dairy farming. The stated goal is to have a grading of Bb which should continue the current level of service once the upgrades are completed.

#### Water Capacity

The scheme operates with sufficient capacity to supply the peak demands made at present though operating in excess of design capacity to do so at times. The plant will require upgrading to meet DWA standards at high demand periods. The present Resource Consent conditions enable the extraction of 6,100 m<sup>3</sup> per day and is due for renewal in 2015.

There is no off stream storage to supply Te Kuiti in times of severe drought. This has not been a major issue in the past, as the Mangaokewa River has never stopped flowing in recorded history. However, given the uncertainty of the climate change effect it is prudent to investigating this option and provision for preliminary assessment has been made in the 2015 – 20125 LTP.

#### Economic Efficiency

All fittings and service pipes should be replaced at the same time as the water main renewal to achieve operational and maintenance savings. Originally this did not happen, with maintenance staff still being called to repair service pipes in areas with new mains. Current practice is to renew all service pipes and fittings along with the watermains.

#### Reliability / Availability

Failures recorded in the last few years have been predominantly within the steel, galvanised, and cast iron mains. Some of these, especially the steel mains have been replaced in recent years. Underslips of steep hillsides in town have caused occasional mains breaks. Sections of the glue jointed PVC pipes used in 70's caused breaks and supply interruptions in recent years and these pipes are also identified as requiring early replacement.

#### Maintainability

Early engineering practices in the Te Kuiti Borough saw the laying of water mains in the carriageway with the main servicing properties both sides of the road. A problem caused by this is that when water main failures occur, the sealed road is damaged resulting in higher repair costs and reducing the quality of the road surface. Current practice dictates that where feasible all new mains are to be laid in berms and rider mains are to be installed on the opposite side of the street also in the berms.

#### Operations & Maintenance Programme

Anticipated work needs and costs over the next 30 years includes:

- operational activity (monitoring, inspections, testing, meter reading, etc.)
- the nature and cost of unplanned maintenance undertaken.
- expected preventative maintenance work requirements.

Operational and maintenance procedures and work activities are documented or recorded, work costs based on cost of previous work and the knowledge and judgement of experienced staff. The introduction of new processes will improve knowledge of operations and maintenance needs and enhance the quality of decision-making.

The O and M expenditure projections are shown in the Operations and Maintenance forecast in the Financial Summary (Section 10)

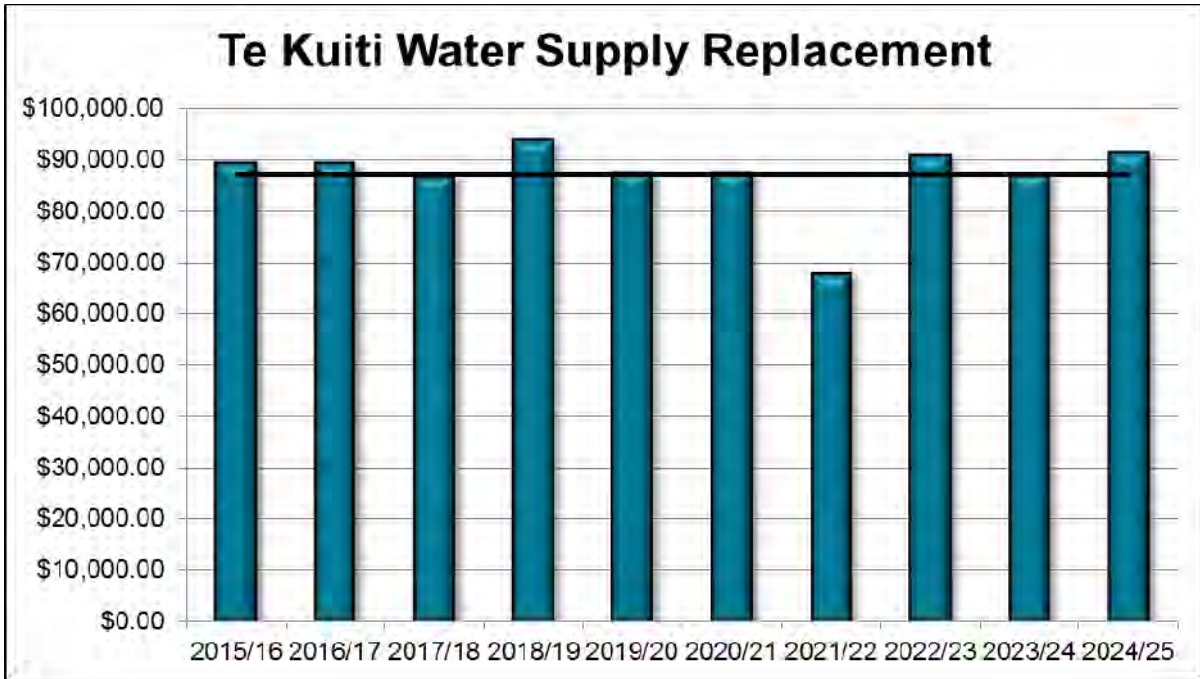
#### Renewal Programme

An indicative list of the major renewals planned over the 2015 – 2045 period is shown in the Renewal Table in the appendices. Actual renewals and replacements will be determined from condition and performance monitoring and prioritised on a year to year basis. Budget provision is detailed in the Financial Summary (Section 10)

The life expectancy for water supply assets are detailed in the asset valuation but in general they are:

- |                        |               |
|------------------------|---------------|
| • Pipes                | 60 -120 years |
| • Mechanical equipment | 10 - 40 years |
| • Electrical equipment | 10 - 15 years |
| • SCADA and Telemetry  | 5 - 10 years  |
| • Instrumentation      | 5 - 10 years  |

#### **Reticulation replacement**



Deferred Maintenance

Deferred maintenance is being addressed as can be fitted in the maintenance contract.

Development Works

An indicative list of planned development works are shown in the Development Works Table in the appendices.

Asset Acquisition

No subdivision development work is anticipated during the planning period. Any associated reticulation extensions which may eventuate will be developer funded to Council standards and specifications. Any such assets will be incorporated into the AM inventory database as they are created and vested in Council.

Disposal Programme

In addition to the reticulation disposal as part of renewal indicated in the budgets, the main disposal items as part of the water treatment plant upgrade are the high lift pumps and the existing building.

**Piopio Urban Water Supply**

Asset Information

The Piopio urban water supply scheme is supplied with water extracted from the Kurutahi Stream (tomo spring supply). The Piopio water treatment plant is located approximately 500m west of SH3 slightly to the north of Piopio township. The plant has been modified several times. In 1954 the first plant went in behind what is now the tennis club. In 1955 the reservoir was built on Mangaotaki Rd and in 1976 the treatment plant moved to its present site

During 2012 / 2013 the plant underwent a complete rebuild. The plant now consists of the floating intake pump that pumps into the horizontal flow concrete clarifier from where it is gravitationally piped through two 400 micron roughing filters. The settled water is then forced through a membrane ultra-filtration filter to five 25,000 liter plastic tanks. High lift pumps do alternative duty to pump the treated and chlorinated water to the existing reservoir. A new building housing the treatment plant and pumps finishes off the new refit.

The reticulation system is fed with two main pumps maintaining an operating pressure of 960kPa to lower parts of Piopio. The water feeds the town via a trunk main with excess going to the reservoir. When the pumps are off and the reservoir is full the head in lower parts of town is 750kPa.

The reticulation comprises 6,478m of reticulation of various sizes, and pressure classes and is predominantly asbestos cement:

Asbestos Cement	6,314m
PVC	164m

The data for this scheme was derived from a combination of existing plans, GPS survey, records, and local knowledge. It is accepted that the accuracy of this data is variable. The data quality will be a focus of continuous improvement for future amendments to this plan.

The key issues relating to the scheme are:

- Condition data collection on this scheme should be of high priority.

The operational parameters of the scheme are:

Population served:	500	
Connections:	228	
Water availability:	limited by resource consent	455 m <sup>3</sup> /day
Consumption:	Average daily demand	373m <sup>3</sup> /day
	Summer average peak	420m <sup>3</sup> /day
	Peak daily demand	442m <sup>3</sup> /day
	Winter average demand	307m <sup>3</sup> /day
Treatment Plant:	Maximum sustainable production	450 m <sup>3</sup> /day
Storage:		450m <sup>3</sup>

The table below schedules the asset components of the Piopio water supply scheme:

Asset Type	Asset Parameters
<b>Water Source</b>	Kurutahi Stream: pH 7.5 – 8.0, Turbidity 1 – 10 NTU, Colour 10 – 30 Hazen units
<b>Treatment Plant</b>	<ul style="list-style-type: none"> <li>• Building</li> <li>• Components: Flocculation system Horizontal clarifier 400 micron pre-filtration 9 tube Ultra-filtration with Sludge disposal Post chlorination Contact Reservoir Post pH control</li> <li>• Switchboard</li> <li>• Communication system</li> </ul>
<b>Storage</b>	<ul style="list-style-type: none"> <li>• 450m<sup>3</sup> concrete reservoir</li> </ul>
<b>Pumping Stations</b>	<ul style="list-style-type: none"> <li>• 2 Booster Pumps (Grundfos CR 45-5-2, 18.5 kw)</li> </ul>
<b>Reticulation</b>	Pipelines: Total length: 6.47 km of various materials
<b>Service Connections</b>	<ul style="list-style-type: none"> <li>• 228</li> </ul>
<b>Fittings (urban)</b>	<ul style="list-style-type: none"> <li>• 15 Valves</li> <li>• 31 Fire Hydrants</li> </ul>

**Table: Asset Characteristics- Piopio Urban Water Supply**



**Fig.: New Piopio Water Treatment Plant**



#### Asset Condition

The assessment of the current condition and performance of water supply assets available is contained in Bizeasset.

#### Headworks

The headworks comprise a suspended submersible pump located in the spring source at head of the Kurutahi Stream. This was replaced during the 2004/05 financial year providing an improved intake and access for pump maintenance.

#### Treatment Plant

During 2004/05 the distribution pumps were replaced with two Grundfos CR 45-5-2 18.5kw multistage centrifugal pumps, the pump pipework was renewed. The pumps were re-used in the upgraded water treatment plant and the basic communication and control system to the urban reservoirs was replaced with a robust system. The treatment plant control board was replaced with a modern system which includes PLC control of the pump start and stop.

The sequence of unit operations, i.e. coagulation, sedimentation, coarse filtration and Ultra filtration, achieves a total log reduction of 4.5, the required log credit is 4.

A telemetry and Supervisory Control and Data Acquisition (SCADA) installation package has been installed at the same time.

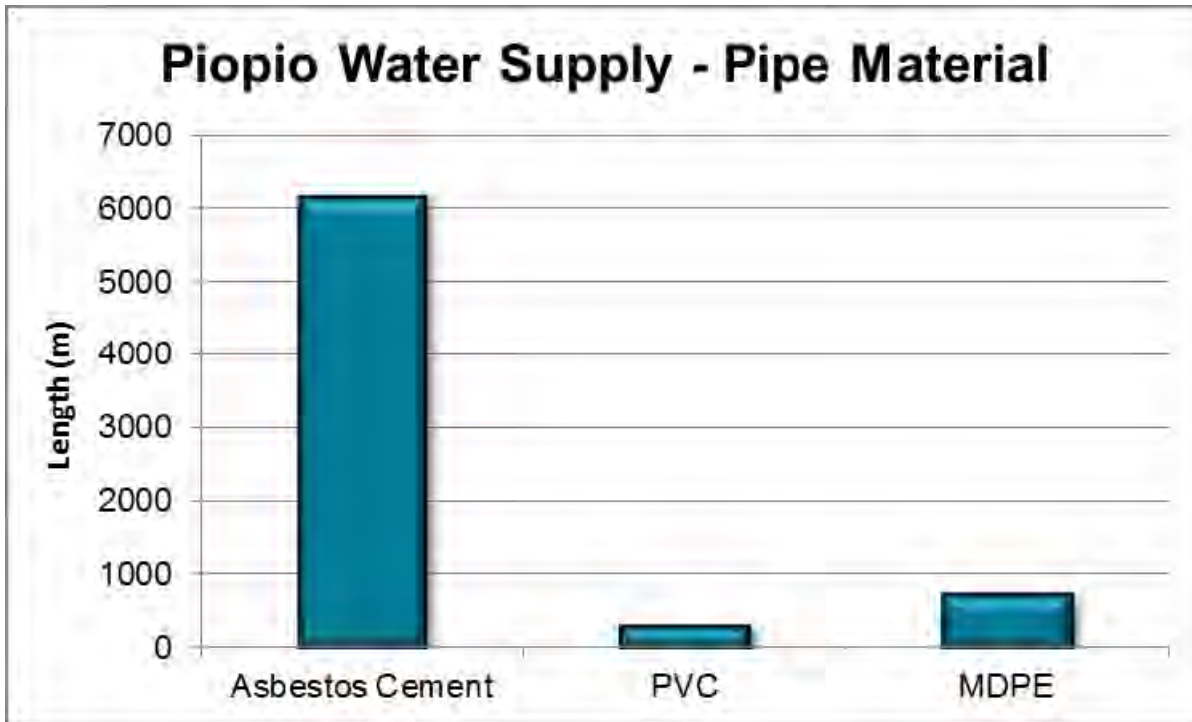
The ultra-filtration unit consists of 9 tubes that pass water through microscopic bore strands capable of removing viruses. The system with the high pressure pumps is capable of producing up to 600 m<sup>3</sup> per day of treated water.

The complete plant is remotely monitored and can be partially controlled through the SCADA system with the operator assisted maintenance being mainly the cleaning of roughing filters, replenishment of the chemicals and making up the Clean In Place (CIP) mixture for the filtration tubes.



Reticulation

A large proportion of the reticulation is constructed in Asbestos Cement.



Pipe diameters are dominated by 100mm diameter pipe to support fire fighting requirements. Knowledge of the condition of the pipework in the reticulation is limited however recent experience has led to the conclusion that the AC mains should be renewed over the life of the 2015 – 2025 LTP and budget provision has been made accordingly.

#### Service Fittings

The last of the fire hydrants in Piopio have been replaced with the screw down type which meets current standards. These are in reasonable condition with only routine maintenance being required.

#### Water Quality

The water has a current NZ Drinking Water Standards rating of “U”, meaning “ungraded”. The distribution system similarly has a rating of “u”. The target grading is “Bb” which should be achieved in the next Ministry of Health water supply grading.

#### Water Capacity

The supply is adequate for current and projected future requirements.

#### Economic Efficiency

A concerted drive to identify leaks to reduce the high water usage in the system had good results. High operating pressure in town is believed to exacerbate leaks through household fittings.

#### Reliability / Availability

The system is reasonably reliable. After a spate of breakages in 2013 there were few disruptions in recent times as result of breakages. However the experience and observations has led to the conclusion that renewal of low lying reticulation which is subject to high and variable pressure is prudent.

#### Operations & Maintenance Programme

Anticipated work needs and costs over the next ten years includes:

- operational activity (monitoring, inspections, testing, meter reading, etc.)
- the nature and cost of unplanned maintenance undertaken.
- expected preventative maintenance work requirements.

Operational and maintenance procedures and work activities are documented or recorded, work costs based on cost of previous work and the knowledge and judgement of experienced staff. Asset information obtained during operations and maintenance will enhance the quality of decision-making.

The O and M expenditure projections are shown in the Operations and Maintenance forecast in the Financial Summary (Section 10)

#### Renewal Programme



The bulk of the reticulation in the low lying areas which is subject to high and variable pressure is planned to be renewed over the 2015-25 planning period. The rest of the reticulation will be monitored and actual replacements will be determined from monitoring of asset condition and performance and prioritised on a year to year basis. The majority of the 50 mm AC pipes have been replaced with the major replacement being along State High 3 southbound out of Piopio.

Other assets, or asset components, will need to be replaced within the planning period. The life cycle expectations for water supply assets are:

- Pipes 60 - 120 years
- Mechanical equipment 10 - 40 years
- Electrical equipment 10 - 15 years
- SCADA and Telemetry 5 - 10 years
- Instrumentation 5 - 10 years

Financial projections for renewal works over the 10 year planning period are shown in the Financial Summary (Section 10).

#### Deferred Maintenance

There is no known specific deferred maintenance.

#### Development Programme

The reservoir is at the end of the reticulation and is filled by pumping through the reticulation, which is not good practice and will shorten pipe life especially that of the mainly AC system. A dedicated pump line is planned for 2017 and 2018 in two phases for expenditure management reasons.



**Fig: Piopio WTP clarifier**

#### Disposal Programme

The parts of the treatment plant that were renewed and or replaced will be disposed of in the asset register of the Piopio scheme.

### **Mokau Urban Water Supply**

#### Asset Information

The Mokau urban water supply collects water from two earth dams on the escarpment fed by two small springs. One within the front dam basin itself and one at the top end of the catchment. This is supplemented by local runoff off from private farmland property. Storage was doubled to 20,000m<sup>3</sup> when a 11,000m<sup>3</sup> raw water storage reservoir was completed in early 2014. The water is treated by an absorption clarifier and

diatomaceous earth filter and was built in 2003/04. In 1996/97 a timber reservoir was added to the system and installed in town with a booster pump station to maintain pressure at about 650kPa.

The reticulation comprises approximately 11 km's of pipe work of various sizes and materials. The predominant pipe material in the urban area is asbestos cement pipe most of which was laid in 1972. There is also an "alkathene" pipe to Awakino supplying water to some of the properties along the way including the Marae and a few of the properties in Awakino.

The data for this scheme was derived from a combination of existing plans, records, inspections, and local knowledge. Verifying the accuracy of this data will be a focus of future improvement programmes.

The key issues relating to the scheme are:

- Collecting and scheduling asset condition data within the AM database and insuring a reasonable level of accuracy.
- Implementing pro-active maintenance policies to reduce overall maintenance costs in the long term.
- The process train is an adsorption clarifier, diatomaceous earth (DE) filtration and UV disinfection.
- To meet the default 4 log credits as determined by MoH, coagulation before the adsorption clarifier and UV after the DE filtration was installed.
- The monitoring required will need improved telemetry and an upgraded Supervisory Control and Data Acquisition (SCADA) package, as well as individual analysers for turbidity, chlorine residual etc.

The operational parameters of the scheme are:

Population served:	250 permanent, > 1000 summer
Connections:	195
Water availability:	Maximum raw storage about 20,000m <sup>3</sup> Inflow about 200m <sup>3</sup> /day annual average
Consumption:	Average daily demand 185m <sup>3</sup> /day Peak day demand 280 m <sup>3</sup> /day Minimum winter demand 100 m <sup>3</sup> /day
Current Treatment	Plant maximum sustainable production: 600m <sup>3</sup> /day
Consent allowance:	1,000m <sup>3</sup> /day
Total storage capacity:	435m <sup>3</sup>

The Table below summarises the asset components of the water supply scheme:

Asset Type	Asset Parameters
<b>Water Source</b>	<b>Headworks</b>
<b>Intake</b>	<ul style="list-style-type: none"> <li>• Three Earth Dams</li> </ul>
<b>Raw Water Main</b>	<ul style="list-style-type: none"> <li>• Stainless Steel Intake</li> </ul>
<b>Treatment Plant</b>	<ul style="list-style-type: none"> <li>• Some sections bolted to a cliff face</li> </ul>
<b>Storage</b>	<ul style="list-style-type: none"> <li>• Building and control room</li> <li>• Components: Absorption Clarifier Backwash Tank Chlorination system Diatomaceous Earth Filter Contact Tank Ultra Violet unit</li> </ul>
<b>Reticulation</b>	<ul style="list-style-type: none"> <li>• Three 25 m<sup>3</sup> Plastic tanks at the treatment plant site</li> <li>• Timber storage reservoir 100m<sup>3</sup></li> <li>• Ferro cement reservoir 340m<sup>3</sup></li> </ul>
<b>Service Connections</b>	<ul style="list-style-type: none"> <li>• Pipelines Total length: 11.002 km of various materials</li> </ul>
<b>Fittings</b>	<ul style="list-style-type: none"> <li>• 195</li> <li>• 18 Valves</li> <li>• 24 Fire Hydrants</li> </ul>

**Table: Asset Characteristics- Mokau Urban Water Supply**

#### Asset Condition

The assessment of the current condition and performance of water supply assets available is contained in Bizeasset.

#### Headworks

In recent past insufficient source water was available to meet peak demand in summer coinciding with low rainfall. This was solved by constructing an 11,000m<sup>3</sup> raw water storage reservoir below the escarpment. Some sections of the gravity main bringing water from the dams at the top of the escarpment are located on unstable ground and the joints may be under stress

Investigating alternative supply an exploratory bore was drilled during 2004/05, this was not successful and ground water is unlikely to provide supplementary water supply for Mokau.

Storage of existing surface yield has been optimized with new dam.

Future water supply increase will probably be from desalination of river water from within the tidal movement area.

#### Treatment Plant

The treatment plant operates well. The treatment building is too small to effectively house all the equipment, the exterior cladding requires replacement in the in 2025-2035 due time. The driveway access is steep and requires regular addition of metal to maintain it in a serviceable condition.



**Fig.: Diatomaceous Earth Filter - Mokau**

#### Storage

Additional treated water storage placed at the treatment plant site, in the form of three 25m<sup>3</sup> polyethylene tanks. The timber reservoir has been installed on the town boundary and a pressure controlling pump station installed. The contact tank/reservoir at the treatment plant site has some minor cracking in the ring beam and ferro cement shell. The storage tank volume is 340 m<sup>3</sup> equivalent to two days storage.





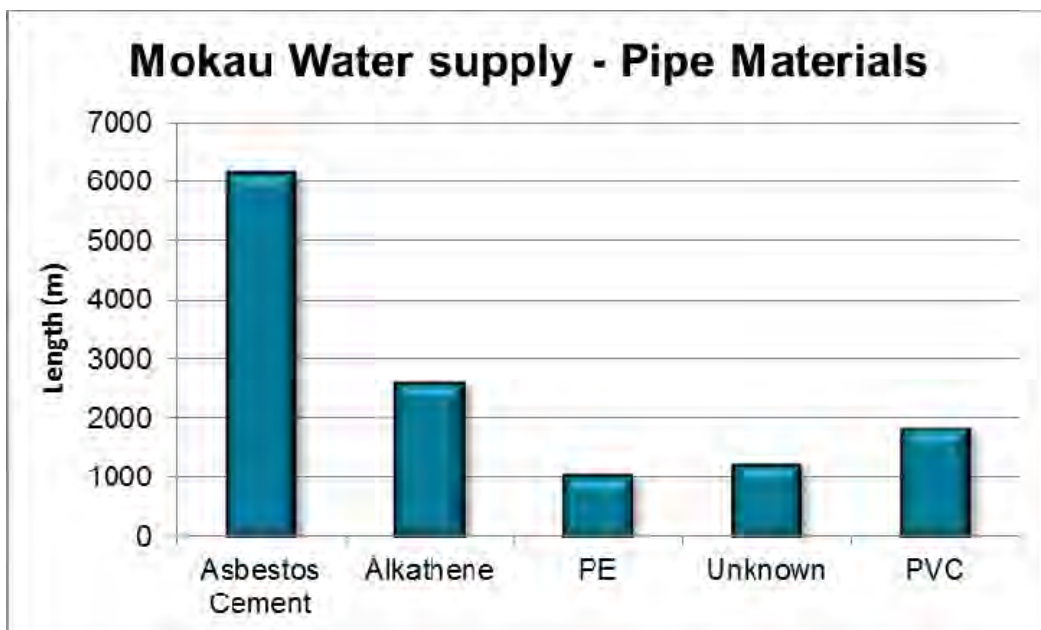
5Mokau WTP and Storage Reservoirs

Reticulation

Most of the reticulation was installed in 1972 and is predominantly constructed with asbestos cement pipes. Mains failure is rare. The main supply line between the treatment plant and the town, mostly along SH 3, is PE pipe installed between 2006 and 2008.

During repairs in recent past it became apparent that the AC pipe is getting soft, this normally signals reticulation failure in the near future.

The 2015 -2025 LTP make provision for renewal of the AC mains over this 10 year period.



### Service Connections

Most service connections were installed with the original contract and this has been taken as the age of all connections for this plan. There are few problems with these. However MoH through the Water Safety Plans are pushing for backflow prevention and the 2015 -2025 LTP make provision for installing these over the 10 year life of the plan in conjunction with reticulation renewal.

### Service Fittings

The fittings present no major problems but will be refurbished or replaced as reticulation is renewed.

### Water Quality

The treated water has a current NZ Drinking Water Standards rating of 'U' (ungraded) and like all other systems in the district is awaiting grading.

Similarly the distribution has a rating of 'u' for the same reason.

### Water Capacity

Historically the source coped with normal demand, but in dry years had difficulty to supply the peak summer demand. This demand is likely to increase further and a new water source had been investigated and none that are reasonably affordable could be found.

Increased raw storage constructed during 2013-14 summer will overcome this problem for the foreseeable future.

### Economic Efficiency

The scheme as a whole is comparatively expensive with high unit cost for treated water because it is such a small community. There is little that can be done about that. A larger user base will drop unit cost significantly and that should be kept in mind when sub division applications are submitted.

### Reliability / Availability

The system is reliable. Very few disruptions as result of breakages occur. However the AC pipes are nearing the end of their expected life cycle and indications are that AC pipes has deteriorated to a point where renewal is prudent, therefore provision has been made in the 2015 – 2025 LTP for renewal

### Operations & Maintenance Programme

Anticipated work needs and costs over the next ten years includes:

- operational activity (monitoring, inspections, testing, meter reading, etc.)
- the nature and cost of unplanned maintenance undertaken.
- expected preventative maintenance work requirements.

Operational and maintenance procedures and work activities are documented or recorded, work costs based on cost of previous work and the knowledge and judgment of experienced staff. The introduction of new processes will improve knowledge of operations and maintenance needs and enhance the quality of decision-making.

The O and M expenditure projections are shown in the Operations and Maintenance forecast in the Financial Summary (Section 10)

### Renewal Programme

Renewal of the AC reticulation is planned during the 2015-25 LTP planning period.

The life cycle expectations for renewed water supply assets are:

- |                        |               |
|------------------------|---------------|
| • Pipes                | 60 -120 years |
| • Mechanical equipment | 10 - 40 years |
| • Electrical equipment | 10 - 15 years |
| • SCADA and Telemetry  | 5 - 10 years  |
| • Instrumentation      | 5 - 10 years  |

### Deferred Maintenance

There is no deferred maintenance.

### Development Programme

The development work envisaged for the 10 year period is the upgrade of the SCADA and telemetry at the treatment plant to meet the DWA.

Sub division development may require expansion of the network and will be addressed as it occurs. Such new housing development connected to the system will decrease the high unit cost of water.

### Disposal Programme

There are no significant water supply assets targeted for disposal in the Mokau scheme.



**Mokau WTP building**

## **Benneydale Urban Water Supply**

### Asset Information

The Benneydale water treatment plant is located to the east of Benneydale township and is accessed via a farm track. The supply services a population of about 250. The network, dating back to 1940, was in very poor shape. The whole system was replaced in 2008, including an upgrade of the intake and treatment plant and automation. Benneydale now has a modern water supply system. Earlier work done on the system was embedded into the new system which now meet the requirements of the Health (Drinking Water) Act.

The head works comprise a weir across the stream which was cleaned out and a new overflow installed. Water feeds through a uPVC gravity main 100m long to the water treatment plant.

The water then gravitates through coarse settling tanks to an adsorption clarifier and on into a concrete sump from which it is pumped by a submersible pump through a diatomaceous earth (DE) filter to a contact tank. From the contact tank it is pumped to the reservoirs at the top of the nearby hill, from where it is gravity fed to the reticulation. Disinfection is by hypochlorite solution which is injected into the pump line between the DE filter and the contact tank.

The reticulation has been totally replaced apart from about 800m of MDPE installed in 2003.

A SCADA and telemetry system allows remote monitoring and limited remote control to further improve the service at this comparative remote location.





**Fig.: Upgraded Intake spillway 2008 - Benneydale**



**Benneydale WTP Absorption Clarifier and DE filter 2008**





### Upgraded Plant 2010

The key information relating to the scheme are:

- Treatment plant capacity is 140m<sup>3</sup>/day and consented take is 180m<sup>3</sup>/day
- Annual average daily demand is of 97m<sup>3</sup>/day with occasional peak demand up to 180m<sup>3</sup>/day as result of the truck wash. Treated storage is 150m<sup>3</sup>
- Reticulation consists of 5.8km of uPVC, PE and MDPE materials with an expected remaining life of 100 plus years. All connections have backflow preventers and are metered.
- Routine monitoring of the treatment plant through SCADA and telemetry.
- Implementation of pro-active maintenance policies to reduce overall long term maintenance costs.
- Comply with 2007 Drinking Water Act

The operational parameters of the scheme are:

Population served:	250
Connections:	102
Water availability- Consent:	180m <sup>3</sup> /day
Consumption:	Average daily demand 97m <sup>3</sup> /day
	Peak day demand 180m <sup>3</sup> /day
	Minimum winter demand 40m <sup>3</sup> /day

Maximum sustainable production of the treatment plant is 140m<sup>3</sup>/day.

The table below summarises the asset components of the water supply scheme:

Asset Type	Asset Parameters
<b>Water Source</b>	<ul style="list-style-type: none"> <li>• Intake Weir</li> <li>• Raw water trunk mains :</li> <li>• Raw water trunk fittings.</li> </ul>
<b>Treatment Plant</b>	<ul style="list-style-type: none"> <li>• Sedimentation tanks (2 off)</li> <li>• Absorption clarifier</li> <li>• Transfer pump system</li> <li>• Diatomaceous earth filter</li> <li>• Switchboard</li> <li>• Chlorination system (Hypochlorite)</li> </ul>



	<ul style="list-style-type: none"> <li>• Contact Tank &amp; Storage Reservoir (90m<sup>3</sup> Concrete, 65.5m<sup>3</sup> PE)</li> </ul>
<b>Storage</b>	<ul style="list-style-type: none"> <li>• Concrete reservoir of 100m<sup>3</sup></li> <li>• Two 20m<sup>3</sup> plastic tanks</li> </ul>
<b>Reticulation</b>	<ul style="list-style-type: none"> <li>• Pipelines: Total length: 5.8 km of uPVC, PE and MDPE materials</li> </ul>
<b>Service Connections</b>	<ul style="list-style-type: none"> <li>• 100</li> </ul>
<b>Fittings</b>	<ul style="list-style-type: none"> <li>• 34 Valves</li> <li>• 17 Fire Hydrants</li> <li>• 4 Scour valves</li> </ul>

**Table: Asset Characteristics- Benneydale Urban Water Supply**

Asset Condition

The assessment of the current condition and performance of water supply assets available is contained in BizeAsset.

Headworks

The head works comprise a weir across the stream which had been cleaned out and a new overflow installed. Water feeds through a uPVC gravity main, 100m long, to the water treatment plant.

Treatment Plant

The treatment plant was re-constructed in 2008

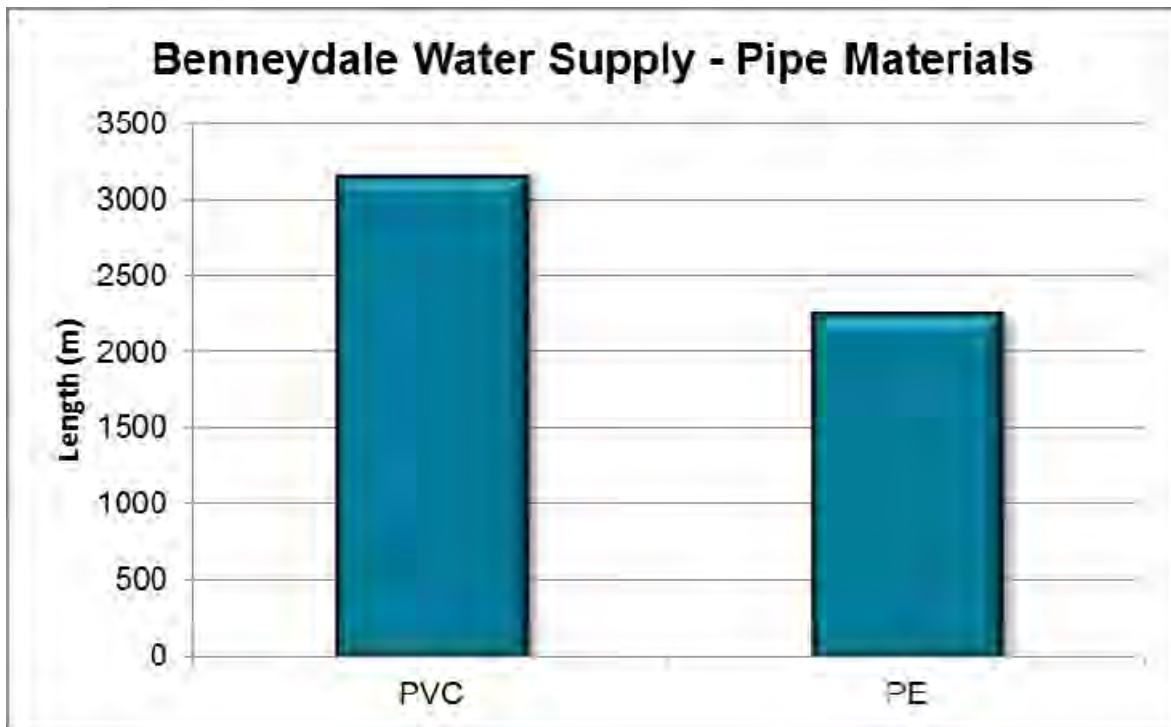
The treatment process train is settling tanks, an adsorption clarifier, diatomaceous earth (DE) filtration and disinfection. This plant is subject to high turbidity peaks of raw water inflow when it rains and the reliance on the adsorption clarifier is very high to provide water at a turbidity level that will allow the DE to produce the quality water required.

In periods of high turbidity, water from the bore will substitute part of the flow from the surface intake. The treatment train however still require a UV unit after DE filtration to meet the default 4 log credits.

The monitoring required with improved telemetry and an upgraded Supervisory Control and Data Acquisition (SCADA) package, as well as individual analysers for turbidity, chlorine residual had been installed.

Reticulation

3,162m of PVC and 2,124m of PE.



Storage

Treated water storage comprises a concrete tank of 100m<sup>3</sup> capacity plus two 20m<sup>3</sup> plastic tanks

Service Connections

Service connections are 107 all are metered to provided data for water management

#### Service Fittings

Nearly all were replaced in 2008

#### Water Quality

The water has a current NZ Drinking Water Standards rating of 'U'. The reticulation has a rating of 'u'. It is expected that the target grading of "Bb" will be achieved in the next Ministry of Health grading review.

#### Water Capacity

There are no issues at present.

#### Economic Efficiency

The unit cost of the water is high because it is such a small high quality supply

#### Reliability / Availability

Very good

#### Operations & Maintenance Programme

Anticipated work needs and costs over the next ten years includes:

- operational activity (monitoring, inspections, testing, meter reading, etc.)
- the nature and cost of unplanned maintenance undertaken.
- expected preventative maintenance work requirements.

Operational and maintenance procedures and work activities are documented or recorded, work costs based on cost of previous work and the knowledge and judgement of experienced staff. The introduction of new processes will improve knowledge of operations and maintenance needs and enhance the quality of decision-making.

The O and M expenditure projections are shown in the Operations and Maintenance forecast in the Financial Summary (Section 10)

#### Renewal Programme

There are no major renewals planned during the 2015-25 planning period.

The life cycle expectations for water supply assets are:

- |                        |                |
|------------------------|----------------|
| • Pipes                | 60 - 120 years |
| • Mechanical equipment | 10 - 40 years  |
| • Electrical equipment | 10 - 15 years  |
| • SCADA and Telemetry  | 5 - 10 years   |
| • Instrumentation      | 5 - 10 years   |

#### Deferred Maintenance

There is no deferred maintenance.

#### Deferred Renewals

It is considered that there are currently no significant assets past the optimum renewal point of their life cycle.

#### Development Programme

Development works proposed are UV installation during the planning period to meet 2007 Drinking Water Act requirements

#### Disposal Programme

There are currently no significant water supply assets targeted for disposal in the Benneydale scheme.

## SECTION 9 - ASSET MANAGEMENT PRACTICES

### 9.1 INTRODUCTION

This section outlines the decision making systems that WDC currently use to determine long term maintenance, renewal and capital expenditure requirements for water assets.

This section looks at three broad areas of activity:

- **Processes:** The necessary processes, analysis and evaluation techniques needed for life cycle asset management.
- **Information systems:** The information support systems used to store and manipulate the data
- **Asset Management Data:** Data available for manipulation by information systems to produce the required outputs.

### 9.2 CURRENT ASSET MANAGEMENT PROCESSES

Activity	Strategy
Service Delivery	Contracts are let for the delivery of major repair, rehabilitation, renewal, upgrading and development work. The day to day reticulation system operation, and inspection and minor repairs are undertaken by the maintenance contractor and monitored by WDC staff.
Safety Management	A formal safety management system is an integral component of effective service delivery across all activities. Since the larger part of utilities are situated in the road reserves, the WDC Safety Management System (SMS) adopted by the Council on 31 January 2007 (Resolution No. 01/07) controls much of the safety regulations. Copy of the SMS can be found on the Council's Intranet under the page headed Operations. Further safety guidelines are contained in the directives of the Department of Labour.
Financial Control	The financial management system is used to record the cost of each work activity for comparison with budget and financial control. Payments made to Contractors relate to each contract.
Procurement	<p>Council's procurement policy for water supply capital works shadows the NZTA Procurement Procedures, linked with Council's delegations manual. Physical works having a value greater than \$20,000 are tendered using a range of competitive pricing options. Works valued at under \$20,000 are market priced using an expedited procedure requiring three invited quotations if possible. Where experience over the previous 13 months indicates that 3 or more quotes cannot be obtained, quotations may be obtained from contractors able to do the work that have been identified by the advertising in the last 13 months.</p> <p>Water supply works having a value less than \$20,000 may be let using any procedure (including negotiation) that assures a satisfactory and competitive price.</p> <p>Expedited procedures may be applied to emergency works within set criteria.</p> <p>Professional services contracts for water supply projects may follow the same tendering process as for physical works. Contracts valued less than \$20,000 may follow a simplified evaluation method. Any tender procedure (including negotiation) may be followed for contracts having a value less than \$10,000.</p> <p>The procurement policy for water supply works is guided by a comprehensive contract management policy posted on the Intranet.</p> <p>Decisions on budgeted capital works can be decided by a Tenders Committee made up of senior management. Projects above the value of \$100,000 are specifically reported to Council.</p>
Performance Monitoring	Records are kept of audited activities, forward and completed maintenance programmes.
Condition Monitoring	<p>Preventative maintenance inspections are routinely undertaken by Council contractors and staff to monitor the condition of pipes, plant and fittings. In addition the condition of the networks is recorded and reported by the contractor during maintenance work.</p> <p>Site inspections are undertaken to assess the condition of infrastructure where performance is outside the targeted level of service.</p>
Quality	Audit procedures are defined for controlling the quality of data received from external

Assurance	contracts for condition monitoring. Data from maintenance contractors is received for work activity, financial, attribute and spatial data of physical works.
Maintenance/ operations	Records are kept by the contractor of all maintenance and repair works and submitted with the monthly report. This data is transferred to the asset management system on a monthly basis.
Optimised life cycle strategy	Asset maintenance and renewal decisions are based on the process outlined under the Lifecycle Asset Management section above, including asset condition and performance information. Decisions are currently optimised by considering life cycle costs and professional judgment.
Risk Management	Risk management is practised both formally and informally. Judgments are made based on the knowledge of experienced staff considering local conditions and AS/NZS 4360 guidelines.
Staff Development	Staff are kept abreast of changes in science and technology through sector briefings and training. Council is a member of SOLGM, the Water NZ, IPWEA and other sector groups. Industry specific training courses are occasionally attended by relevant staff to maintain continuous education.

### 9.3 ASSET MANAGEMENT SYSTEM

Council operates a hybrid asset management tool known as 'BizeAsset' Asset Management System. 'BizeAsset' was designed for small to medium sized councils to meet the asset management requirements of local government. 'BizeAsset' uses a GIS platform with a web-front end to maximise efficiency and simplicity. The system is easy to maintain with powerful outputs such as asset valuations, maintenance history, map production, etc. Council currently uses 'BizeAsset' modules for Wastewater (Sewerage), Water, and Storm water. The 'BizeAsset' functionality currently utilized within these modules is asset register, accounting (asset valuation), maintenance history ('maintenance event' not 'maintenance cost') and information can be used for predictive analysis.

### 9.4 CURRENT ASSET MANAGEMENT DATA

#### Asset Attributes

Moderately complete records of the networks exist; significant service areas are identified and recorded by location and type and spatial attributes. Attribute data for water assets is stored in the BizeAsset inventory database. Good records of the new works exist as obtained from the as-built drawings on completion of the work, e.g. the Benneydale reticulation renewal. Otherwise, the information available is known to be incomplete and of variable accuracy. A comprehensive programme to address this is steadily being updated to include new information, more accurate information and information from completed projects.

Data held on water supply assets is supplemented by the knowledge and judgment of experienced staff.

#### Condition Data

Condition information available on water supply assets is fair but evolving, with renewal decisions based on age, condition and performance assessments and the renewal selection criteria included in the lifecycle management section above.

### 9.5 Infrastructure Assets - Data Confidence Assessment

ASSET CLASS	DATA CONFIDENCE RATING	FORECAST CONFIDENCE RATING	METHOD OF COMPLETING THE RATING ASSESSMENT
<b>Wastewater</b>			Internal knowledge and assessment of data collection procedures, completeness, accuracy and documentation
Reticulation:			
Te Kuiti (79%)	2	B	
Benneydale (3%)	2	B	
Piopio (17%)	1	A	
Te Waitere (1%)	1	B	

ASSET CLASS	DATA CONFIDENCE RATING	FORECAST CONFIDENCE RATING	METHOD OF COMPLETING THE RATING ASSESSMENT
Pump stations - All	2	B	
Treatment plants - All	2	B	
Discharge structures - All	2	B	
<b>Water Supply</b>			Internal knowledge and assessment of data collection procedures, completeness, accuracy and documentation
Headworks - All	2	B	
Treatment plants - All	2	B	
Storage reservoirs - All	2	B	
Reticulation:			
Te Kuiti (68%)	2	B	
Benneydale (8%)	2	B	
Piopio (9%)	2	B	
Mokau (15%)	2	B	
<b>Stormwater</b>			Internal knowledge and assessment of data collection procedures, completeness, accuracy and documentation
Reticulation	3	C	
Outlet structures	1	A	
<b>Roads and Footpaths</b>			Internal knowledge and assessment of data collection procedures, completeness, accuracy and documentation
Bridges	1	A	
Surfacing	1	B	
Pavement	3	C	
Culverts	2	C	
Kerb and channel	1	A	
Retaining structures	2	B	
Streetlights	1	A	
Road signage	2	B	
Footpaths	2	B	

## SECTION 10 - FINANCIAL SUMMARY

### 10.1 VALUATION OF WATER SUPPLY ASSETS

Infrastructural assets values are stored in BizeAsset and the values as at June 2014 have been used to determine Optimised Replacement Cost and disposal values where relevant. Infrastructural asset valuations are determined/peer reviewed every three years by an independent valuer. The next review is due in 2015. Additions to the infrastructural assets are valued at cost less accumulated depreciation.

The key components of Waitomo District's water supply infrastructure and their attendant values, as at 30 June 2014, are summarised in the table below:

Community	Reticulation ORC	Water Points ORC	Water Plants ORC (\$)	Value scheme by Community
Te Kuiti	8,553,427.49	1,406,597.44	6,206,489.86	\$16,166,515
Piopio	876,376.80	158,599.80	1,733,918.58	\$2,768,895
Mokau-Awakino	1,469,028.45	198,259.30	1,241,889.19	\$2,909,177
Benneydale	727,741.01	136,136.10	746,449.91	\$1,610,327
<b>Total</b>	<b>\$11,626,573.75</b>	<b>\$1,899,592.64</b>	<b>9,928,747.54</b>	<b>\$23,454,914</b>

The above information has been drawn from Councils asset inventory in the BizeAsset database as at June 2014. The assets were valued using the Optimised Replacement Cost methodology as described in the NZ Infrastructure Asset Valuation and Depreciation Guidelines. Assets were depreciated on a straight line basis to determine the Optimised Replacement Cost.

The confidence rating for each of the significant asset components of the water supply valuation as detailed in the valuation report is:

Valuation Element	Confidence Grade
Fixed asset register downloads	Fair confidence
Attribute details	Fair confidence
Asset categorisation	Good confidence
Economic lives information	Good confidence
Unit replacement rates	Good confidence
<b>Overall rating</b>	<b>Good confidence</b>

### 10.2 STRATEGY FOR FINANCIAL FORECAST

The strategy for the financial forecast is to:

- Assign realistic timing to projects given the resources available under WDC's current funding sources and in relation to impacts on other Activity Management Plans
- optimise timing of projects
- Generate consistent budgeting philosophies across all asset groups
- Align expenditure with growth predictions
- Reduce the completion backlog of works recently identified and currently approved.

The following table shows the financial projections for the water supply activity over the next ten years. The following definitions apply to the respective activity classes shown:

Activity Class	Definition
Maintenance and Operations	All actions necessary to retain an asset as near as practicable to its original condition, but excluding renewals and rehabilitation. Includes costs such as insurances, rates, energy and consumables associated with owning and using the asset
Renewals	Works to upgrade, refurbish or replace existing assets with assets of equivalent capacity or performance capability
Improvements	Expenditure used to create new assets or to increase the capacity of existing assets beyond their original design capacity or service potential. Improvements increase the value of asset stock

10.3 SUMMARY OF WATER SUPPLY EXPENDITURE FORECASTS BY SCHEME FOR ASSET MANAGEMENT PLAN 2015-2025

Water Supply	EAP 2014/15	LTP 2016	LTP 2017	LTP 2018	LTP 2019	LTP 2020	LTP 2021	LTP 2022	LTP 2023	LTP 2024	LTP 2025
<b>Operating Income</b>											
Te Kuiti	1,407	1,389	638	659	682	706	733	763	794	828	855
Mokau	30	54	56	58	60	62	64	67	70	73	76
Piopio	26	33	35	36	37	39	40	42	43	45	47
Benneydale	23	22	23	24	25	26	27	28	29	30	32
<b>Total Operating Income</b>	<b>1,486</b>	<b>1,498</b>	<b>752</b>	<b>777</b>	<b>804</b>	<b>833</b>	<b>864</b>	<b>900</b>	<b>936</b>	<b>976</b>	<b>1,010</b>
<b>Operating Expenditure</b>											
Te Kuiti	1,784	1,538	2,021	2,196	2,249	2,266	2,320	2,332	2,373	2,411	2,442
Mokau	306	355	367	386	391	401	412	418	426	436	449
Piopio	316	357	364	394	389	417	417	445	454	464	456
Benneydale	181	174	179	184	187	195	202	205	212	217	224
<b>Total Operating Expenditure</b>	<b>2,587</b>	<b>2,424</b>	<b>2,931</b>	<b>3,160</b>	<b>3,216</b>	<b>3,279</b>	<b>3,351</b>	<b>3,400</b>	<b>3,465</b>	<b>3,528</b>	<b>3,571</b>
<b>Net Operating Cost/(Surplus)</b>	<b>1,101</b>	<b>926</b>	<b>2,179</b>	<b>2,383</b>	<b>2,412</b>	<b>2,446</b>	<b>2,487</b>	<b>2,500</b>	<b>2,529</b>	<b>2,552</b>	<b>2,561</b>
<b>Capital Expenditure</b>											
Te Kuiti	1,540	5,225	1,445	170	184	166	172	154	191	194	208
Mokau	80	168	45	58	56	64	70	67	80	83	92
Piopio	65	34	128	107	174	130	75	85	88	89	94
Benneydale	3	3	8	3	3	3	4	4	4	4	4
<b>Total Capital Expenditure</b>	<b>1,688</b>	<b>5,430</b>	<b>1,626</b>	<b>338</b>	<b>417</b>	<b>363</b>	<b>321</b>	<b>310</b>	<b>363</b>	<b>370</b>	<b>398</b>
<b>Net Expenditure</b>	<b>2,789</b>	<b>6,356</b>	<b>3,805</b>	<b>2,721</b>	<b>2,829</b>	<b>2,809</b>	<b>2,808</b>	<b>2,810</b>	<b>2,892</b>	<b>2,922</b>	<b>2,959</b>
<b>Funded By</b>											
Internal Loans	905	4,418	1,339	74	162	122	70	67	80	83	92
Reserves	353	279	746	775	661	529	435	370	365	339	351
TK Water Supply Service Charge	901	939	948	1,031	1,114	1,234	1,361	1,401	1,453	1,486	1,499
MK Water Supply Service Charge	258	282	315	328	334	343	353	358	362	370	378
PP Water Supply Service Charge	213	276	292	343	387	402	403	427	437	448	439
BD Water Supply Service Charge	159	161	165	170	172	179	185	187	193	196	201
<b>Total Funding</b>	<b>2,789</b>	<b>6,355</b>	<b>3,805</b>	<b>2,721</b>	<b>2,830</b>	<b>2,809</b>	<b>2,807</b>	<b>2,810</b>	<b>2,890</b>	<b>2,922</b>	<b>2,960</b>



In summary the overall proposed Water Supply Activity forecast for the next 10 years contains the following features:

- Total projected operating and maintenance cost (excluding inflation) is \$15.01M over the 2015 – 2025 period.
- Renewals: reticulation renewals in Te Kuiti of \$872,000 is envisaged over the next 10 years. Over the 30 year period 2015 – 2045 its shows approximately \$2.6million or around \$87,000 per year however for the following 50 years it shows a renewal requirement of about \$13.15 million or \$264,000 per year.
- To address this Council has settled on an average renewal programme of \$100,000 per year for the 2015 -2025 period
- Capital works: a treatment plant upgrade programme for Te Kuiti totaling \$6.61 million is envisaged over the next 10 years.
- No provision has been made for new water supply schemes in support of managed growth planning concepts proposed for Mokau – Awakino, Te Waitere, and Waitomo Village
- These projections and the AMP will be reviewed in 2017/18 ahead of the 2018-28 LTP in light of updated asset information that will be collected and recorded over the next 2.5 years.

#### 10.4 FUNDING SOURCES

Current funding sources available for the water supply activity include:

Rates: Council's LTP includes full details of its Revenue and Financing Policy. In so far as the Water Supply Activity is concerned, the cost of the activity, including extraction, treatment and reticulation, is funded by way of a targeted uniform annual charge (TUAC), differentiated by supply area, and levied on each separately used or inhabited part of a rating unit.

Any rating unit fitted with a water supply meter, or defined as an extraordinary user, is charged a fixed rate per cubic metre of water consumed.

Council also operates an Assistance for Smaller Communities policy. Under this policy, all rating units in the district make a contribution towards the funding of eligible rural water supply services when the cost per connection exceeds the trigger level determined by Council from time to time.

Financial/development contributions: Council has two different policy tools available to it under the LGA 2002 that can be used to fund the capital cost of new assets or additional asset capacity included in the Long Term Plan as a result of growth. A financial contributions policy prepared in accordance with the Resource Management Act 1991 allows Council to charge developers financial contributions while the LGA 2002 prescribes the process under which Council may establish a policy to charge development contributions. One or other, or a combination of both, can be used as a source of funding for growth related capital expenditure. However, "double dipping" of contributions is not permitted.

Financial contributions can be applied as an appealable condition of a resource consent, corresponding to work required to mitigate an adverse effect of a development on existing infrastructure or the environment. The financial contributions policy contained in Council's operative District Plan allows financial contributions to be charged where necessary, but remains untested. This stance reflects an unwritten philosophy of supporting economic development. Ironically, the need for growth related expenditure remains with or without a formal development/financial contributions policy, but at the expense of existing ratepayers.

Council will review the need for a Development Contributions policy, when it reviews the District Plan in this LTP planning period.

## SECTION 11 - ASSUMPTIONS

The following basic assumptions have been made in preparing the 10 year cash flow forecasts.

- All expenditure is stated in dollar values as at 30 June 2014 with no allowance made for inflation over the 10 year planning period
- No significant increase in overhead costs will occur during the 2015-2025 planning period.
- At this stage it is anticipated that there may be a gradual increase in operations and maintenance expenditure in real terms over the planned period due to the continued ageing of the reticulation asset and more stringent statutory monitoring and reporting requirements. In addition, the increased level of sophistication of the upgraded water treatment plants requires higher levels of staff input.
- Improved asset renewal decision is expected to reduce maintenance needs made possible by enhanced information used in the asset management system which should help to slow the rise in operating cost. As this reduction is difficult to quantify, it has been assumed that the net effect will be neutral and not been provided for in the financial forecasts.
- There will be no additional assets vested in Council from subdivisional development over the term of the AMP. This assumption will be reviewed in the next 3 year planning cycle
- Maintenance allocations are largely based on maintaining current levels of expenditure.
- Significant increases in the required funding may however result from more detailed evaluation of asset renewal requirements at the treatment plants and more stringent consent and legislative requirements. Although such costs may be offset slightly by resultant reductions in maintenance costs for the assets involved, increased depreciation has been assumed to exceed any such saving.
- The most significant changes may result from further changes to legislation and or Waikato Regional Council (WRC) review of its Regional Plan as it affects water assets and the need to meet higher environmental standards and more stringent water management requirements in control and reporting.
- It has been assumed that there will be no change to the current ownership/management regime for the Waitomo Village water supply scheme. Therefore, no allowance has been made for any costs associated with the Waitomo Village water supply scheme in this AMP.

## SECTION 12 – PLAN IMPROVEMENT AND MONITORING

Activity management planning involves a process of constant improvement. The following table summarises the proposed actions and timetables for improving accuracy and confidence in the Water Supply AMP. It identifies and prioritises what needs to be done, who is going to do it and when it is to be completed by. Many of the steps will entail additional resourcing.

Ref	Description	Relative Priority				Target Completion Date	Officer Responsible	Additional Resources Required	Actual Completion Date	Comment
		1	2	3	4					
1	Consultation to ascertain the water supply communities service needs and preferences and to ensure their views are considered when selecting the best level of service scenario.		x			Next review due August 2016	Group Manager Corporate Services	Survey consultant		Requires incremental improvement and updating of current knowledge only
2	Ensure the right level of funding is being allocated to maintain the asset service potential.		x			Ongoing	Group Manager Assets	Water Manager		Monitor
3	Implement predictive modeling techniques that will allow consideration of alternative long term cost scenarios.			x		2018	Group Manager Assets	Water Manager		Requires evaluation of appropriate AMS after inventory records updated and complete. with analysis of findings and implementation over the next 3-5 years
4	Improve standard of maintenance data integration with spatial data in Bizze@sset.	x				Ongoing	Group Manager Corporate Services			Monitor
5	Improve standard of contractor collection and reporting of maintenance data and integration of information with spatial data in Bizze@sset		X			Ongoing	Group Manager Assets	Water Manager		Monitor continuous improvement
6	Initiate a long term zonal metering and leak detection programme, initially for Te Kuiti.			x			Group Manager Assets	Water Manager		Commenced in ad hoc way from 2008.
7	Initiate a scheme proposal for Marokopa				x	2025-45	Group Manager Assets	Water Manager		Outside 2015– 2025 planning period
8	Upgrade supply main from Mokau to Awakino		x			2025-45	Group Manager Assets	Water Manager		Outside 2015– 2025 planning period
9	Develop accurate and complete asset inventory registers for each scheme.			x		Ongoing	Asset Engineer Water	Water Manager	On-going upgrade and improvement	
10	Develop a greater focus on risk identification and management for critical assets.			x		Ongoing	Group Manager Assets	Water Manager		
11	Prioritise the works developed from the risk assessment exercise.			x			Group Manager Assets	Water Manager		
12	Construct additional treated storage at Te Kuiti to meet 24 hours demand			x		2025 - 2035	Group Manager Assets			Outside 2015-25 planning period.
13	Evaluate groundwater test bores as a potential auxiliary source for Te Kuiti water supply.				x	2023	Group Manager Assets	Water Manager		.

Ref	Description	Relative Priority				Target Completion Date	Officer Responsible	Additional Resources Required	Actual Completion Date	Comment
		1	2	3	4					
14	Install SCADA and telemetry for automated monitoring and control of treatment and pumping/storage at Te Kuiti supply for compliance with MOH gradings and improved risk management.		x			February 2016	Asset Engineer Water	Water Manager		
15	Improve definition of standards for maintenance		x			Ongoing	Operations Supervisor	Water Manager		Monitor
16	Review pump station and treatment plant maintenance programmes		x			Ongoing	Operations Supervisor and Asset Engineer Water	Water Manager		Monitor
17	Update and implement water treatment plant operating procedures		X			Ongoing as plants get upgraded	Asset Engineer Water	Water Manager		Monitor
18	Collect further condition rating data for pipe networks		X			Ongoing	Asset Engineer Water	Water Manager		On going programme
19	Review and improve the financial information outlined in Section 10 and produce an updated financial forecast by 30 June each year		X			March each year	Group Manager Assets	Water Manager		
20	Assess all water services available within the District in accordance with the Local Government Act 2002.				x	2017	Group Manager Assets	Water Manager		Last completed in 2014. Assessments consistent with provisions in Draft 2015 – 25 LTP

**Key:**

- 1 = High importance/high urgency
- 2 = High importance/low urgency
- 3 = Low importance/high urgency
- 4 = Low importance/low urgency

## SECTION 13 - REFERENCES AND ACKNOWLEDGEMENTS

Material from the following documents has been used in the preparation of this Water Asset Management Plan:

- Water Safety Plans for all four water schemes
- Water Services Assessment – Opus International Consultants 2014
- Miscellaneous Consulting Services
- Waikato Regional Plan (part)
- Resident Satisfaction Survey, May 2014

## SECTION 14 - APPENDICES

Appendix	Title
A	Glossary
B	Extract from Schedule 10, Local Government Act 2002 – Information to be included in long term plans
C	Extract from LGA 2002 – s.101B Infrastructure Strategy
D	Water Supply Risk Assessment
E	Indicative Water Supply AMP Expenditure Programmes 2015 – 2045
F	Indicative Renewal Programme Summary 2015- 25
G	Te Kuiti Asset Table
H	Piopio Asset Table
I	Mokau Asset Table
J	Benneydale Asset Table
K	Effective Lives of Water Supply Assets
L	Waikato Regional Council – Link to Regional Plan Variation – Water Allocation
M	Organisational Management Structure
N	Smart Water Use Campaign



## Appendix A: Glossary

The following terms and acronyms (in brackets) are used in this AM plan:

<b>Activity</b>	An activity is the work undertaken on an asset or group of assets to achieve a desired outcome.
<b>Advanced Activity Management (AAM)</b>	Activity Management practice that has evolved to a state that matches business needs. AAM employs predictive modelling, risk management and optimised renewal decision making techniques to establish asset lifecycle treatment options and related long term cash flow predictions. (See Core Activity Management).
<b>Annual plan</b>	The Annual Plan provides a statement of the direction of Council and ensures consistency and coordination in both making policies and decisions concerning the use of Council resources. It is a reference document for monitoring and measuring performance for the community as well as the Council itself.
<b>Asset</b>	A physical component of a facility which has value, enables services to be provided and has an economic life of greater than 12months.
<b>Activity Management (AM)</b>	The combination of management, financial, economic, engineering and other practices applied to physical assets with the objective of providing the required level of service in the most cost effective manner.
<b>Activity Management system (AMS)</b>	A system (usually computerised) for collecting analysing and reporting data on the utilisation, performance, lifecycle management and funding of existing assets.
<b>Activity Management Plan</b>	A plan developed for the management of one or more infrastructure assets that combines multidisciplinary management techniques (including technical and financial) over the lifecycle of the asset in the most cost effective manner to provide a specified level of service. A significant component of the plan is a long term cash flow projection for the activities.
<b>Activity Management strategy</b>	A strategy for Activity Management covering, the development and implementation of plans and programmes for asset creation, operation, maintenance, renewal, disposal and performance monitoring to ensure that the desired levels of service and other operational objectives are achieved at optimum cost.
<b>Asset register</b>	A record of asset information considered worthy of separate identification including inventory, historical, financial, condition, construction, technical and financial information about each.
<b>Benefit cost ratio (B/C)</b>	The sum of the present values of all benefits (including residual value, if any) over a specified period, or the life cycle of the asset or facility, divided by the sum of the present value of all costs.
<b>Berm</b>	The area of a road reserve between the kerb or surface water channel and property boundary exclusive of footpath.
<b>Capital expenditure (CAPEX)</b>	Expenditure used to create new assets or to increase the capacity of existing assets beyond their original design capacity or service potential. CAPEX increases the value of an asset.
<b>Cash flow</b>	The stream of costs and/or benefits over time resulting from a project investment or ownership of an asset.
<b>Components</b>	Specific parts of an asset having independent physical or functional identity and having specific attributes such as different life expectancy, maintenance regimes, risk or criticality.
<b>Condition monitoring</b>	Continuous or periodic inspection, assessment, measurement and interpretation of resulting data, to indicate the condition of a specific component so as to determine the need for some preventive or remedial action
<b>Core Activity Management</b>	Activity Management which relies primarily on the use of an

	asset register, maintenance history, condition assessment, defined levels of service, and simple risk and benefit/ cost assessments in order to establish work priorities and long term cash flow predictions.
<b>Critical assets</b>	Assets for which the financial, business or service level consequences of failure are sufficiently severe to justify proactive inspection and rehabilitation. Critical assets have a lower threshold for action than non-critical assets.
<b>Current replacement cost</b>	The cost of replacing the service potential of an existing asset, by reference to some measure of capacity, with an appropriate modern equivalent asset.
<b>Deferred maintenance</b>	The shortfall in rehabilitation work required to maintain the service potential of an asset.
<b>Demand management</b>	The active intervention in the market to influence demand for services and assets with forecast consequences, usually to avoid or defer CAPEX expenditure. Demand management is based on the notion that as needs are satisfied expectations rise automatically and almost every action taken to satisfy demand will stimulate further demand.
<b>Depreciated replacement cost (DRC)</b>	The replacement cost of an existing asset after deducting an allowance for wear or consumption to reflect the remaining economic life of the existing asset.
<b>Depreciation</b>	The wearing out, consumption or other loss of value of an asset whether arising from use, passing of time or obsolescence through technological and market changes. It is accounted for by the allocation of the historical cost (or revalued amount) of the asset less its residual value over its useful life.
<b>Disposal</b>	Activities necessary to dispose of decommissioned assets.
<b>Economic life</b>	The period from the acquisition of the asset to the time when the asset, while physically able to provide a service, ceases to be the lowest cost alternative to satisfy a particular level of service. The economic life is at the maximum when equal to the physical life however obsolescence will often ensure that the economic life is less than the physical life.
<b>Geographic information system (GIS)</b>	Software which provides a means of spatially viewing, searching, manipulating, and analysing an electronic data-base.
<b>Infrastructure assets</b>	Stationary systems forming a network and serving whole communities, where the system as a whole is intended to be maintained indefinitely at a particular level of service potential by the continuing replacement and refurbishment of its components. The network may include normally recognised 'ordinary' assets as components.
<b>Level of service</b>	The defined service quality for a particular activity (i.e. roading) or service area (i.e. street-lighting) against which service performance may be measured. Service levels usually relate to quality, quantity, reliability, responsiveness, environmental acceptability and cost.
<b>Life</b>	A measure of the anticipated life of an asset or component; such as time, number of cycles, distance intervals etc.
<b>Life cycle</b>	Life cycle has two meanings:  (a) The cycle of activities that an asset (or facility) goes through while it retains an identity as a particular asset i.e. from planning and design to decommissioning or disposal.  (b) The period of time between a selected date and the last year over which the criteria (e.g. costs) relating to a decision or alternative under study will be assessed.
<b>Life cycle cost</b>	The total cost of an asset throughout its life including planning, design, construction, acquisition, operation, maintenance, rehabilitation and disposal costs.

<b>Maintenance</b>	All actions necessary for retaining an asset as near as practicable to its original condition, but excluding rehabilitation or renewal.
<b>Maintenance plan</b>	Collated information, policies and procedures for the optimum maintenance of an asset, or group of assets.
<b>Maintenance standards</b>	The standards set for the maintenance service, usually contained in preventive maintenance schedules, operation and maintenance manuals, codes of practice, estimating criteria, statutory regulations and mandatory requirements, in accordance with maintenance quality objectives.
<b>Net present value (NPV)</b>	The value of an asset to the organisation, derived from the continued use and subsequent disposal in present monetary values. It is the net amount of discounted total cash inflows arising from the continued use and subsequent disposal of the asset after deducting the value of the discounted total cash outflows.
<b>NIMT</b>	North Island Main Trunk rail line
<b>Objective</b>	An objective is a general statement of intention relating to a specific output or activity. They are longer term aims and are not necessarily outcomes that managers can control.
<b>Operation</b>	The active process of utilising an asset which will consume resources such as manpower, energy, chemicals and materials. Operation costs are part of an assets life cycle costs..
<b>Optimised renewal decision making (ORDM)</b>	An optimisation process for considering and prioritising all options to rectify performance failures of assets. The process encompasses NPV analysis and risk assessment.
<b>Performance indicator (PI)</b>	A qualitative or quantitative measure of a service or activity used to compare actual performance against a standard or other target. Performance indicators commonly relate to statutory limits, safety, responsiveness, cost, comfort, asset performance, reliability, efficiency, environmental protection and customer satisfaction.
<b>Performance monitoring</b>	Continuous or periodic quantitative and qualitative assessments of the actual performance compared with specific objectives, targets or standards.
<b>Planned maintenance</b>	Planned maintenance activities fall into 3 categories : (a) Periodic - necessary to ensure the reliability or sustain the design life of an asset. (b) Predictive – condition monitoring activities used to predict failure.
	(c) Preventive - maintenance that can be initiated without routine or continuous checking (e.g. using information contained in maintenance manuals or manufacturers' recommendations) and is not condition-based.
<b>Rehabilitation</b>	Works to rebuild or replace parts or components of an asset, to restore it to a required functional condition and extend its life, which may incorporate some modification. Generally involves repairing the asset using available techniques and standards to deliver its original level of service (i.e. heavy patching of roads, slip-lining of stormwater mains, etc.) without resorting to significant upgrading or replacement.
<b>Renewal</b>	Works to upgrade, refurbish, rehabilitate or replace existing facilities with facilities of equivalent capacity or performance capability.
<b>Repair</b>	Action to restore an item to its previous condition after failure or damage.
<b>Replacement</b>	The complete replacement of an asset that has reached the end of its life, so as to provide a similar or agreed alternative, level of service.

<b>Remaining economic life</b>	The time remaining until an asset ceases to provide service level or economic usefulness.
<b>Risk cost</b>	The assessed annual cost or benefit relating to the consequence of an event. Risk cost equals the costs relating to the event multiplied by the probability of the event occurring.
<b>Risk management</b>	The application of a formal process to the range of possible values relating to key factors associated with a risk in order to determine the resultant ranges of outcomes and their probability of occurrence.
<b>Routine maintenance</b>	Day to day operational activities to keep the asset operating (replacement of light bulbs, cleaning of drains, repairing leaks, etc.) and which form part of the annual operating budget, including preventative maintenance.
<b>Service potential</b>	The total future service capacity of an asset. It is normally determined by reference to the operating capacity and economic life of an asset.
<b>Strategic plan</b>	Strategic planning involves making decisions about the long term goals and strategies of an organisation. Strategic plans have a strong external focus, cover major portions of the organization and identify major targets, actions and resource allocations relating to the long term survival, value and growth of the organisation.
<b>Unplanned maintenance</b>	Corrective work required in the short term to restore an asset to working condition so it can continue to deliver the required service or to maintain its level of security and integrity.
<b>Traffic volume</b>	The number of vehicles flowing in both directions past a particular part in a given time (for example, vehicles per hour or vehicles per day).
<b>Upgrading</b>	The replacement of an asset or addition/ replacement of an asset component which materially improves the original service potential of the asset.
<b>Valuation</b>	Estimated asset value which may depend on the purpose for which the valuation is required, i.e. replacement value for determining maintenance and replacement levels, or market value for life cycle costing.

**1. Community outcomes**

- A long-term plan must, to the extent determined appropriate by the local authority, describe the community outcomes for the local authority's district or region.

**2. Groups of activities**

- (1) A long-term plan must, in relation to each group of activities of the local authority,—
  - (a) identify the activities within the group of activities;
  - (b) identify the rationale for delivery of the group of activities (including the community outcomes to which the group of activities primarily contributes);
  - (c) outline any significant negative effects that any activity within the group of activities may have on the local community;
  - (d) include the information specified in [clauses 4](#) and [5](#)—
    - (i) in detail in relation to each of the first 3 financial years covered by the plan; and
    - (ii) in outline in relation to each of the subsequent financial years covered by the plan.
- (2) In this schedule, each of the following activities is a group of activities:
  - (a) water supply;
  - (b) sewerage and the treatment and disposal of sewage;
  - (c) stormwater drainage;
  - (d) flood protection and control works;
  - (e) the provision of roads and footpaths.
- (3) Despite subclause (2), a local authority may treat any other activities as a group of activities

**3. Capital expenditure for groups of activities**

- (1) A long-term plan must, in relation to each group of activities of the local authority and for each financial year covered by the plan, include a statement of the amount of capital expenditure that the authority has budgeted to—
  - (a) meet additional demand for an activity; and
  - (b) improve the level of service; and
  - (c) replace existing assets.
- (2) For the purpose of this clause, capital expenditure budgeted for 2 or all of the purposes in subclause (1) may be treated as if it were made solely in relation to the primary purpose of the expenditure.

**4. Statement of service provision**

- A long-term plan must, in relation to each group of activities of the local authority, include a statement of the intended levels of service provision that specifies—
  - (a) any performance measures specified in a rule made under [section 261B](#) for a group of activities described in [clause 2\(2\)](#); and
  - (b) the performance measures that the local authority considers will enable the public to assess the level of service for major aspects of groups of activities for which performance measures have not been specified under paragraph (a); and

- (c) the performance target or targets set by the local authority for each performance measure; and
- (d) any intended changes to the level of service that was provided in the year before the first year covered by the plan and the reasons for the changes; and
- (e) the reason for any material change to the cost of a service.

#### **5. Funding impact statement for groups of activities**

- (1) A long-term plan must, in relation to each year covered by the plan, include a funding impact statement in relation to each group of activities of the local authority.
- (2) The funding impact statement must be in the prescribed form and must identify—
  - (a) the sources of funding to be used by the local authority; and
  - (b) the amount of funds expected to be produced from each source; and
  - (c) how the funds are to be applied.

#### **6. Variation between territorial authority's long-term plan and assessment of water and sanitary services and waste management plans**

- A long-term plan for a territorial authority must identify and explain any significant variation between the proposals outlined in the long-term plan and the territorial authority's—
  - (a) assessment of water and other sanitary services under [section 125](#);
  - (b) waste management and minimisation plans adopted under [section 43](#) of the Waste Minimisation Act 2008

#### **7. Council-controlled organisations**

- A long-term plan must, in relation to each council-controlled organisation,—
  - (a) name the council-controlled organisation and any subsidiary of the council-controlled organisation; and
  - (b) identify—
    - (i) the local authority's significant policies and objectives in relation to ownership and control of the organisation; and
    - (ii) the nature and scope of the activities to be provided by the council-controlled organisation; and
    - (iii) the key performance targets and other measures by which performance is to be judged.

#### **8. Development of Māori capacity to contribute to decision-making processes**

- A long-term plan must set out any steps that the local authority intends to take, having undertaken the consideration required by [section 81\(1\)\(b\)](#), to foster the development of Māori capacity to contribute to the decision-making processes of the local authority over the period covered by that plan.

#### **9. Financial strategy and infrastructure strategy**

- A long-term plan must include a local authority's financial strategy described under [section 101A](#) and infrastructure strategy described under [section 101B](#).

#### **10. Revenue and financing policy**

- A long-term plan must include a local authority's revenue and financing policy already adopted under [section 102\(1\)](#).

#### **11. Significance and engagement policy**

- A long-term plan must contain—
  - (a) a summary (or other description) of the local authority's significance and engagement policy under [section 76AA](#); and
  - (b) a reference to where the full policy can be found, which may be done by providing a link to the relevant document on an Internet site maintained by or on behalf of the local authority.

## 12. Forecast financial statements

- (1) A long-term plan must include, for each of the financial years covered by the plan, forecast financial statements for the local authority.
- (2) A long-term plan may include, for each of the financial years covered by the plan, or for any of those years, forecast financial statements for any council-controlled organisation or any other entity under the local authority's control.

## 13. Financial statements for previous year

- (1) A long-term plan must include the numerical information from the forecast financial statements referred to in [clause 12\(1\)](#) that were prepared for the financial year that is the year before the first year covered by the plan.
- (2) The numerical information must be presented in a way that allows the public to compare the information with the numerical information contained in the forecast financial statements for each of the financial years covered by the plan.

## 14. Statement concerning balancing of budget

- If the local authority has resolved, under [section 100\(2\)](#), not to balance its operating budget in any year covered by the long-term plan, the plan must include—
  - (a) a statement of the reasons for the resolution and any other matters taken into account; and
  - (b) a statement of the implications of the decision.

## 15. Funding impact statement

- (1) A long-term plan must include a funding impact statement in relation to each year covered by the plan.
- (2) The funding impact statement must be in the prescribed form and must identify—
  - (a) the sources of funding to be used by the local authority; and
  - (b) the amount of funds expected to be produced from each source; and
  - (c) how the funds are to be applied.
- (3) If the sources of funding include a general rate, the funding impact statement must—
  - (a) include particulars of the valuation system on which the general rate is to be assessed; and
  - (b) state whether a uniform annual general charge is to be included and, if so,—
    - (i) how the charge is to be calculated; and
    - (ii) the local authority's definition of a separately used or inhabited part of a rating unit, if the charge is to be calculated on that basis; and
  - (c) state whether the general rate is to be set differentially and, if so,—
    - (i) the categories of rateable land, within the meaning of [section 14](#) of the Local Government (Rating) Act 2002, to be used; and
    - (ii) the objectives of the differential rate, in terms of the total revenue sought from each category of rateable land or the relationship between the rates set on rateable land in each category.
- (4) If the sources of funding include a targeted rate, the funding impact statement must—



- (a) specify the activities or groups of activities for which the targeted rate is to be set; and
- (b) include particulars of the category, or categories, of rateable land, within the meaning of [section 17](#) of the Local Government (Rating) Act 2002, to be used; and
- (c) for each category, state—
  - (i) how liability for the targeted rate is to be calculated; and
  - (ii) the local authority's definition of a separately used or inhabited part of a rating unit, if the rate is to be calculated on that basis; and
- (d) if the targeted rate is set differentially, state the total revenue sought from each category of rateable land or the relationship between the rates set on rateable land in each category; and
- (e) state whether lump sum contributions will be invited in respect of the targeted rate.

(5) If the sources of funding include a general rate or a targeted rate, the funding impact statement must, for the first year covered by the long-term plan, include examples of the impact of the rating proposals in subclauses (3) and (4) on the rates assessed on different categories of rateable land with a range of property values.

(6) If the same source of funding is to be used in more than 1 of the years covered by the long-term plan, in order to comply with subclauses (2)(a), (3), and (4) with respect to that source, it is sufficient—

- (a) to comply with those subclauses in relation to 1 of those years; and
- (b) for the funding impact statement to specify the other years in respect of which that source is to be used.

#### **16. Rating base information**

- A long-term plan must state, for each year covered by the plan, the projected number of rating units within the district or region of the local authority at the end of the preceding financial year.

#### **17. Reserve funds**

- A long-term plan must identify each reserve fund set aside by the local authority and, in relation to each fund, specify—
  - (a) the purpose of the fund; and
  - (b) the activities to which the fund relates; and
  - (c) the amount expected to be in the fund at—
    - (i) the commencement of the first year to which the long-term plan relates; and
    - (ii) the end of the last year to which the long-term plan relates; and
  - (d) the amount expected to be deposited in the fund in the period to which the long-term plan relates; and
  - (e) the amount expected to be withdrawn from the fund in the period to which the long-term plan relates.

#### **18. Significant forecasting assumptions**

- A long-term plan must clearly identify—
  - (a) all the significant forecasting assumptions and risks underlying the financial estimates;
  - (b) without limiting the generality of paragraph (a), the following assumptions on which the financial estimates are based:

- (i) the assumptions of the local authority concerning the life cycle of significant assets; and
- (ii) the assumptions of the local authority concerning sources of funds for the future replacement of significant assets:
- (c) in any case where significant forecasting assumptions involve a high level of uncertainty,—
  - (i) the fact of that uncertainty; and
  - (ii) an estimate of the potential effects of that uncertainty on the financial estimates provided.

**19. Additional information to be included in long-term plan for unitary authority with local boards**

- In the case of a unitary authority for a district that includes 1 or more local board areas, a long-term plan must also—
  - (a) identify the non-regulatory activities of the unitary authority for which decision-making responsibility is allocated to 1 or more local boards under [section 48L](#) or under [section 17](#) of the Local Government (Auckland Council) Act 2009:
  - (b) group the activities to which paragraph (a) relates separately from any other activity or group of activities of the unitary authority (there may be 1 or more groups, but each group of activities specified in [clause 2\(2\)](#) must be separately identified):
  - (c) include the estimated local board funding allocation for each local board for each year to which the long-term plan relates:
  - (d) include the local board agreement for each local board area for the first year to which the long-term plan relates.

- A local authority must, as part of its long-term plan, prepare and adopt an infrastructure strategy for a period of at least 30 consecutive financial years.
  - (2) The purpose of the infrastructure strategy is to—
    - (a) identify significant infrastructure issues for the local authority over the period covered by the strategy; and
    - (b) identify the principal options for managing those issues and the implications of those options.
  - (3) The infrastructure strategy must outline how the local authority intends to manage its infrastructure assets, taking into account the need to—
    - (a) renew or replace existing assets; and
    - (b) respond to growth or decline in the demand for services reliant on those assets; and
    - (c) allow for planned increases or decreases in levels of service provided through those assets; and
    - (d) maintain or improve public health and environmental outcomes or mitigate adverse effects on them; and
    - (e) provide for the resilience of infrastructure assets by identifying and managing risks relating to natural hazards and by making appropriate financial provision for those risks.
  - (4) The infrastructure strategy must outline the most likely scenario for the management of the local authority's infrastructure assets over the period of the strategy and, in that context, must—
    - (a) show indicative estimates of the projected capital and operating expenditure associated with the management of those assets—
      - (i) in each of the first 10 years covered by the strategy; and
      - (ii) in each subsequent period of 5 years covered by the strategy; and
    - (b) identify—
      - (i) the significant decisions about capital expenditure the local authority expects it will be required to make; and
      - (ii) when the local authority expects those decisions will be required; and
      - (iii) for each decision, the principal options the local authority expects to have to consider; and
      - (iv) the approximate scale or extent of the costs associated with each decision; and
    - (c) include the following assumptions on which the scenario is based:
      - (i) the assumptions of the local authority about the life cycle of significant infrastructure assets;
      - (ii) the assumptions of the local authority about growth or decline in the demand for relevant services;
      - (iii) the assumptions of the local authority about increases or decreases in relevant levels of service; and
    - (d) if assumptions referred to in paragraph (c) involve a high level of uncertainty,—
      - (i) identify the nature of that uncertainty; and
      - (ii) include an outline of the potential effects of that uncertainty.
  - (5) A local authority may meet the requirements of [section 101A](#) and this section by adopting a single financial and infrastructure strategy document as part of its long-term plan.
  - (6) In this section, **infrastructure assets** includes—
    - (a) existing or proposed assets to be used to provide services by or on behalf of the local authority in relation to the following groups of activities:

- (i) water supply:
- (ii) sewerage and the treatment and disposal of sewage:
- (iii) stormwater drainage:
- (iv) flood protection and control works:
- (v) the provision of roads and footpaths; and
- (b) any other assets that the local authority, in its discretion, wishes to include in the strategy.

Section 101B: inserted, on 8 August 2014, by [section 36](#) of the Local Government Act 2002 Amendment Act 2014 (2014 No 55).

## APPENDIX D – WATER SUPPLY RISK ASSESSMENT

### Water Supply Risk - Headworks

Risk Description	Consequence		Likelihood	Risk Rating	Best Management Option	Consequence when managed		Likelihood	Managed Risk Rating	Action Plan
Contamination of Te Kuiti raw water with oil or other pollutant such as blue/green algae	Need to shut down WTP	5	4	Extreme	Locate intake source away from potential sources of contamination	Much reduced risk of WTP shutdown	3	1	High	A
Intakes blocked or damaged in storm	Insufficient supply to meet demand	4	6	High	Upgrade intakes to include auto screen cleaning, provide raw water storage, and/or provide treated water storage for 24 hrs average demand	No interruption to supply	1	1	Low	B
Te Kuiti Intake pumps fail	No supply	3	4	Moderate	Ensure routine maintenance of raw water pumps and electrical supply MCC	Much reduced risk of WTP shutdown	2	1	Low	C
No power supply to headworks for extended time period	No supply	4	4	High	Provide buried power supply and connection for mobile generator	Much reduced risk of WTP shutdown	2	1	Low	B
Insufficient summertime raw water supply for Mokau	Restricted consumption	4	5	High	Investigate and implement additional raw water source	No reduced level of service	1	2	Low	A
Mokau: Raw water storage dam/weir collapses	No supply to Benneydale	4	4	High	Monitor condition of dams & weirs. Any defects to be scheduled maintenance	Reduced risk of WTP shutdown	2	3	Low	B
Mokau: EQ damages intake and/or raw water supply main	No supply	5	3	Extreme	Check susceptibility to EQ damage and upgrade as necessary	Rest of water network may be affected by EQ	4	3	High	A
Benneydale: EQ damages intake and/or raw water supply main	No supply	5	3	Extreme	Check susceptibility to EQ damage and upgrade as necessary	Rest of water network may be affected by EQ	4	3	High	A

### Water Supply Risk – Treatment Plant

Risk Description	Consequence		Likelihood	Risk Rating	Best Management Option	Consequence when managed		Likelihood	Managed Risk Rating	Action Plan
Sabotage	Water quality compromised	5	1	High	Ensure acceptable security fencing, locks and lighting at treatment plants	reduced opportunity	5	1	High	C
Power supply failure	Unable to treat water	3	4	Moderate	Provide connection for mobile generator at plants	minimal interruption	2	4	Low	B

Risk Description	Consequence		Likelihood	Risk Rating	Best Management Option	Consequence when managed		Likelihood	Managed Risk Rating	Action Plan
Chemicals not available	Unable to treat water	3	3	Moderate	Hold 2 months supply	Can treat water	1	2	Low	C
Giardia or Cryptosporidium breakthrough at Benneydale, Piopio and Mokau	Water quality compromised	4	7	Extreme	Install coagulation or microfiltration	Potable water supply	1	1	Low	A
EQ damages WTP	No supply	5	3	Extreme	Check susceptibility to EQ, provide raw water bypass with chlorination facility	Untreated water available	1	3	Low	A
Inability to meet peak demand at Te Kuiti due to high industrial consumption	Reduced level of service	4	5	High	Install onsite storage at meat processing plants	No reduced level of service	1	1	Low	A
Inability to meet peak demand at Mokau	Reduced level of service	4	10	Extreme	Increase capacity of WTP and vary resource consent	No reduced level of service	1	2	Low	A
WTP's not performing in accordance with MOH gradings	Reduced level of service	3	4	Moderate	Review and revise individual plant operating procedures, and install automated monitoring equipment	No reduced level of service	2	2	Low	C
Increasing requirements of NZ Drinking Water Standards	Unable to meet MOH gradings	3	9	High	Continuous improvement of WTP processes	No reduced level of service	2	2	Low	B

#### Water Supply Risk – Treated Water Storage

Risk Description	Consequence		Likelihood	Risk Rating	Best Management Option	Consequence when managed		Likelihood	Managed Risk Rating	Action Plan
Sabotage	Water quality compromised	5	1	High	Ensure acceptable security locks and remove external ladders from reservoirs	reduced opportunity	5	1	High	C
Broken inlet main empties reservoir(s)	Loss of supply	4	3	High	Modify inlets to prevent backflow where applicable	No loss of supply	1	1	Low	B
EQ destroys reservoir	Loss of supply	4	3	High	Increase seismic security of reservoirs	No loss of supply	3	1	Moderate	B

Risk Description	Consequence		Likelihood	Risk Rating	Best Management Option	Consequence when managed		Likelihood	Managed Risk Rating	Action Plan
Water quality compromised by birds or vermin	Water quality compromised	<b>3</b>	5	Moderate	Improve vermin and bird proofing	No reduced level of service	<b>1</b>	1	Low	B
Gravity main failure not detected until storage compromised	Loss of supply	<b>3</b>	4	Moderate	Install falling main break alarms with automatic shut off valves and SCADA alarms	No loss of supply	<b>1</b>	1	Low	C
Inadequate storage	Reduced level of service	<b>2</b>	4	Low	Construct additional storage	No reduced level of service	<b>1</b>	1	Low	C
Inlet or outlet connection shear in EQ	Loss of supply	<b>3</b>	3	Moderate	Improve seismic security of connections	No loss of supply	<b>2</b>	1	Low	C

### Water Supply Risk – Trunk Mains and Pump Stations

Risk Description	Consequence		Likelihood	Risk Rating	Best Management Option	Consequence when managed		Likelihood	Managed Risk Rating	Action Plan
Pipe bridge failure	Loss of service	<b>3</b>	5	Moderate	Inspect and schedule maintenance of any defects	No loss of service	<b>2</b>	1	Low	C
Pumping main undersized	Increased energy use	<b>1</b>	4	Low	Review capacity of all pumping mains	Reduced operating costs	<b>1</b>	1	Low	D
Slip on Awakino hill	Broken/displaced pipeline	<b>2</b>	5	Moderate	Ensure spare fittings and pipe are available	Reduced loss of supply	<b>1</b>	5	Low	C
Water quality degrades in trunk mains	Water quality compromised	<b>2</b>	6	Moderate	Proactive flushing and scouring programme	No reduced level of service	<b>1</b>	1	Low	C
Mechanical failure in pump station	Dependent on location of station	<b>1</b>	4	Low	Review maintenance inspection of pumps and spares holdings	Reduced loss of supply	<b>1</b>	1	Low	D
Power failure	Dependent on location of station	<b>3</b>	5	Moderate	Provide connection for mobile generator at pump stations	Reduced loss of supply	<b>2</b>	5	Moderate	C
MCC failure	Dependent on location of station	<b>3</b>	4	Moderate	Review maintenance inspection of controls and spares holdings	Reduced loss of supply	<b>3</b>	1	Moderate	C



**APPENDIX E – INDICATIVE SUMMARY RENEWAL PROGRAMME DETAIL 2015 – 2025**

**Te Kuiti 2015 - 2025 year Reticulation Renewal**

Asset ID	Asset Type	Length	Material	Diameter	Install Year	Address	Remaining Life	Optim Rep Val	Annual Total Replacement Value
								2015/16	
pipe0433	Pipe Main	15.9	Asbestos Cement	100	1940	58 Awakino Road (Pump Station)	2	\$ 2,126.63	
pipe0419	Pipe Main	422.5	Galvanised	150	1945	Awakino	2	\$ 67,811.25	
pipe0108	Pipe Main	67.6	Asbestos Cement	100	1940	Henderson	2	\$ 9,041.50	
pipe0106	Pipe Main	27.8	Asbestos Cement	100	1940	Henderson	2	\$ 3,718.25	
pipe0105	Pipe Main	32.21	Asbestos Cement	100	1940	Henderson	2	\$ 4,308.09	\$ 87,005.72
								2016/17	
pipe0385	Pipe Main	291.27	Asbestos Cement	100	1940	Grey	2	\$ 38,957.36	
pipe1649	Pipe Main	36.42	Concrete Lined Steel	150	1940	Henderson	3	\$ 5,845.41	
pipe1614	Pipe Main	230	Alkaline	50	1996	Hetet	3	\$ 18,457.50	
pipe0468	Pipe Main	76.16	Concrete Lined Steel	150	1945	Rora Street	3	\$ 12,223.68	

## Te Kuiti

## 2015 - 2025 year Reticulation Renewal

Asset ID	Asset Type	Length	Material	Diameter	Install Year	Address	Remaining Life	Optim Rep Val	Annual Total Replacement Value
pipe0167	Pipe Main	11.29	Alkaline	50	1996	Hetet	3	\$ 906.02	
pipe0628	Pipe Main	96.9	Spiral Form Steel	100	1961		7	\$ 12,960.38	\$ 89,350.35
								2017/18	
pipe0634	Pipe Main	134.12	Spiral Form Steel	100	1959		5	\$ 17,938.55	
pipe0835	Pipe Main	110.69	Spiral Form Steel	150	1960		6	\$ 17,765.75	
pipe0226	Pipe Main	171.14	Galvanised	150	1960		6	\$ 27,467.97	
pipe0636	Pipe Main	176.14	Spiral Form Steel	100	1961	Te Kuiti	7	\$ 23,558.73	\$ 86,731.00
								2018/19	
pipe0644	Pipe Main	117.05	Spiral Form Steel	100	1960	Anzac	6	\$ 15,655.44	
pipe1544	Pipe Main	233.59	Asbestos Cement	100	1965	Ailsa	8	\$ 31,242.66	
pipe1543_new	Pipe Main	178.71	Asbestos Cement	100	2010	Ailsa	8	\$ 23,902.46	

Te Kuiti

2015 - 2025 year Reticulation Renewal

Asset ID	Asset Type	Length	Material	Diameter	Install Year	Address	Remaining Life	Optim Rep Val	Annual Total Replacement Value
pipe1543	Pipe Main	172.73	Asbestos Cement	100	1965	Ailsa	8	\$ 23,102.64	\$ 93,903.20
								2019/20	
pipe1659	Pipe Main	134.24	Spiral Form Steel	100	1962	Broadfoot	8	\$ 17,954.60	
pipe1658	Pipe Main	61.25	Spiral Form Steel	100	1962	Broadfoot	8	\$ 8,192.19	
pipe1619	Pipe Main	6.94	Concrete Lined Steel	150	1947		8	\$ 1,113.87	
pipe1515	Pipe Main	45.46	Asbestos Cement	100	1962		8	\$ 6,080.28	
pipe1327	Pipe Main	132.79	Concrete Lined Steel	150	1947	Henderson	8	\$ 21,312.80	
pipe1312	Pipe Main	1.17	Asbestos Cement	200	1945		8	\$ 250.38	
pipe1178	Pipe Main	7.16	Asbestos Cement	150	1965		8	\$ 1,149.18	
pipe1176	Pipe Main	139.63	Asbestos Cement	100	1965	Lusk	8	\$ 18,675.51	
pipe0933	Pipe Main	62.94	Galvanised	100	1980		8	\$ 8,418.23	

## Te Kuiti

## 2015 - 2025 year Reticulation Renewal

Asset ID	Asset Type	Length	Material	Diameter	Install Year	Address	Remaining Life	Optim Rep Val	Annual Total Replacement Value
pipe0911	Pipe Main	8.22	Asbestos Cement	150	1965		8	\$ 1,319.31	
pipe0897	Pipe Main	8.89	Asbestos Cement	150	1965		8	\$ 1,426.85	
pipe0883	Pipe Main	10.83	Asbestos Cement	150	1965		8	\$ 1,738.22	\$ 87,631.42
								2020/21	
pipe0903	Pipe Main	144.32	Asbestos Cement	100	1970		8	\$ 19,302.80	
pipe0842	Pipe Main	349.57	Asbestos Cement	100	1970		8	\$ 46,754.99	
pipe0819	Pipe Main	43.61	Asbestos Cement	150	1945		8	\$ 6,999.41	
pipe0817	Pipe Main	16.09	Asbestos Cement	150	1945		8	\$ 2,582.45	
pipe0815	Pipe Main	13.42	Asbestos Cement	200	1945	Waitete Road (Plant)	8	\$ 2,871.88	
pipe0811	Pipe Main	16.07	Asbestos Cement	200	1945	Waitete Road (Reservoir)	8	\$ 3,438.98	
pipe0781	Pipe Main	8.63	Asbestos Cement	150	1965		8	\$ 1,385.12	
pipe0767	Pipe Main	0.8	Asbestos Cement	150	1965		8	\$ 128.40	

## Te Kuiti

## 2015 - 2025 year Reticulation Renewal

Asset ID	Asset Type	Length	Material	Diameter	Install Year	Address	Remaining Life	Optim Rep Val	Annual Total Replacement Value
pipe0758	Pipe Main	3.11	Asbestos Cement	150	1965		8	\$ 499.16	
pipe0754	Pipe Main	7.12	Asbestos Cement	150	1965		8	\$ 1,142.76	
pipe0750	Pipe Main	5.67	Asbestos Cement	150	1965		8	\$ 910.04	
pipe0749	Pipe Main	5.31	Asbestos Cement	150	1965		8	\$ 852.26	
pipe0747	Pipe Main	4.64	Asbestos Cement	150	1965		8	\$ 744.72	
pipe0746	Pipe Main	4.56	Asbestos Cement	150	1965		8	\$ 731.88	\$ 88,344.85
								2021/22	
pipe0807	Pipe Main	143.57	Asbestos Cement	200	1945		8	\$ 30,723.98	
pipe0701	Pipe Main	4.24	Asbestos Cement	150	1965		8	\$ 680.52	
pipe0681	Pipe Main	194.38	Asbestos Cement	150	1964		8	\$ 31,197.99	
pipe0661	Pipe Main	5.07	Asbestos Cement	150	1965		8	\$ 813.74	
pipe0654	Pipe Main	5.77	Asbestos Cement	150	1965		8	\$ 926.09	
pipe0643	Pipe Main	3.6	Asbestos Cement	150	1965		8	\$ 577.80	
pipe0642	Pipe Main	4.17	Asbestos Cement	150	1965		8	\$ 669.29	

## Te Kuiti

## 2015 - 2025 year Reticulation Renewal

Asset ID	Asset Type	Length	Material	Diameter	Install Year	Address	Remaining Life	Optim Rep Val	Annual Total Replacement Value
pipe0622	Pipe Main	9.37	Asbestos Cement	150	1965		8	\$ 1,503.89	
pipe0617	Pipe Main	3.9	Asbestos Cement	100	1965	William	8	\$ 521.63	
pipe0581	Pipe Main	2.35	Asbestos Cement	150	1965		8	\$ 377.18	\$ 67,992.11
								2022/23	
pipe0632	Pipe Main	66.69	Spiral Form Steel	100	1962		8	\$ 8,919.79	
pipe0627	Pipe Main	4.94	Asbestos Cement	150	1965		8	\$ 792.87	
pipe0470	Pipe Main	162.62	Asbestos Cement	150	1945		8	\$ 26,100.51	
pipe0452	Pipe Main	81.88	Asbestos Cement	100	1965	Awakino	8	\$ 10,951.45	
pipe0439	Pipe Main	21.25	Asbestos Cement	100	1965	Awakino	8	\$ 2,842.19	
pipe0438	Pipe Main	4.95	Asbestos Cement	100	1965	Awakino	8	\$ 662.06	
pipe0435	Pipe Main	55.15	Asbestos Cement	100	1965	Awakino	8	\$ 7,376.31	
pipe0402	Pipe Main	88.75	Asbestos Cement	100	1965	Queen	8	\$ 11,870.31	
pipe0400	Pipe Main	40.33	Asbestos Cement	100	1965	Queen	8	\$ 5,394.14	

## Te Kuiti

## 2015 - 2025 year Reticulation Renewal

Asset ID	Asset Type	Length	Material	Diameter	Install Year	Address	Remaining Life	Optim Rep Val	Annual Total Replacement Value
pipe0397	Pipe Main	104.18	Asbestos Cement	100	1965	Meads	8	\$ 13,934.08	
pipe0396	Pipe Main	12.7	Asbestos Cement	150	1965		8	\$ 2,038.35	\$ 90,882.06
								2023/24	
pipe0428	Pipe Main	12.56	Asbestos Cement	100	1965	58 Awakino Road (Pump Station)	8	\$ 1,679.90	
pipe0421	Pipe Main	2.26	Asbestos Cement	150	1965		8	\$ 362.73	
pipe0408	Pipe Main	0.65	Asbestos Cement	150	1965		8	\$ 104.33	
pipe0407	Pipe Main	0.55	Asbestos Cement	150	1965		8	\$ 88.28	
pipe0366	Pipe Main	12.56	Asbestos Cement	100	1965	Hardy	8	\$ 1,679.90	
pipe0364	Pipe Main	68.12	Asbestos Cement	100	1965	Hardy	8	\$ 9,111.05	
pipe0317	Pipe Main	7.66	Asbestos Cement	150	1965		8	\$ 1,229.43	
pipe0291	Pipe Main	4.08	Asbestos Cement	150	1965		8	\$ 654.84	
pipe0275	Pipe Main	4.41	Asbestos Cement	150	1965		8	\$ 707.81	



## Te Kuiti

## 2015 - 2025 year Reticulation Renewal

Asset ID	Asset Type	Length	Material	Diameter	Install Year	Address	Remaining Life	Optim Rep Val	Annual Total Replacement Value
pipe0272	Pipe Main	8.31	Asbestos Cement	150	1965		8	\$ 1,333.76	
pipe0265	Pipe Main	7.88	Asbestos Cement	150	1965		8	\$ 1,264.74	
pipe0253	Pipe Main	239.27	Asbestos Cement	100	1965	Ward	8	\$ 32,002.36	
pipe0245	Pipe Main	1.41	Asbestos Cement	150	1965		8	\$ 781.64	
pipe0240	Pipe Main	276.41	Asbestos Cement	100	1965		8	\$ 36,315.80	\$ 87,316.57
								2024/25	
pipe0230	Pipe Main	272.63	Asbestos Cement	100	1965	George	8	\$ 36,464.26	
pipe0208	Pipe Main	342.53	Asbestos Cement	150	1962		8	\$ 54,976.07	\$ 91,440.33
									\$ 870,597.61

APPENDIX F – INDICATIVE SUMMARY RENEWAL PROGRAMME DETAIL 2026 – 2045

Te Kuiti 2026 - 2045 year Reticulation Renewal

Asset ID	Asset Type	Length	Material	Diameter	Install Year	Address	Remaining Life	Optim Rep Val	Annual Total Replacement Value
								2026-2030	
pipe0247	Pipe Main	81.61	Concrete Lined Steel	100	1960	Ngatai	62	\$10,915	
pipe0220	Pipe Main	304.35	Galvanised	100	1980		42	\$40,706.8	
pipe0195	Pipe Main	0.9	Asbestos Cement	150	1965		57	\$144.45	
pipe0168	Pipe Main	12.92	Asbestos Cement	150	1965		57	\$2,073.66	
pipe0165	Pipe Main	4.45	Asbestos Cement	150	1965		57	\$714.23	
pipe0145	Pipe Main	8.75	Asbestos Cement	150	1965		57	\$1,404.38	
pipe0114	Pipe Main	4.27	Asbestos Cement	150	1965		57	\$685.34	
pipe0113	Pipe Main	221.25	Asbestos Cement	100	1947	Earl & Henderson	75	\$29,592.19	
pipe0110	Pipe Main	15.68	Asbestos Cement	100	1965	Henderson	57	\$2,097.20	

pipe0109	Pipe Main	9.7	Asbestos Cement	100	1965	Henderson	57	\$1,297.38	<b>\$106,437.95</b>
pipe1275	Pipe Main	44.12	Alkaline	25	1979		50	\$2,596.46	
pipe1246	Pipe Main	84	Alkaline	25	1979		50	\$4,943.40	
pipe1245	Pipe Main	71.84	Alkaline	25	1979		50	\$4,227.78	
pipe0784	Pipe Main	85.63	Alkaline	25	1979		50	\$5,039.33	
								<b>2031-2035</b>	<b>\$0.00</b>
								<b>2036-2040</b>	
pipe1623	Pipe Main	36.48	Alkaline	25	1980		50	\$2,146.85	
pipe1336	Pipe Main	147.6	Alkaline	50	1987		50	\$11,844.90	
pipe0310	Pipe Main	269.25	Asbestos Cement	100	1967		70	\$36,012.19	
pipe0885	Pipe Main	147.16	Asbestos Cement	100	1968		70	\$19,682.65	
pipe0866	Pipe Main	211.76	Asbestos Cement	100	1968		70	\$28,322.90	
pipe0281	Pipe Main	176.12	Asbestos Cement	100	1968		70	\$23,556.05	

pipe1629	Pipe Main	56.89	Spiral Form Steel	100	1979		60	\$7,609.04
pipe0872	Pipe Main	208.79	Asbestos Cement	100	1969		70	\$27,925.66
pipe0857	Pipe Main	103.61	Asbestos Cement	100	1969		70	\$13,857.84
pipe0832	Pipe Main	171.08	Galvanised	150	1979		60	\$27,458.34
pipe0827	Pipe Main	151.62	Galvanised	150	1979		60	\$24,335.01
pipe0646	Pipe Main	118.47	Asbestos Cement	100	1969		70	\$15,845.36
								<b>2041-2045</b>
pipe1508	Pipe Main	78.58	Asbestos Cement	100	1971		70	\$10,510.08
pipe0624	Pipe Main	133.55	Asbestos Cement	100	1971		70	\$17,862.31
pipe0399	Pipe Main	149.96	Asbestos Cement	100	1971		70	\$20,057.15
pipe0335	Pipe Main	169.74	Asbestos Cement	100	1971		70	\$22,702.73
pipe0721	Pipe Main	97.9	Asbestos Cement	100	1972		70	\$13,094.13
pipe1600	Pipe Main	180.82	Alkaline	50	1993		50	\$14,510.81
pipe1599	Pipe Main	83.48	Alkaline	50	1993		50	\$6,699.27

**\$238,596.79**

pipe1626	Pipe Main	140.49	Asbestos Cement	100	1975		70	\$18,790.54	
pipe0921	Pipe Main	223.39	Asbestos Cement	100	1975		70	\$29,878.41	
pipe0813	Pipe Main	14.75	Concrete Lined Steel	200	1945	Waitete Road (Plant)	100	\$3,156.50	
pipe0663	Pipe Main	279.19	Asbestos Cement	100	1975		70	\$37,341.66	\$194,603.59
									\$ 539,638.33

**Te Kuiti total reticulation value**

\$  
8,518,454

**80 yea average renewal**

\$  
106,481

**Council budget for annual renewal in order of \$100,000 to smooth out renewal funding demand spikes**

	<b>Mokau Reticulation Renewal</b>					
		<b>Street</b>	<b>Optim Rep Value</b>	<b>Remaining Life</b>	<b>2015/16</b>	
pipe1170	65.92	Oha Street	8816.8	1	\$8,816.80	
pipe1169	11.59	Oha Street	1550.16	1	\$1,550.16	
pipe1361	10.59	Tainui Street	1416.41	1	\$1,416.41	
pipe1168	117.4	Tainui Street	15702.25	1	\$15,702.25	
pipe1167	117.1	Tainui Street	15662.13	1	\$15,662.13	<b>\$43,147.75</b>

					<b>2016/17</b>	
pipe1166	88.28	Rangi Street	11807.45	2	\$11,807.45	
pipe1165	3.26	Rangi Street	436.03	2	\$436.03	
pipe1164	90.42	Rangi Street	12093.68	2	\$12,093.68	
pipe1173	81.52	Tainui Street	10903.3	2	\$10,903.30	
pipe1171	97.36	Tainui Street	13021.9	2	\$13,021.90	<b>\$48,262.36</b>
					<b>2017/18</b>	
pipe1172	123.19	Rerenga Street	16476.66	3	\$16,476.66	
pipe1134	78.86	Tainui Street	10547.53	3	\$10,547.53	
pipe1133	48.81	Tainui Street	6528.34	3	\$6,528.34	<b>\$33,552.53</b>
					<b>2018/19</b>	
pipe1158	64.67	Beach Road	10379.54	4	\$10,379.54	
pipe1136	57.32	Beach Road	7666.55	4	\$7,666.55	
pipe1135	50.96	Takarei Terrace	6815.9	4	\$6,815.90	
pipe1131	86.72	Takarei Terrace	11598.8	4	\$11,598.80	
pipe1130	57.42	Takarei Terrace	7679.93	4	\$7,679.93	<b>\$44,140.72</b>
					<b>2019/20</b>	
pipe1140	64.19	Beach Road	8585.41	5	\$8,585.41	
pipe1139	29.11	Beach Road	4672.16	5	\$4,672.16	
pipe1138	11.11	Beach Road	1485.96	5	\$1,485.96	
pipe1137	0.65	Beach Road	104.33	5	\$104.33	
pipe1152	66.6	Point Road	10689.3	5	\$10,689.30	
pipe1149	7.67	Point Road	1025.86	5	\$1,025.86	
pipe1143	31.99	Point Road	4278.66	5	\$4,278.66	
pipe1142	68.87	Point Road	9211.36	5	\$9,211.36	<b>\$40,053.04</b>
					<b>2020/21</b>	
pipe1232	78.22	SH3 Marae	7612.05	6	\$7,612.05	
pipe1231	34.16	WTP to SH3 Marae	3324.76	6	\$3,324.76	

pipe1230	148.26	WTP to SH3 Marae	14428.63	6	\$3,324.76	
pipe1229	131.63	WTP to SH3 Marae	21126.62	6	\$21,126.62	
pipe1228	105.65	WTP to SH3 Marae	10281.6	6	\$10,281.60	<b>\$45,669.79</b>
					2021/22	
pipe1236	263.14	SH3 Awakino Heads	25607.86	7	\$25,607.86	
pipe1235	121.79	SH3 Awakino Heads	11852.28	7	\$11,852.28	
pipe1234	54.05	SH3 Marae	5260.18	7	\$5,260.18	
pipe1233	61.03	SH3 Marae	5939.7	7	\$5,939.70	<b>\$48,660.02</b>
					2022/23	
pipe1239	296.14	SH3 Awakino	28819.82	8	\$28,819.82	
pipe1238	150.52	SH3 Awakino Heads	14648.11	8	\$14,648.11	<b>\$43,467.93</b>
					2023/24	
pipe1290	186.36	SH3 Awakino	18136.49	9	\$18,136.49	
pipe1289	225.62	SH3 Awakino	21956.45	9	\$21,956.45	
pipe1240	121.58	SH3 Awakino	11832.01	9	\$11,832.01	<b>\$51,924.95</b>
					2024/25	
pipe1294	15.89	SH3 Awakino	1546.54	10	\$1,546.54	
pipe1291	83.36	SH3 Awakino	13379.28	10	\$13,379.28	
pipe1585	3.6	SH3 non-return	577.8	10	\$577.80	
pipe1588	101	SH3 tank to Oha	16210.5	10	\$16,210.50	
pipe1587	1.38	SH3 tank to Oha	221.49	10	\$221.49	
pipe1227	140.88	WTP to SH3 Marae	13709.69	10	\$13,709.69	
pipe1222	57.99	WTP to SH3 Marae	5643.04	10	\$5,643.04	<b>\$51,288.34</b>
					2025/26	



pipe1299	0.27	SH3 North Street	43.34	11	\$5,643.04	
pipe1298	0.3	SH3 North Street	48.15	11	\$43.34	
pipe1113	128.64	SH3 North Street	20646.72	11	\$20,646.72	
pipe1112	63.73	SH3 North Street	10228.67	11	\$10,228.67	
pipe1111	41.77	SH3 North Street	6704.09	11	\$6,704.09	
pipe1098	0.51	SH3 North Street	81.86	11	\$81.86	
pipe1097	1.93	SH3 North Street	309.77	11	\$309.77	
pipe1096	1.32	SH3 North Street	211.86	11	\$211.86	
pipe1095	20.89	SH3 North Street	2794.04	11	\$2,794.04	
pipe1581	24.22	SH3 rider main	3887.31	11	\$3,887.31	<b>\$50,550.70</b>
					<b>2026/27</b>	
pipe1124	80.31	SH3 North Street	10741.46	12	\$10,741.46	
pipe1123	15.47	SH3 North Street	2069.11	12	\$2,069.11	
pipe1122	1	SH3 North Street	160.5	12	\$160.50	
pipe1121	1.46	SH3 North Street	234.33	12	\$234.33	
pipe1120	18.84	SH3 North Street	3023.82	12	\$3,023.82	
pipe1119	130.24	SH3 North Street	20903.52	12	\$20,903.52	
pipe1118	28.86	SH3 North Street	4632.03	12	\$4,632.03	
pipe1116	2.71	SH3 North Street	434.96	12	\$434.96	
pipe1114	57.01	SH3 North Street	9150.11	12	\$9,150.11	<b>\$51,349.84</b>
					<b>2027/28</b>	
pipe1341	3.76	SH3 North Street	603.48	13	\$603.48	
pipe1127	35.96	SH3 North Street	4809.65	13	\$4,809.65	
pipe1126	58.45	SH3 North Street	7817.69	13	\$7,817.69	
pipe1125	17.94	SH3 North Street	2399.48	13	\$2,399.48	<b>\$15,630.30</b>
						<b>\$567,698</b>

### Piopio Reticulation Renewal

Asset ID	Asset Type	Length	Material	Address	Optim Rep Val	Depreciated Rep Cost	Remaining Life		
									2015/16
pipe1086	Pipe Main	104.32	Asbestos Cement	Moa Street	\$13,952.80	\$6,179.10	0	\$13,952.80	<b>\$38,340.78</b>
pipe1085	Pipe Main	4.8	Asbestos Cement	Moa Street	\$642.00	\$284.31	0	\$642.00	
pipe1094	Pipe Main	7.54	Asbestos Cement	Moa Street	\$1,008.48	\$446.61	1	\$1,008.48	
pipe1084	Pipe Main	170	Asbestos Cement	Moa Street	\$22,737.50	\$10,069.46	1	\$22,737.50	
									<b>2016/17</b>
pipe1083	Pipe Main	107.9	Asbestos Cement	Moa Street	\$17,317.95	\$7,669.38	2	\$17,317.95	<b>\$30,067.01</b>
pipe1080	Pipe Main	74.86	Asbestos Cement	Moa Street	\$10,012.53	\$4,434.12	2	\$10,012.53	
pipe1081	Pipe Main	17.05	Asbestos Cement	Weka Street	\$2,736.53	\$1,211.89	2	\$2,736.53	
									<b>2017/18</b>
pipe1041	Pipe Main	68.53	Asbestos Cement	Kea Street	\$9,165.89	\$4,059.18	3	\$9,165.89	<b>\$32,055.34</b>
pipe1044	Pipe Main	104.43	Asbestos Cement	Moa Street	\$16,761.02	\$7,422.74	3	\$16,761.02	
pipe1042	Pipe Main	23.8	Asbestos Cement	Moa Street	\$3,183.25	\$1,409.73	3	\$3,183.25	
pipe1043	Pipe Main	3.8	Asbestos Cement	Moa Street	\$609.90	\$270.10	3	\$609.90	
pipe1069	Pipe Main	17.46	Asbestos Cement	Ruru Street	\$2,335.28	\$1,034.20	3	\$2,335.28	
									<b>2018/19</b>

pipe1048	Pipe Main	35.79	Asbestos Cement	Kaka Street	\$5,625.53	\$2,543.90	4	\$5,625.53	<b>\$26,883.76</b>
pipe1047	Pipe Main	133.41	Duct PVC	Moa Street	\$21,258.23	\$0.00	4	\$21,258.23	
								2019/20	
pipe1040	Pipe Main	85.08	Asbestos Cement	Kea Street	\$11,379.45	\$5,039.47	5	\$11,379.45	<b>\$28,778.99</b>
pipe1039	Pipe Main	104.31	Asbestos Cement	Kea Street	\$13,951.46	\$6,178.50	5	\$13,951.46	
pipe1037	Pipe Main	25.78	Asbestos Cement	Kea Street	\$3,448.08	\$1,527.01	5	\$3,448.08	
								2020/21	
pipe1033	Pipe Main	43.35	Asbestos Cement	Kea Street	\$5,798.06	\$2,567.71	6	\$5,798.06	<b>\$28,486.07</b>
pipe1030	Pipe Main	39.95	Asbestos Cement	Kea Street	\$5,343.31	\$2,366.32	6	\$5,343.31	
pipe1035	Pipe Main	36.08	Asbestos Cement	Kea Street	\$4,825.70	\$2,137.10	6	\$4,825.70	
pipe1036	Pipe Main	34.28	Asbestos Cement	Kea Street	\$4,584.95	\$2,030.48	6	\$4,584.95	
pipe1032	Pipe Main	30.53	Asbestos Cement	Kea Street	\$4,083.39	\$1,808.36	6	\$4,083.39	
pipe1031	Pipe Main	28.79	Asbestos Cement	Kea Street	\$3,850.66	\$1,705.29	6	\$3,850.66	
								2021/22	
pipe1027	Pipe Main	95.36	Asbestos Cement	Kea Street	\$12,754.40	\$5,648.38	7	\$12,754.40	
pipe1029	Pipe Main	35.24	Asbestos Cement	Kea Street	\$4,713.35	\$2,087.34	7	\$4,713.35	
pipe1028	Pipe Main	24.02	Asbestos Cement	Kea Street	\$3,212.68	\$1,422.76	7	\$3,212.68	
pipe1024	Pipe Main	75.54	Asbestos Cement	Kuku Street	\$10,103.48	\$4,474.40	7	\$10,103.48	

pipe1026	Pipe Main	4.16	Asbestos Cement	Kuku Street	\$556.40	\$246.41	7	\$556.40	<b>\$33,893.60</b>
pipe1066	Pipe Main	19.09	Asbestos Cement	View Terrace	\$2,553.29	\$1,130.74	16	\$2,553.29	
								2022/23	
pipe1025	Pipe Main	95.92	Asbestos Cement	Kuku Street	\$12,829.30	\$5,681.55	8	\$12,829.30	<b>\$33,428.14</b>
pipe1068	Pipe Main	96.86	Asbestos Cement	View Terrace	\$12,955.03	\$5,737.23	8	\$12,955.03	
pipe1067	Pipe Main	57.15	Asbestos Cement	View Terrace	\$7,643.81	\$3,385.12	8	\$7,643.81	
								2023/24	
pipe1049	Pipe Main	58.52	Asbestos Cement	Kaka Street	\$9,392.46	\$4,159.52	9	\$9,392.46	<b>\$31,351.01</b>
pipe1055	Pipe Main	56.01	Asbestos Cement	Kaka Street	\$8,989.61	\$3,981.11	9	\$8,989.61	
pipe1054	Pipe Main	49	Asbestos Cement	Kaka Street	\$7,864.50	\$3,482.85	9	\$7,864.50	
pipe1076	Pipe Main	17.62	Asbestos Cement	Kaka Street	\$2,828.01	\$1,252.40	9	\$2,828.01	
pipe1051	Pipe Main	17.02	Asbestos Cement	Kaka Street	\$2,276.43	\$1,008.13	9	\$2,276.43	
								2024/25	
pipe1058	Pipe Main	81.92	Asbestos Cement	Kaka Street	\$13,148.16	\$5,822.76	10	\$13,148.16	<b>\$32,385.69</b>
pipe1057	Pipe Main	72.64	Asbestos Cement	Kaka Street	\$11,658.72	\$5,163.15	10	\$11,658.72	
pipe1056	Pipe Main	47.22	Asbestos Cement	Kaka Street	\$7,578.81	\$3,356.33	10	\$7,578.81	
								<b>\$</b>	<b>315,670.39</b>

**APPENDIX G - TE KUITI ASSET TABLE**

Asset	Asset Component	Condition Grading	Performance Grading	Condition Data Confidence	Year installed	Age (Years)	Expected Economic Life
<b>Headworks</b>	Intake Structures	3	2	C	1973	41	50
	River Pump No 1	2	3	C	1997	17	25
	River Pump No 2	2	3	C	1997	17	25
	River Pump No 3	2	3	C	1997	17	25
	River Pump No 4 (Reconditioned 2007)	2	3	C	1997	17	25
	Raw Water Main Fittings	3	2	D	1973	41	65
	Raw water main Intake - Treatment Plant	2	2	D	1973	41	65
	Plant Inlet Magflow Meter	1	1	A	2007	7	15
<b>Treatment Plant</b>	Flashmixer	3	3	C	1973	41	50
	Flashmixer Support	4	3	D	1973	41	50
	Riser Pipework	1	1	A	2008	6	50
	Alum Dosing Tank	2	2	C	1995	19	50
	Alum Dosing pumps	1	4	C	1995	19	25
	Polyelectrolyte storage tank	2	2	A	1990	24	50
	Poly dosing tank	3	3	A	1999	15	15
	Poly dosing pumps	2	2	C	1999	15	15
	Coagulated Water Channels	3	3	C	1973	41	50
	Clarifiers (4)	3	3	B	1973	41	100
	Sludge extraction cones (4)	3	3	C	1993	21	20
	Sludge disposal plant	4	4	C	1973	41	50
	Clarifier walkways	4	4	C	1973	41	40
	Settled water pipelines	3	2	C	1973	41	50
	Rapid sand filters (4) (media and underdrains)	3	2	C	2000 - 2004	14 - 18	30
	Air Scour Plant	3	2	C	1973	41	45
	Backwash System	3	3	C	1960	54	70
	Clearwell valves and pipework - Filters 1 & 2	2	3	C	1973	41	50
	Clearwell valves and pipework - Filters 3 & 4	2	3	C	1973	41	50
	Caustic Soda Tank	1	2	B	1999	15	20
	Caustic dosing system	1	2	B	2004	10	15
	pH control system	1	1	A	2004	10	15
	Treatment Plant Building	4	3	D	1973	41	50
	Chlorination Building	2	1	C	1973	41	50
	Chlorination Plant	2	2	C	1995	19	25

Asset	Asset Component	Condition Grading	Performance Grading	Condition Data Confidence	Year installed	Age (Years)	Expected Economic Life
	Treated Water Submersible Pump #1	2	2	C	2007	7	10
	Treated Water Submersible Pump # 2	2	2	C	2007	7	10
	Treated Water Submersible Pump # 3	2	2	C	2007	7	10
	Treated Water Submersible Pump # 4	2	2	C	2007`	7	10
	Contact Reservoir (903m3)	3	2	C	1960	54	100
	Pressure pump # 1 (review future need in light of new storage reservoir proposal)	3	2	D	1973	41	50
	Pressure pump # 2 (review future need in light of new storage reservoir proposal)	3	2	D	1973	41	50
	Pressure pump # 3 (review future need in light of new storage reservoir proposal)	2	2	C	1960	54	60
	Recent refurbished Pressure pump # 4 (review future need in light of new storage reservoir proposal)	4	2	C	1960	54	60
	Electrical Supply	1	1	A	2003	11	25
	MCC	1	1	A	2003	11	25
	Valves & Pipework	5	3	D	1973	41	50
	Site Security	2	3	C	1990	24	50
	Stairs & Handrails	4	5	C	1973	41	50
	Vehicle Access	2	4	C	1973	41	50
<b>Storage</b>	Awakino (Timber) (Proposal is to replace this and make redundant)	2	3	D	1979	35	50
	Hospital (Concrete)						
	- Tank	2	2	C	1951	63	100
	- Roof	3	2	D	1971	43	50
	- Ringbeam	2	2	C	1951	63	100
	- Pipework	3	3	D	1951	63	80
	- Access	5	4	C	1951	63	75
	Hetet (Concrete)						
	- Tank	3	2	C	1951	63	100
	- Roof	3	2	C	1971	43	50
	- Ringbeam	2	2	D	1951	63	100
	- Pipework	3	2	D	1951	63	80
	- Access	2	3	C	1951	63	75
	Mangarino (Concrete)						
	- Tank	3	1	D	1951	63	100

Asset	Asset Component	Condition Grading	Performance Grading	Condition Data Confidence	Year installed	Age (Years)	Expected Economic Life
	- Roof	2	2	C	1971	43	50
	- Ringbeam	3	2	C	1951	63	100
	- Pipework	3	2	D	1951	63	80
	- Access	4	2	C	1951	63	75
<b>Rata St Pump Station</b>	Building Structure	3	3	C	1975	39	50
	- Doors	2	1	C	1999	15	30
	- Paintwork	3	1	C	1995	19	15
	MCC	2	3	C	2006	8	25
	Pump Control	1	1	C	2001	13	25
	Pumps VRD2/2.5 End Suction Grundfos Centrifugal (2)	1	1	C	2006	8	25
	Lifting Equipment	3	%	C	1975	38	35
	Pipework	2	2	C	1975	38	50
	Valves	3	2	C	1975	38	50
<b>Tonga St Pump Station</b>	Building Structure	3	3	C	1975	38	50
	- Doors	2	1	C	1999	15	30
	- Paintwork	1	1	C	1995	19	15
	MCC	1	1	C	2006	8	25
	Pump Control	1	1	C	2006	8	25
	Pumps VRD2/2.5 End Suction Centrifugal (2)	1	1	C	2006	8	25
	Lifting Equipment	4	5	C	1975	38	35
	Pipework	2	3	C	1975	38	50
	Valves	3	1	D	1975	38	50
<b>Awakino Rd Booster Pump Station</b>	Building Structure	2	2	C	1985	29	50
	- Access Hatch	2	3	A	1985	29	40
	- Paintwork	3	3	A	1985	29	30
	MCC	3	2	B	1985	29	35
	Pump Control	3	2	B	1985	29	35
	Pumps VRD2/2.5 End Suction Centrifugal (2)	4	3	B	1985	29	35
	Pipework	3	2	C	1985	29	50
	Valves	2	1	C	1985	29	50
<b>Water Reticulation</b>	Recorded in the Asset Management system	Recorded in the Asset Management system	Recorded in the Asset Management system	Recorded in the Asset Management system	Recorded in the Asset Management system	Recorded in the Asset Management system	Recorded in the Asset Management system
<b>Fittings</b>	Fire Hydrants	3	1	D	Varies		60
	Valves	-	-	D	Varies		60
	Flow Meters	1	1	A	2007	7	20

#### Asset Performance and Condition Grading

Note: Gradings: 1 = Excellent, 2 = Good, 3 = Fair, 4 = Poor, 5 = Very Poor.

Confidence Gradings: A = Highly Reliable, B = Reliable, C = Uncertain, D = Very uncertain

23 = indicative replacement date due within LTP planning period

23 = indicative replacement date overdue

**APPENDIX H - PIOPIO ASSET TABLE**

Asset	Asset Component	Condition Grading	Performance Grading	Condition Data Confidence	Year installed	Estimated Age in 2008 (years)	Expected Economic Life
Headworks	Floating Intake Pump	1	1	A	2004	10	25
	Raw Water main – Intake to Clarifier	3	2	A	1992	22	60
	Raw water trunk main fittings	3	2	A	1992	22	60
Treatment Plant	PACL coagulation contact tank	2	3	A	1992	22	60
	RC Horizontal Clarifier	2	3	A	1992	22	60
	Stairs & Handrails	1	1	A	2007	7	50
	Inlet / Outlet pipework	2	4	A	1992	22	35
	Sludge disposal pond	3	4	A	1992	22	35
	Turbidity meter	2	2	A	2010	4	10
	Chlorination plant	2	2	A	2010	4	30
	Chlorination pump	2	2	A	2010	4	30
	Pump Building	3	3	A	1975	39	50
	Distribution pump # 1	1	1	A	2004	10	25
	Distribution pump # 2	1	1	A	2004	10	25
	Boost pump pipework & fittings	1	1	A	2004	10	25
	Electrical Switchboard	1	1	A	2010	4	25
	Ventilation	4	1	A	2010	4	50
Lighting	1	1	A	2010	4	35	
Access	1	1	A	2010	4	35	
Site Security	1	1	A	2010	4	10	
Vehicle Access	3	4	A	1992	22	50	
Storage	25 m3 Plastic Tanks # 5	1	1	A	2010	4	25
Water Reticulation	Asbestos pipes	3	3	D	1977	37	50
	UPVC pipes	3	3	D	1987	28	80
Fittings	Fire Hydrants	3	3	D	1977	37	80
	Valves	3	3	D	1977	37	80

**Asset Performance and Condition Grading - Piopio**

Note: Gradings: 1 = Excellent, 2 = Good, 3 = Fair, 4 = Poor, 5 = Very Poor

Confidence Gradings: A = Highly Reliable, B = Reliable, C = Uncertain, D = Very uncertain

23 = indicative replacement date due within LTP planning period

23 = indicative replacement date overdue



**APPENDIX I -MOKAU ASSET TABLE**

Asset Type	Asset Component	Condition Grading	Performance Grading	Condition Data Confidence	Year Installed	Estimated Age (years)	Expected Economic Life
Water Source	Storage Dam (Earthen)	3	3	A	1975	39	50
	Intake Structure	3	2	C	1975	39	50
	Raw water trunk main – Intake to Ridge top (AC)	3	2	B	1975	39	60
	Raw water trunk main – Ridge top to Treatment Plant (Steel)	4	3	B	1975	39	50
	Raw water trunk fittings	3	2	B	1975	39	50
Treatment Plant	Building - Cladding (Colorsteel)	1	1	A	1975 2007	39 7	50 40
	- Access	3	3	A	1973	41	50
	- Lighting	3	3	A	2003	11	25
	Bermad PRV	1	1	A	2003	11	25
	Absorption Clarifier	1	1	A	2003	11	50
	Clarifier Butterfly Valves	1	1	A	2003	11	50
	Pneumatic actuators	1	1	A	2003	11	25
	Backwash Tank	1	1	A	2003	11	25
	Inlet / Outlet Pipework	1	1	A	2003	11	25
	DE Filter	1	1	A	2003	11	25
	DE Recoating Pump	1	1	A	2003	11	25
	DE Butterfly Valves	1	1	A	2003	11	50
	Chlorination plant	2	2	A	1998	16	25
	Chlorination Pump	2	2	A	1998	16	25
	Flow Control valve & actuator	5	4	A	1998	16	25
	Electronic Flow Meter	2	2	A	2008	6	50
	Air Compressor	1	1	A	2004	10	25
	Contact Reservoir 225m3 (Ferro cement)	4	3	A	1973	41	100
	Stairs & handrails	4	4	A	1973	41	50
	Lab equipment	4	4	A	1998	17	50
	Electrical/Switchboard	2	1	A	2000	14	20
	Turbidity meters # - 2	2	2	A	2009	5	10
	Chlorine dosing pump	2	2	A	2009	5	10
Ph meter	2	2	A	2009	5	10	
Storage	Reservoir 225m3. (Timber)	5	5	A	1998	16	25
	3 Polyethylene Reservoirs	1	1	A		11	15
Reticulation Services	AC pipes						50
	uPVC pipes						80
	MDPE "Alkathene"						50
	Connections	-	-			varies	Varies
Fittings	Valves						60
	Hydrants						60
	Water meters (bulk)	-	-			varies	20

**Asset Performance and Condition Grading - Mokau**

Note: Gradings: 1 = Excellent, 2 = Good, 3 = Fair, 4 = Poor, 5 = Very Poor

Confidence Gradings: A = Highly Reliable, B = Reliable, C = Uncertain, D = Very uncertain

23 = indicative replacement date due within LTP planning period

23 = indicative replacement date overdue

**APPENDIX J – BENNEYDALE ASSET TABLE**

Asset	Asset Component	Condition Grading	Performance Grading	Condition Data Confidence	Year Installed	Estimated Age (years)	Expected Economic Life
Water Source	Upper Storage Dam / Weir (redundant)	NA	NA	A	1940	NA	NA
	Lower storage dam	1	1	A	2008	7	80
	Intake Structure	1	1	A	2008	7	50
	Raw water main: Intake to Treatment Plant	1	1	A	2008	7	80
	Raw water trunk fittings	2	2	A	1995 & 2008	19	50
Treatment Plant	Chlorination building	2	2	A	1994	20	50
	- Ventilation	2	2	A	1994	20	50
	- Access	1	1	A	2008	6	50
	- Lighting	1	1	A	2008	6	25
	Chlorination plant (Hypochlorite)	1	1	A	2002	12	20
	Chlorine analyzer	1	1	A	2008	6	15
	Sedimentation tanks	1	1	A	2004	10	15
	Absorption clarifier	1	1	A	2004	10	25
	Switchboard	1	1	A	2008	6	25
	1050 mm MH boost pump chamber	2	2	A	1994	20	80
	DE filter	1	1	A	2004	10	15
	Reservoir & Contact Tank (90m <sup>3</sup> )	3	3	B	1940	74	80
	PE reservoirs	1	1	A	2004	10	15
	Flygt 3.5kW submersible pump	1	1	A	2008	6	15
	Vehicle Access	4	4	A	1940	74	80
Site Security	4	4	A				
Reticulation	uPVC pipes	1	1	A	2008	6	100
	PE pipes	1	1	A	2008	6	100
	Concrete pipes						
Services Fittings	Connections	-	-			varies	varies
	Valves	1	1	A	2008	6	80
	Hydrants	1	1	A	2008	6	80

**Asset Performance and Condition Grading - Benneydale**

Note: Gratings 1 = Excellent, 2 = Good, 3 = Fair, 4 = Poor, 5 = Very Poor

Confidence Gratings: A = Highly Reliable, B = Reliable, C = Uncertain, D = Very uncertain

23 = indicative replacement date due within planning period

23 = indicative replacement date overdue

**APPENDIX K - EFFECTIVE LIVES OF WATER SUPPLY ASSETS**

<b>MATERIAL</b>	<b>EFFECTIVE LIFE</b>	<b>Lives- NZ Guidelines</b>
AC	60	50 - 150
PVC	100	50 - 150
CI	80	50 - 150
CLS	100	50 - 150
GALV	60	50 - 150
CONC	70	50 - 150
PE	100	50 - 150
SF	100	50 - 150
ALK	70	50 - 150
Unknown	80	50 - 150
End cap	100	50 - 150
Fire hydrant	80	50 - 150
Toby	60	50 - 150
Valve	80	25 - 75
METER	30	10 - 35

**PRODUCTION**

<b>ITEM</b>	<b>EFFECTIVE LIFE</b>	<b>Lives- NZ Guidelines</b>
Cabinet	30	15 - 35
Chipseal Road	25	2 - 20
Concrete	100	75 - 100
Settling Pond	100	
Meter	25	
Telemetry	15	
Tank Liner	30	
Instrument	15	
Building	40	
Dam	100	75 - 100
Plastic tank	60	
Dosing Tanks	60	20 - 75
Electrical	25	15 - 30
Fencing	30	15 - 50
MechPlant	35	10 - 35
Pipework	80	50 - 100
ProcessPlant	25	10 - 35
Pump	25	10 - 35
Roading	20	2 - 20
Filter media	20	40 - 75
Stainless Steel	80	20 - 75
Steel	50	20 - 75
Timber	60	40 - 100

**PRODUCTION**

<b>ITEM</b>	<b>EFFECTIVE LIFE</b>	<b>Lives- NZ Guidelines</b>
Cabinet	30	15 - 35
Chipseal Road	25	2 - 20
Concrete	100	75 - 100
Settling Pond	100	
Meter	25	
Telemetry	15	
Tank Liner	30	
Instrument	15	
Building	40	
Dam	100	75 - 100
Plastic tank	60	
Dosing Tanks	60	20 - 75
Electrical	25	15 - 30
Fencing	30	15 - 50
MechPlant	35	10 - 35
Pipework	80	50 - 100

ProcessPlant	25	10 - 35
Pump	25	10 - 35
Roading	20	2 - 20
Filter media	20	40 - 75
Stainless Steel	80	20 - 75
Steel	50	20 - 75
Timber	60	40 - 100

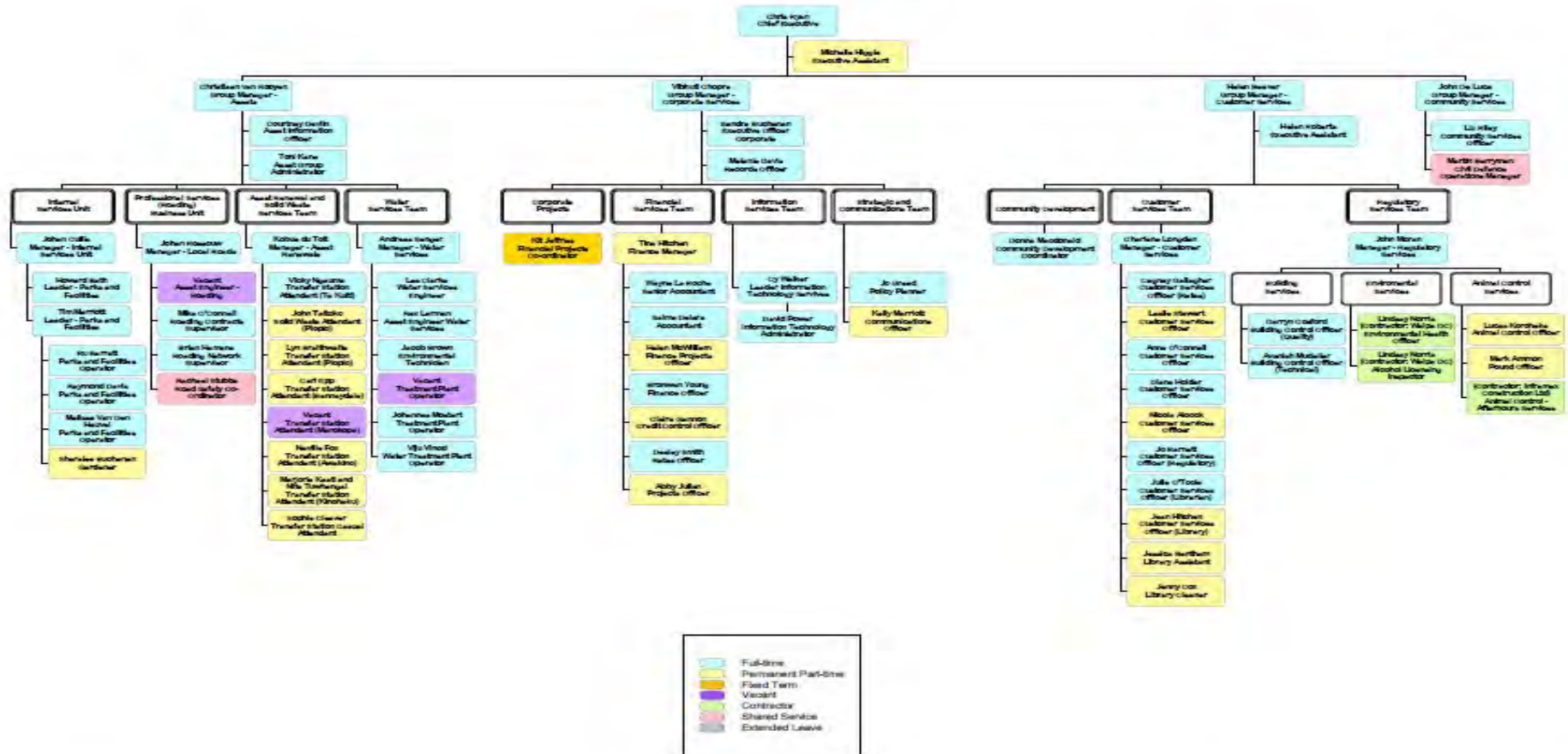
**APPENDIX L - EXTRACT FROM WAIKATO REGIONAL COUNCIL PLAN VARIATION – WATER ALLOCATION**

Refer to link:

<http://www.waikatoregion.govt.nz/PageFiles/7062/RPV6VOL3clean.pdf>

APPENDIX M - WAITOMO DISTRICT COUNCIL MANAGEMENT STRUCTURE – 2014

WDC Staffing Structure



## Smart Water Use

It is easy to take our fresh water for granted, but in the drier summer months we need to be particularly careful to conserve it. Residential water use, including garden watering, can put extra pressure on Council's water systems when supplies are at their lowest.

Waitomo District Council is taking part in the Smart Water Use campaign, to promote the careful use of water in our region. This year, the focus is on residential water use at home. There are lots of simple things we can do around home to conserve water.

### Quick tips for smart water use...

#### Indoors:

- Do full loads in the clothes washer and dishwasher
- Promote shorter showers and shallower baths
- Don't run the water when brushing your teeth
- Fix a leaky toilet cistern or dripping tap as soon as possible
- Fill the sink to wash vegetables and rinse dishes

#### Did you know?

Twenty five percent of water use at home is for showers and baths, so big water savings can be made here. Time your shower, it may be longer than you think. Encourage shorter showers for everyone in the household.



#### Outdoors:

- Water the garden in the early morning or evening to reduce evaporation.
- Use a broom instead of the hose to clean paths and driveways.
- Use a bucket to wash the car. Don't leave the tap running.
- Check taps, pipes and connections regularly for possible leaks.

#### Did you know?

A swimming pool cover can cut evaporation by as much as 90%, reducing the need for top-ups in the dry summer season.

**Water is a precious resource.  
We can all do our part to conserve it.**





**DRAFT**

**URBAN STORMWATER**

**ACTIVITY MANAGEMENT PLAN**

**2015 - 2025**

Adopted as draft by Council on ...

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## SECTION 1 - EXECUTIVE SUMMARY

### 1.1 Introduction

This Activity Management Plan (AMP) represent Council's 2015 Stormwater Activity Plan and associated long-term expenditure forecast produced for urban stormwater assets owned and managed by Waitomo District Council (WDC). It covers the stormwater assets owned and operated by Council in urban areas, including Te Kuiti, Benneydale, Piopio, Mokau – Awakino and Te Waitere. The stormwater asset components are defined as the urban open drains, stormwater pipes, manholes and wing walls, downstream from surface channels, as well as sumps and sump leads on the road network. Culverts and side drains together with associated rural drainage assets are included in the Rooding AMP.

It is planned to review and update this document regularly, in line with the 3 yearly planning cycle of Council's Long Term Plan (LTP), to incorporate improved decision making techniques, better asset information and a better understanding of customer expectations.

The stormwater activity budgets contained in the draft 2015-25 LTP have been drawn from this Plan. It is intended that Council will adopt this AMP as a draft in early 2015 in support of the draft LTP. It will be adjusted following any relevant changes made to the LTP arising from public consultation and after adoption of the final LTP by end June 2015.

This AMP is intended to demonstrate responsible stewardship of urban and rural stormwater assets by WDC on behalf of its customers and stakeholders. The AMP also acts as a vehicle for communication with all parties with an interest in WDC's asset management planning. It provides a focus within WDC for ongoing development of good asset management practices and demonstrates that the service potential of the stormwater network is maintained at optimum cost to provide a defined level of service over the long term.

The AMP aims to provide the tactics that will enable Council to achieve its strategic goals most cost effectively, via the LTP process. It should be read in conjunction with the Waitomo District Council's Long Term Plan 2015 - 2025. It is based on levels of service tested against resident satisfaction, currently available information and the knowledge, judgment and experience of Council staff and contractors.

There is no plan to expand the elementary stormwater drainage schemes at other townships within Waitomo District, particularly as the low rate of urban development will place only minimal additional demand on the capacity of existing stormwater infrastructure.

The stormwater assets at Waitomo Village consist mainly of those associated with road drainage. The few that exist outside of this are privately owned and operated, and do not form part of this AMP. It is noted however that the option of this scheme, together with or independent of the other Village infrastructure, being handed over to the Council has been raised by the current owners, and has been the subject of ongoing discussion between the parties.

### 1.2 The Activity

This AMP covers the urban stormwater assets owned by the Council, which include the reticulation network, pumping stations, treatment plants and disposal systems

This activity covers all drainage services in the following urban areas:

- 5 Te Kuiti
- 6 Benneydale
- 7 Piopio
- 8 Mokau – Awakino
- 9 Marokopa
- 10 Te Waitere

The total scope of the known asset components which make up these schemes are:

Asset Type	Quantity
Manholes	389
Pump stations	Nil
Cesspits	652
Stormwater reticulation	31,412 km

There is limited information available regarding the scope of assets making up the stormwater network. Of that, the most up to date information available is for Te Kuiti, which also has the largest proportion of the overall stormwater network in the district. Verifying and improving the inventory data for Te Kuiti is a priority for effective management of the activity and in particular the development of a catchment plan. Capturing inventory data for the remaining urban stormwater assets will not add significantly to the overall asset database.

The Te Kuiti and Mokau urban drainage assets are dominated by reinforced concrete pipes and open drains, as demonstrated below.

The bulk of these assets are estimated to reach the end of their effective lives outside the life of the LTP planning period (2015 - 2025), with a bulge occurring in the 40 – 60 year bracket. Given the high value of the assets involved, this replacement profile would not be sustainable without a smoothing strategy - this is dealt with under the lifecycle asset management section.

### 1.3 Strategic Environment

#### 1.3.1 Vision

Councils Vision for the 2015 – 2025 Long Term Plan is:

***“Creating a better future with vibrant communities and thriving business”***

Council's Stormwater activity supports this vision by:

- Maintaining the existing system
- preventing or mitigating flooding
- eliminating health and safety issues where possible
- managing pollution and mitigating effects of spills

#### 1.3.2 Community Outcomes

The Stormwater Activity contributes to the following community outcomes:

CO5 - <i>Preserving the Environment</i>
A place where we preserve the natural environment for future generations, ensuring that natural resources are used in a sustainable manner
CO8- <i>Effective Leadership</i>
A place where the development of partnership for the delivery of programmes and services is encouraged and pursued.
CO10 - <i>Sustainable Infrastructure</i>
A place that provides safe, reliable and well managed infrastructure which meets the District community needs and supports maintenance of public health, provision of good connectivity and development of the District

#### 1.3.3 Strategic Goals for the Group

- To protect public health and property
- To protect the environment from the adverse effects of stormwater
- To enable economic development

#### 1.3.4 Rationale for Service Delivery

This Group activity exists to ensure that the natural environment and district community is protected from detrimental effects of stormwater.

### 1.4 Levels of Service

This AM plan is focused on clarifying and defining key customer and technical levels of service for the urban stormwater network and then identifying and costing future operations, maintenance, renewal and capital works required to provide these levels of service. The present system is based on servicing a 1 in 2 year rainfall event.

The levels of service set out in Section 5 are based on customer expectations, the strategic goals set out above, and statutory requirements.

#### Performance Measures

The Levels of Service and Key Performance Indicators for this Group of Activities are:

<b>Level of Service</b>	<b>Performance Measure</b>	<b>Performance Target</b>
The Council provides protection of habitable buildings in urban areas from flooding in major flood events.	The number of flooding events that occur in the district in a financial year.	Nil (for less than 1 in 2 year event)
	For each flooding event the number of habitable floors affected in a financial year.	≤ 1 per 1000
The Council provides a reliable stormwater collection service	The number of complaints received about the performance of the Council's urban stormwater system per 1,000 properties connected.	Less than 4
The Council responds to failures and request for service in a prompt and efficient way	Median response time to attend to a flooding event (Note: Measured from the time that the territorial authority receives notification to the time that service personnel reach the site)	Less than 3 hours
Compliance with resource consent conditions for discharge from the Councils urban stormwater system that relate to environmental effects	Number of abatement notices.	0

Level of Service	Performance Measure	Performance Target
	Number of infringement notices.	0
	Number of enforcement orders	0
	Number of successful prosecutions against the Council in relation to stormwater resource consents	0

## 1.5 Future Demand

The main drivers of demand for stormwater services are:

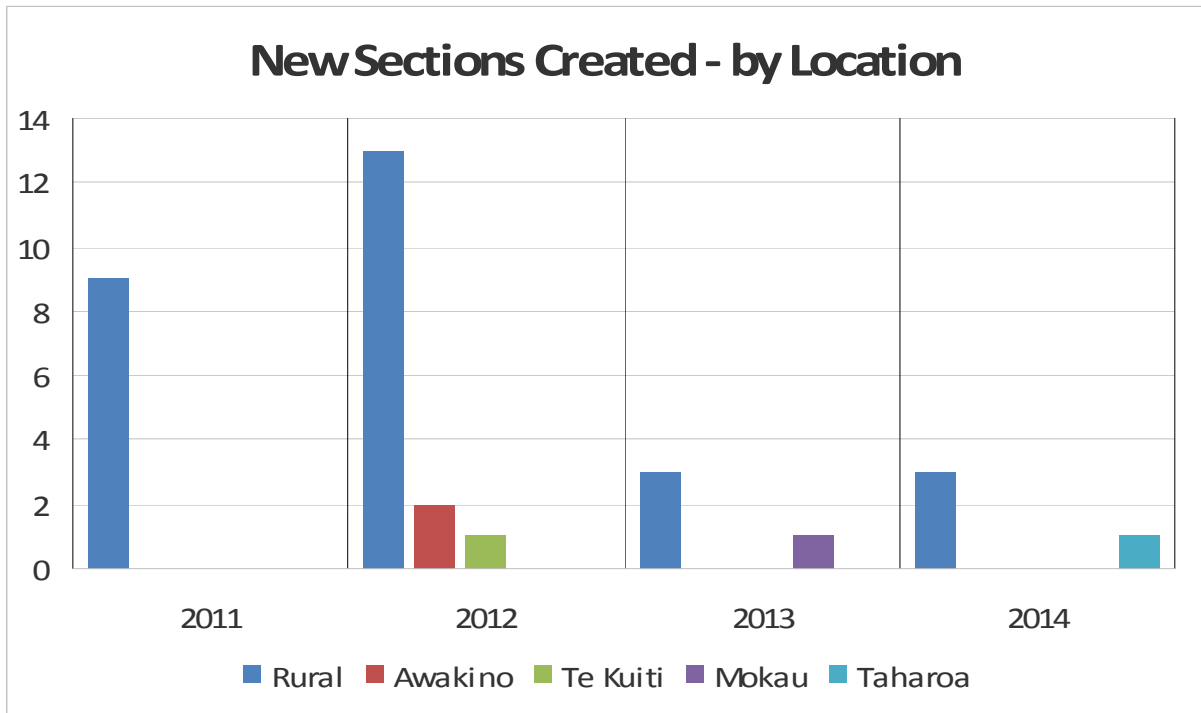
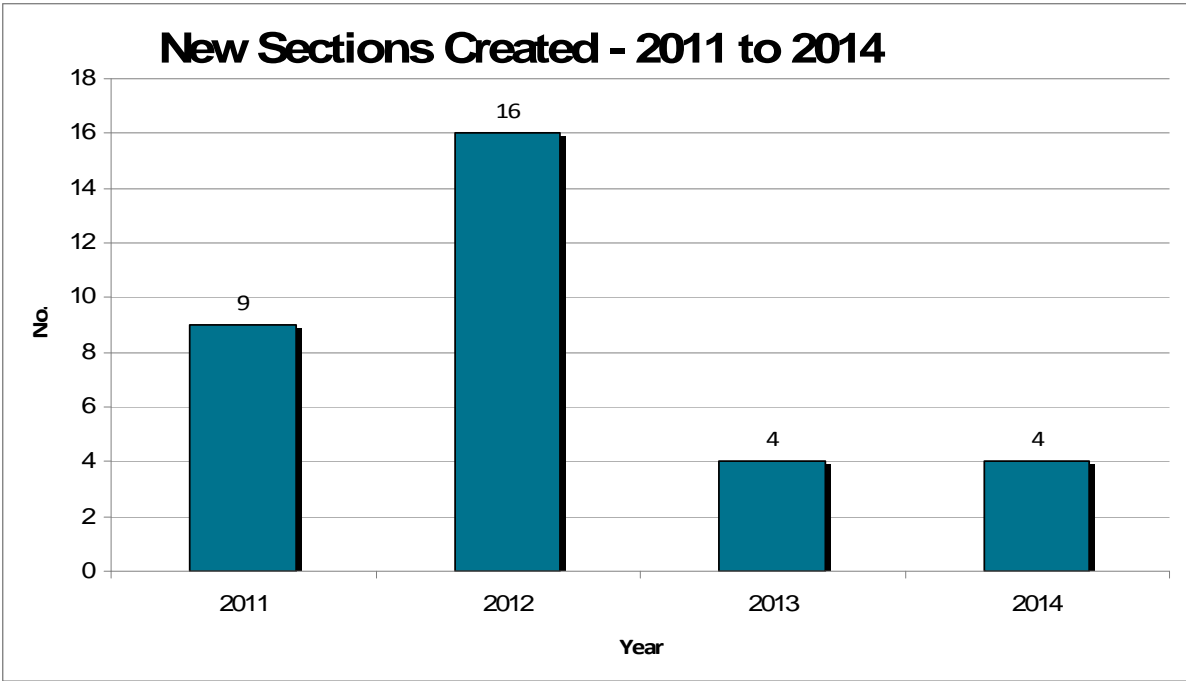
- 11 Population growth
- 12 Land use activities (e.g. land development, tourism and coastal settlements)
- 13 Climate change
- 14 Community expectations

### 1.5.1 Population

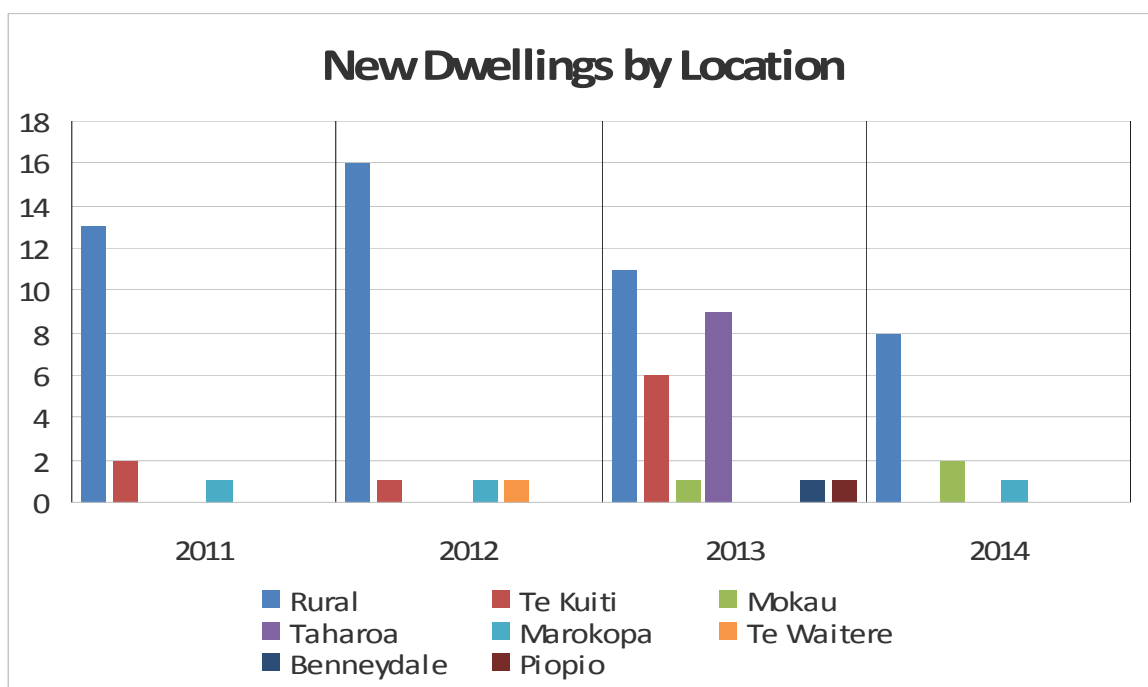
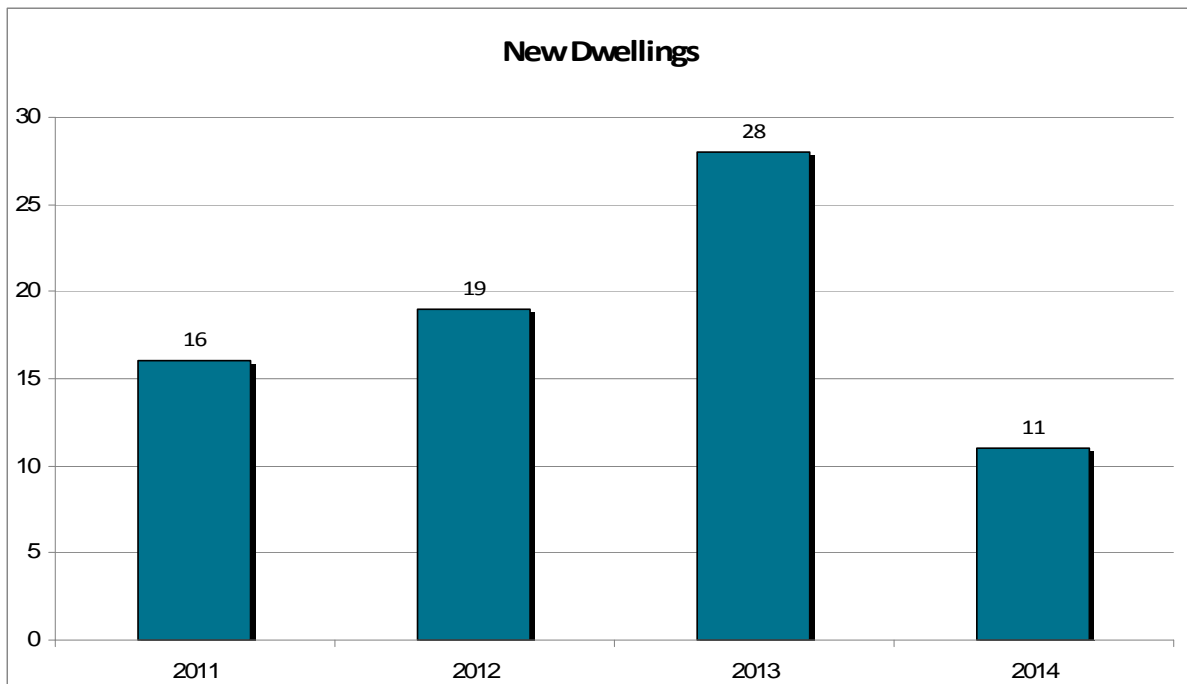
The district resident population has experienced a slight decline over the 2006 to 2013 inter-census period. The future population forecast prepared by the National Institute of Demographic and Economic Analysis (Waikato University) predicts a continuation of this downward trend for the district over the next 50 years. At a micro level, this pattern of population decline is expected to be consistent, more or less, across the district, including the coastal communities that were previously areas experiencing highest growth and demand. Overall, the demographic and development trends show that there is no population based demand for growth related infrastructure at the present time or in the foreseeable future.

### 1.5.2 Land-use development

From a recent, informal, desktop planning exercise, drawing from development proposals which are known to officers and/or are in the early stages of consent processing, it has been identified that further growth is unlikely to place pressure on the provision of Council services. Indications are the recent trends of relatively slow development are likely to continue into the foreseeable future. It is expected that any increase in demand from residential development over the term of this AMP will be minor and readily accommodated within the existing capacity of the roading network.







Of interest are the nine new houses at Taharoa during 2013. These were all relocated dwellings for the NZ Steel Mining Company, potentially indicating an increased scale of operation at that location.

Stormwater collection, disposal and control is investigated for any size subdivision, taking due consideration of flow rates and velocities to prevent scouring, and for larger subdivisions (10 or more lots), contamination control structures.

The current agricultural and pastoral based economy is expected to remain predominant in the district, with growth very dependent on economic conditions and export opportunities. Industrial growth, which can have a significant impact on stormwater collection and disposal capacity, is partly dependent on attracting new industries into the urban centres. The impact of stormwater discharges from industrial properties can be significant and would need to be managed through the development of structure plans

and catchment management plans, followed by the provision of adequate infrastructure to service these areas.

#### 1.5.3 Climate Change

The impacts of climate change may influence rainfall intensity along the west coast of the north island, this may mean stormwater pipe capacity could be inadequate to handle the service of 50% annual exceedance probability (AEP), particularly at the those beach communities where stormwater outlet points are within tidal zones, due to the now widely accepted predictions of rising sea level. Increase in rainfall intensity with resultant higher flows will trigger demand for more and better stormwater control systems.

#### 1.5.4 Community Expectations

The following trends are expected to impact on the quantity and quality of stormwater services provided:

- Continued public pressure for higher standards of water quality in receiving waters.
- Increasingly stringent resource consent conditions for stormwater discharges.
- High inflow rates per head of population resulting in overloaded sewer pipes.
- Impacts of climate change on rainfall patterns, runoff coefficients and rising sea levels leading to increasing demand for installation of public stormwater systems

#### 1.5.5 Demand implications

The implications of these demand trends on the quantity and quality of stormwater services over the next 30 years will be:

- Catchment Management Plans (CMP's) need to be developed over the next five years to clearly identify and define existing water course and overland flow paths.
- These CMP's also needed to identify water courses regarded as significant from an environmental point of view for protection.
- Significant asset data verification is needed. The backlog is large and progress is slow at this point.
- Demand for piping of public open drains through private properties can be expected to grow and some private open drains have been piped with joint private / public funding.
- Unidentified deferred maintenance and improvement work that needs to be done as it becomes apparent.
- Any increased demands on the capacity of existing stormwater services cannot be accommodated without substantial upgrading costs.
- Future maintenance and renewals costs associated with the networks can be expected to increase within the planning period.
- Relatively minor changes to LoS could have major impacts on costs.
- Continued public pressure for higher standards of water quality in receiving waters may require stormwater treatment devices with associated capital and operational cost. An assessment is already underway to determine the scope of this work with small debris retention structures being incorporated into upgrade work.
- Stormwater treatment requirements by stormwater discharge consents will increase stormwater disposal cost.
- Meeting environmental assessment and monitoring requirements imposed by more stringent discharge consents will carry significant increases in cost.
- Demand for improved public stormwater systems at beach communities and low lying areas.
- Public safety considerations (e.g. security of pipe outfalls and stormwater manhole entry) are very prominent and to make safe the existing system and maintain in future will add cost to operations and maintenance.
- Development of the Waitomo Village stormwater systems.

In the meantime, no provision has been made over the term of this AMP for additional infrastructure to support growth planning.

## 1.6 **Lifecycle asset management**

*Asset management tactics* focus on lifecycle activities (creation, maintenance, renewal and disposal) for each asset group to improve the decision making and evaluation of options associated with each asset and to optimise lifecycle costs.

This AMP is based on existing levels of service, currently available information and the knowledge and experience of Council staff and contractors competent in asset management practices.

The Stormwater activity budgets contained in the draft 2015-25 LTP have been informed by this AMP. The latter will be adjusted following any relevant changes made to the LTP arising from public consultation and after adoption of the final LTP.

The key issues relating to the 30-year forward projections are summarised below

#### 1.5.6 Asset Data

Council's stormwater assets have been assessed using local knowledge but these assessments require verification; most of the assets are over half their life cycle and are showing signs of deterioration. In particular, the following issues are noted:

- Asset data: There is a dearth of information regarding the age, condition and performance of the urban stormwater reticulation. Current information has been drawn from limited existing records, overlaid with a desktop exercise involving input from contractors and staff to capture and record local knowledge. Similarly, catchment discharge and system capacity is not known. A priority in the Improvement Plan is a project to capture this data and to prepare catchment plans for each urban area to ascertain and compare design runoff with system capacity. A gap analysis of the findings will provide the basis for future capacity improvements.
- Related to this will be an environmental assessment of each stormwater drain and receiving water to determine and assess any ecological sensitivity and environmental amenity.

#### 1.5.7 Maintenance

Maintenance is the on-going day to day work activity required to keep assets serviceable and prevent premature deterioration or failure. Two categories of maintenance are carried out:

Unplanned Maintenance: The majority of defects are notified by the public, and a 24 hour call-out service is provided to attend problems. Contract documents specify the timeliness of the response and the actions to be taken. Priority is given to works impacting on safety over cosmetic type work.

Planned Maintenance: Work carried out to a predetermined schedule or planned in association with other work.

Operation and maintenance costs average approximately \$150,000 per year over the next 10 years. The funding provided for renewals over the preceding 3 years had been taken up addressing issues that become apparent during the time

#### 1.5.8 Renewals

The renewals programme comprises an essential part of this AMP. Maintaining levels of service is dependent on replacing assets at the end of their useful lives. The actual timing of proposed renewals has been determined from a combination of a desk top assessment of age, condition and capacity, as well as a phased Closed Circuit TV program of the existing drainage networks based on present asset data. The CCTV footage showed a raft of problems with some of the older steel "ARMCO" type pipes that were completely corroded around the base. Some of the pipes have been replaced with further sections identified for replacement.

In the 2015 – 2025 LTP, using optimised replacement values, the forecast renewals costs have been smoothed over a 80 year period to flatten this peak and avoid large variations in renewals expenditure in successive 10 year periods to achieve a long term sustainable replacement programme.

Within each 10 year block, and as asset information improves, specific renewals will be individually assessed to verify that the renewal is actually needed before the work is done.

The asset management philosophy is that any identified shortfall in capacity will be addressed at the time of pipe replacement so that any existing undersized pipes will be replaced with larger diameter pipes. To do this, the information from the Catchment Assessment Plans will be used to move forward in an economic and sustainable manner.

#### 1.5.9 New capital works

The capital works programme represents a modest forecast of minor improvement works over the next ten years. It includes the following works:

- The continuation of collecting stormwater asset data for Te Kuiti (Catchment Plans) and in the rural townships
- A base source of funding to address a variety of minor improvement works in Te Kuiti as they become apparent

As noted above, completion of urban catchment assessments may identify capacity shortfalls in the existing stormwater network. Similarly, future structure planning proposals for Mokau-Awakino, Te Waitere and Waitomo Village may result in new drainage works proposed for those areas. The capital development programme will be reviewed after the assessment work has been completed.

The current funding options available for the stormwater activity include:

- Rates
- Development contributions (currently WDC does not have a development contributions policy)
- Financial contributions
- Capital contributions (e.g. from past subdivisions pre LGA 2002)
- Special funds – reserves, investment funds, etc

The projections contained in this generation AMP will be reviewed in 2014 in light of improved asset information.

### **1.7 Financial summary**

The provisional 30 year financial forecast for the stormwater activity was determined by identifying new works and the continuation/evaluation of current maintenance and renewal strategies within each of the components i.e. open drains, reticulation networks, outlet structures, etc.).

The following basic assumptions have been made in preparing the cash-flow forecasts.

- Capital costs past Year 3 are more subject to change as programmes become refined and detailed.
- Growth in the size of the existing stormwater supply infrastructure will be minor over the term of the plan. There is no provision in this AMP for additional assets vested in Council from subdivisional development - it will be re-assessed in the next 3 year planning cycle.
- Movement in contract rates as the result of re-tendering stormwater maintenance and capital works will be within the construction price index used in the financial projections.
- There will be a gradual increase in operations and maintenance expenditure in real terms over the planned period due to the continued ageing of the asset and demand for higher levels of service. If Council choose to continue with the proposed renewal programme instead of deferring it for 10 years it may offset operations and maintenance increases in part because of the improved assets that will reduce maintenance needs. As this reduction is difficult to quantify it has not been allowed for in the financial forecasts.
- Maintenance cost forecasts are based on maintaining current levels of service.
- Significant increases in the cash flow may however result from more detailed evaluation of asset renewal requirements and more stringent consent and legislative requirements.
- Changes in the district population will not impact on the expenditure forecasts for the stormwater network.
- The most significant changes may result from changes to legislation or Waikato Regional Council's review of its Regional Policy Statement as it affects stormwater assets and the need to meet higher environmental standards.

A summary of the financial forecast over the first 10-years of that period is provided below (Note: All figures are based on 2014 values and exclude inflation).

**Table: Stormwater operating, renewal and capital expenditure forecast 2015 – 2025**

Stormwater	EAP 2014/15	LTP 2016	LTP 2017	LTP 2018	LTP 2019	LTP 2020	LTP 2021	LTP 2022	LTP 2023	LTP 2024	LTP 2025
<b>Operating Expenditure</b>											
Urban	362	374	392	422	420	437	448	496	496	512	488
Rural	37	47	48	50	51	53	56	58	60	62	65
<b>Total Operating Expenditure</b>	<b>399</b>	<b>421</b>	<b>440</b>	<b>472</b>	<b>471</b>	<b>490</b>	<b>504</b>	<b>554</b>	<b>556</b>	<b>574</b>	<b>553</b>
<b>Net Operating Cost/(Surplus)</b>	<b>399</b>	<b>421</b>	<b>440</b>	<b>472</b>	<b>471</b>	<b>490</b>	<b>504</b>	<b>554</b>	<b>556</b>	<b>574</b>	<b>553</b>
<b>Capital Expenditure</b>											
Urban	349	345	245	253	210	203	213	286	325	338	262
Rural	5	5	5	5	6	6	6	6	6	7	7
<b>Total Capital Expenditure</b>	<b>354</b>	<b>350</b>	<b>250</b>	<b>258</b>	<b>216</b>	<b>209</b>	<b>219</b>	<b>292</b>	<b>331</b>	<b>345</b>	<b>269</b>
<b>Net Expenditure</b>	<b>753</b>	<b>771</b>	<b>690</b>	<b>730</b>	<b>687</b>	<b>699</b>	<b>723</b>	<b>846</b>	<b>887</b>	<b>919</b>	<b>822</b>
<b>Funded By</b>											
Internal Loans	0	25	42	43	45	37	39	40	42	44	46
Reserves	364	334	222	229	185	185	193	265	261	269	236
Targeted Rate - Stormwater (Urban)	343	360	372	402	401	416	429	476	518	536	467
Targeted Rate - Stormwater (Rural)	46	53	55	57	58	60	63	65	67	69	72
<b>Total Funding</b>	<b>753</b>	<b>772</b>	<b>691</b>	<b>731</b>	<b>689</b>	<b>698</b>	<b>724</b>	<b>846</b>	<b>888</b>	<b>918</b>	<b>821</b>

The above financial projections will be again reviewed in 2018 in light of improved asset information that will be collected and recorded over the next 3 years.

The strategy for this forecast was to:

- Assign realistic timing to projects given the resources available under Council's current funding sources and in relation to impacts on other Activity Management Plans with improved asset information
- Optimise timing of projects to improve asset data ahead of financial commitments, and to smooth expenditure to a sustainable long term programme
- Generate consistent budgeting philosophies across all asset groups
- Align expenditure with zero growth predictions

### **1.8 AMP Improvement Programme**

An improvement plan that outlines steps required to improve the quality of both the content and presentation of this document is included as Section 12 (Improvement Plan section). This has been compiled in conjunction with the plan update.

## SECTION 2 - INTRODUCTION

### 2.1 Waitomo District

The Waitomo District occupies a large area extending from the west coast of the North Island between Mokau and Te Waitere through to Pureora forest in the east, and from Mapiu in the south to Waitomo Village in the north. The District is situated within the Waikato Region and comprises 3363.57 sq km of land. The total population is 8,910 (2013 Census), with Te Kuiti the main residential and service center having a population of 4,218. Other towns include Mokau, Waitomo, Piopio, Awakino, Marokopa and Benneydale. The local economy is based on farming, forestry, mining and tourism. Shown below is the location of the district.



## 2.2 Purpose of the AM Plan

WDC is responsible for the ownership and management of the district's urban stormwater infrastructure having an optimised depreciated replacement value of approximately \$11,721,773.

The size of this investment and the importance of stormwater services to the community demands excellence in the management of these assets. The community expects stormwater assets to be managed in such a way that costs are minimised while providing the levels of service that the community desires.

This activity management (AM) plan is the tool for combining management, financial, engineering and technical practices to ensure that the level of service required by customers, and agreed by Council, is provided at the lowest long term cost to the community. The plan is intended to demonstrate to the WDC's ratepayers that Council is managing their assets responsibly and to the agreed price / quality trade-offs resulting from alternative levels of service.

## 2.3 Benefits of Activity Management Planning

The main benefits derived from AM planning are:

- Improved understanding of service level options and standards
- Minimum lifecycle (long term) costs are identified for an agreed level of service
- Better understanding and forecasting of asset related management options and costs
- Managed risk of asset failure
- Improved decision making based on costs and benefits of alternatives
- Clear justification of forward works programmes and funding requirements
- Improved accountability over the use of public resources
- Improved customer satisfaction and organisational image

A fundamental objective throughout the preparation (and future review) of this plan will be to identify potential opportunities for reductions in asset lifecycle costs.

## 2.4 Scope of Stormwater Activity

This AMP covers the 10 year period from 1 July 2015 to 30 June 2025. The key components of WDC's urban stormwater services include the reticulation network, pumping stations, treatment plants and disposal systems

This AM plan covers all urban drainage areas, including:

- Te Kuiti
- Benneydale
- Piopio
- Mokau – Awakino
- Marokopa
- Te Waitere

The total scope of the known asset components which make up these schemes are:

Asset Type	Quantity
Manholes	389
Pumpstations	Nil
Cesspits	652
Stormwater reticulation	31,412 km

**Table: Schedule of Urban Stormwater Infrastructure Assets**

This plan is based on levels of service verified through a survey of key users in July 2008 and August 2011, currently available information and the knowledge of Council staff. The 10 year financial projections have been developed in the knowledge of this information and prudent planning. A programme of continuous AM improvement (see Section 8) will be undertaken to improve the quality of decision making, the knowledge of asset condition and performance data, customer expectations and the accuracy of the financial projections.

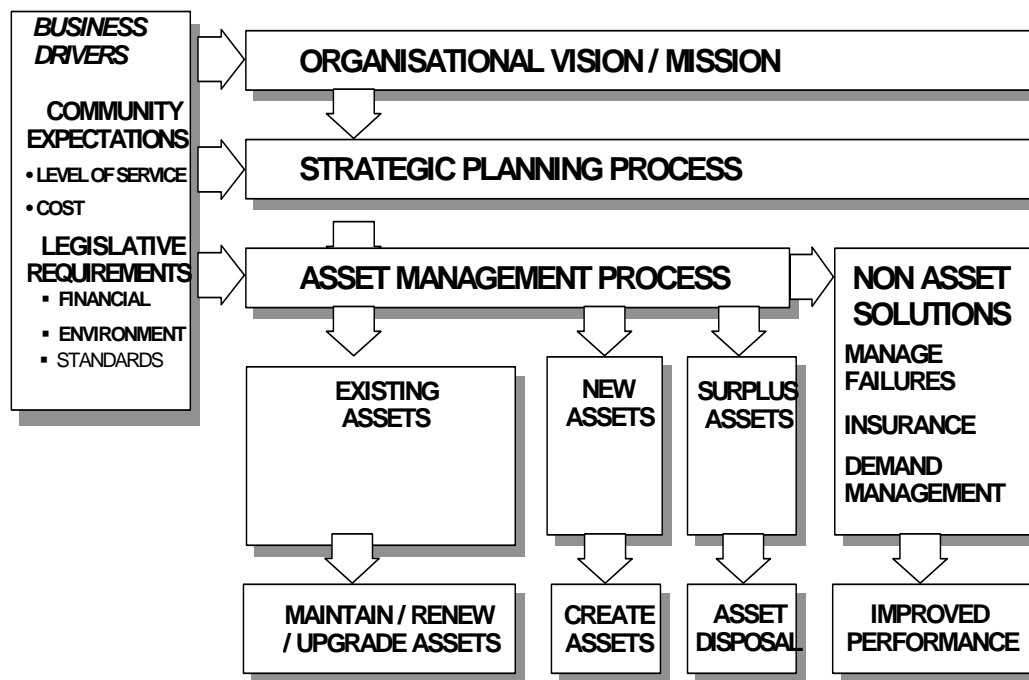


Council funding approval is required on an annual basis for all work programmes identified in this plan; hence the actual timing and scope of the works may differ from that shown. Generally the initial three year period provides robust expenditure forecasts whilst the remaining seven years of the plan are considered to be indicative.

## 2.5 Process for Developing Activity Management Plan

This plan is the latest version of the Councils stormwater activity management plan through a “living” process of regular updating and improvement. The first version was prepared in 2001 then revised in 2003, 2004, 2006, 2009 and 2012 linking the asset management planning to the processes and principles outlined in the Local Government Act 2002 for long term planning.

AM plans are a key component of the Council’s planning processes, being prepared within the context of Council’s strategic and financial planning processes. These links, and the key outputs of the asset management planning process, are illustrated in the figure below.



(Source: NAMS Manual)

The timing of this version is consistent with the three yearly review of the Council’s Long Term Plan 2015 – 2025 (LTP). This Activity Management Plan (AMP) is one of several AMPs prepared within the current planning cycle as part of a much larger, organisation wide project.

A specific AM planning strategy/work plan for the AMP was developed to facilitate cross organisation coordination and to improve alignment of expectations between Council and management. Input to the project included the Group Manager – Assets and asset management staff, and Corporate Services. The project was coordinated and quality managed internally.

The AM plans will be subject to ongoing review, particularly in relation to changing service delivery standards and expectations, and changes in the demand for and use of services. By monitoring community service delivery requirements, Council will be better able to develop and manage its assets and ensure community demand and service levels are met in the most effective and timely manner.

## 2.6 Plan Framework

The sections are structured to develop the AM plan in a logical manner as follows:

<b>Section Number</b>	<b>Section Title</b>	<b>Description</b>
1	Executive Summary	A succinct overview of the key issues contained in the body of the AMP
2	Introduction	A summary of all the elements of the stormwater activity, the rationale for ownership of the asset components, and the reasons for preparing the AMP
3	The Activity	A description of the assets making up the urban stormwater activity and the potential significant negative effects.
4	Strategic Environment	A discussion on the planning and statutory framework and the context of where the AMP is situated within it.
5	Levels of Service	An outline of the levels of service that are proposed and the basis for these.
6	Future Demand	Details of growth forecasts impacting on the management and utilisation of the assets and which form the basis for proposed new works.
7	Risk Management	Identifies the risks associated with the activity and the resilience of critical assets to natural disasters
8	Lifecycle Asset Management	Details of what is planned to manage and operate the stormwater activity at the agreed levels of service and optimal lifecycle cost.
9	Asset Management Practices	The information available, the information systems and processes used to make decisions on how the assets will be managed
10	Financial Summary	The financial requirements resulting from all the information in the previous sections
11	Assumptions	The assumptions used and uncertainty in forecasting the expenditure required to achieve the agreed levels of service over the term of the plan
12	Improvement Plan	Details of the plan for monitoring implementation and effectiveness of the AMP and improvements to AM systems to improve confidence in the AMP, particularly over the next three years.
13	References	Details of information sources used to prepare this AMP
14	Appendices	Complementary material referred to in the body of the document

## SECTION 3 – THE ACTIVITY

### 3.1 Activity Description

This AMP covers the urban stormwater assets owned by the Council, which include the reticulation network, pumping stations, treatment plants and disposal systems

This activity covers all drainage services in the following urban areas:

- Te Kuiti
- Benneydale
- Piopio
- Mokau – Awakino
- Marokopa
- Te Waitere

### 3.2 Scope of Assets

The total scope of the known asset components which make up these schemes are:

Asset Type	Quantity
Manholes	389
Pump stations	Nil
Cesspits	652

There is limited information available regarding the scope of assets making up the stormwater network. Of that, the most up to date information available is for Te Kuiti, which also has the largest proportion of the overall stormwater network in the district. Verifying and improving the inventory data for Te Kuiti is a priority for effective management of the activity and in particular the development of a catchment plan. Capturing inventory data for the remaining urban stormwater assets will not add significantly to the overall asset database.

The Te Kuiti and Mokau urban drainage assets are dominated by reinforced concrete pipes and open drains, as demonstrated below.

Remaining Life	AC (m)	Concrete (m)	GEW (m)	PVC (m)	Various (m)	Unknown Open Drains (m)	Total (m)
<b>TE KUITI</b>							
<10yrs	0	0	0	0	0	0	0
<20yrs	0	202	0	0	0	0	202
<-40yrs	120	2,782	134	0	175	0	3,211
,<-60yrs	638	11,370	135	0	103	2,259	14,505
<-80yrs	0	7,747	424	158	0	915	9,244
<-100yrs	0	1,768	0	203	0	0	1,971
>-100yrs	0	0	0	1192	0	0	1192
<b>Subtotal</b>	<b>759</b>	<b>23,869</b>	<b>692</b>	<b>1553</b>	<b>278</b>	<b>3,173</b>	<b>30,325 m</b>
Te Kuiti Optimised Replacement Cost	\$139,971	\$10,305,246	\$110,853	\$342,109	\$85,615	\$546,109	<b>\$11,529,903</b>
<b>PIOPIO</b>							
<-60yrs	0	0	193	0	0	0	193 m
Piopio Optimised Replacement Cost (ORC)	0	0	31,819	0	0	0	<b>\$31,819</b>
<b>MOKAU</b>							
<-60yrs	0	0	0	0	69	0	69
<-80yrs	0	0	0	0	0	114	114
<-100yrs	0	265	0	0	0	0	265
>-100yrs	0	0	0	0	0	0	0
<b>Subtotal</b>	<b>0</b>	<b>265</b>	<b>0</b>	<b>0</b>	<b>69</b>	<b>114</b>	<b>448m</b>
Mokau Optimised Replacement Cost	0	\$90,657	0	\$19,513	\$22,277	\$15,782	<b>\$148,229</b>

Remaining Life	AC (m)	Concrete (m)	GEW (m)	PVC (m)	Various (m)	Unknown Open Drains (m)	Total (m)
(ORC)							
<b>TE Waitere</b>							
<-80yrs Te Waitere Optimised Replacement Cost (ORC)	0	0	0	0	0	72	72
	0	0	0	0	0	\$11,821	<b>\$11,821</b>

(Note: ORC figures are in 2014 values)

The bulk of these assets are estimated to reach the end of their effective lives outside the life of the 2015-25 LTP planning period with a bulge occurring in the 40 – 60 year bracket. Given the high value of the assets involved, this replacement profile would not be sustainable without a smoothing strategy - this is dealt with under the lifecycle asset management section.

### 3.3 Management Structure

The WDC Assets Group manages the urban stormwater activity. The organisational structure is illustrated in **Error! Reference source not found.**

### 3.4 Physical Works & Professional Services Delivery

WDC contracts out all non-routine maintenance, renewal and new stormwater works. The management of these contracts is undertaken by Council's in-house resources. Future service delivery arrangements are currently under review

### 3.5 Environmental Responsibility

Council is required under the provisions of the Resource Management Act to provide stormwater services in an environmentally responsible manner. This AM plan demonstrates how Council is addressing sustainable management of its physical resources and environmental protection issues associated with the maintenance and development of stormwater assets.

### 3.6 Safety

Asset management planning addresses Council's safety obligations through the;

- adoption of appropriate safety standards for the creation of new assets.
- specification of works to maintain assets in a safe condition.
- enforcement of safe operating and work practices.
- compliance with industry standards and codes of practice.

### 3.7 Economic Efficiency

Council manages the urban stormwater infrastructure on behalf of the affected district ratepayers.

The techniques of asset management support economic efficiency by;

- providing a basis for monitoring asset performance and utilisation
- enabling asset managers to anticipate, plan and prioritise asset maintenance and renewal works
- identifying under funding of asset maintenance and replacement
- quantifying risk, allowing the minimisation of high impact (financial and service level) failures and environmental effects and resulting in savings where asset renovation is less than for replacement
- extending the life of an asset by optimising maintenance and refurbishment treatment selection.

### 3.8 Corporate Profile

Council aims to be a customer focused organisation and a good corporate citizen. Effective stormwater asset management planning reflects this corporate aim.

### 3.9 Significant Effects of Providing Stormwater Activities

An inadequate or inefficient urban stormwater system can lead to adverse social, economic and environmental consequences. On a large scale, these effects have the potential to adversely affect the interests of the community..

Flooding of property, overloading of sewers and wastewater treatment plants, and adverse effects on the environment at the point of stormwater discharge are examples of potential negative effects from the provision of stormwater services.

	<b>Positive Effects</b>	<b>Negative Effects</b>
Social	Maintaining / improving community health and wellbeing by providing effective surface drainage of urban land and property.	Open drains in urban areas can lead to infestations of insects and vermin, and can become a safety hazard.  Public access to the piped stormwater network through manholes and stormwater pipe outlets is a potentially life threatening hazard.
Environmental	Good stormwater drainage planning and design mitigates the effects of the discharge on the environment.	Carbon emissions, dust and spillages of contaminants on urban roading carriageway can enter the drainage network and have an adverse effect on the receiving water.
Economic	Effective drainage facilitates enable the use of land for commercial and industrial development.	Cost of compliance with applicable standards.
Cultural	Facilitates hosting of traditional community gatherings and events during wet weather conditions	Untreated discharge of stormwater to rivers and streams may be regarded as "culturally" insensitive.

### 3.10 Significant Changes to this Activity

In addition to informing the 2015-25 LTP, this AMP provides the asset management basis for WDC's Infrastructure Strategy in accordance with s.101B of the Local Government Act 2002. The financial projections in Section 10 of the AMP have therefore been increased to a 30-year term in keeping with the statutory term of the Infrastructure Strategy.

## SECTION 4 – STRATEGIC ENVIRONMENT

### 4.1 Vision

Councils Vision for the 2015 – 2025 Long Term Plan is:

***“Creating a better future with vibrant communities and thriving business”***

Council’s Stormwater activity supports this vision by:

- Maintaining the existing system
- preventing or mitigating flooding
- eliminating health and safety issues where possible
- managing pollution and mitigating effects of spills

### 4.2 Community Outcomes

The Stormwater Activity contributes to the following community outcomes:

CO5 – <i>Vibrant Communities</i>
A place where we preserve the natural environment for future generations, ensuring that natural resources are used in a sustainable manner
CO8 – <i>Thriving Business</i>
A place where the development of partnership for the delivery of programmes and services is encouraged and pursued.
CO10 – <i>Sustainable Infrastructure</i>
A place that provides safe, reliable and well managed infrastructure which meets the District community needs and supports maintenance of public health, provision of good connectivity and development of the District

The Stormwater activity has a primary role in support of CO5 – *Vibrant Communities*. Urban stormwater drainage is a primary contributor to the social and environmental wellbeing of the district and it is a precursor for economic activity in the form of land development.

### 4.3 Strategic Goals for the Group

- To protect public health and property
- To protect the environment from the adverse effects of stormwater
- To enable economic development

### 4.4 Rationale for Council Involvement

This Group activity exists to ensure that the natural environment and district community is protected from detrimental effects of stormwater.

The rationale for Council’s involvement stems in part from statutory requirements. The legal authority for Council to be involved in the provision of stormwater drainage services is contained in the Local Government Act 2002 (LGA), specifically Sections 10-11A inclusive regarding the purpose, role and core services of local government, and the Section 101B requirement to prepare an Infrastructure Strategy for its infrastructure assets, including stormwater.

The LGA requires local authorities to act in accordance with the principles set out in Section 14, namely prudent stewardship and the efficient and effective use of its resources, including effective planning for the future use of its assets, and to take a sustainable development approach that takes into account the social, economic, and cultural interests of people and communities, the need to maintain and enhance the quality of the environment, in the present and for the future.

WDC's stormwater network in its entirety is defined as a strategic asset in its Significance and Engagement Policy. In accordance with the provisions of the Local Government Act 2002, WDC cannot transfer ownership or control of a strategic asset, or construct, replace or abandon a strategic asset unless it has first consulted with the community and included the proposal in its Long Term Plan.

The Local Government Act 2002 also empowers Council to acquire land for public works.

- ⇒ Section 181 empowers Council to construct work on private land that it considers necessary for (inter alia) land drainage, rivers clearance and stormwater drainage
- ⇒ Section 189 (1), "Power to Acquire Land": empowers Council to 'purchase, or take in the manner provided for in the Public Works Act 1981, any land or interest in land, whether within or outside its district, that may be necessary or convenient for the purposes of, or in connection with, any public work that the local authority was empowered to undertake, construct or provide immediately before 1 July 2003'.

Council intends to continue with its present involvement with the stormwater activity, and this AMP has been developed on this basis. The vision that Council is working to achieve is set out in the community outcomes adopted for the District. The stormwater activity is generally regarded as an essential activity associated with enhancing the District environment and protecting public health and property.

#### **4.5 Justification for ownership**

Council ownership of stormwater infrastructural assets is justified by the following factors relating to the service;

- ⇒ Core Business - Council accepts, via its LTP, responsibility for providing essential infrastructural services. These services include stormwater drainage
- ⇒ Public Benefit - the service is generally assessed to provide mainly public benefits
- ⇒ Funding - Council has access to more favourable financing options than is available to the private sector
- ⇒ Exclusivity – it is impracticable to exclude customers from utilising the service by disconnection
- ⇒ Monopoly Supply - in practice urban stormwater drainage systems are a natural monopoly as customer options (soakage pit, tanker collection, private stormwater drainage networks) are generally not viable in the long term
- ⇒ Equity - Public funding of stormwater is equitable, as access for all irrespective of ability to pay is deemed necessary because of the contribution of stormwater services to the health and well-being of both individuals and the community
- ⇒ Community Opinion - the public and Council have expressed a preference for key infrastructure assets to remain in public ownership.

#### **4.6 The extent of Council's responsibility**

WDC is the primary service provider for the construction, maintenance and repair of urban stormwater systems within Waitomo District. WDC may maintain the district's stormwater systems as it sees fit, subject to Government and regional council requirements.

The activity comprises a number of elements ranging from stormwater pipes and discharge structures. Council oversees this responsibility by coordinating and contracting physical works to external organisations.

#### **4.7 Other relevant legislation**

Council is a "Network Utility Operator", a "Requiring Authority", and a multiple discharge consent holder as defined in the Resource Management Act 1991. It is legally responsible for the control of its stormwater systems.

The Council also has a separate role as a Consent Authority for the purposes of the Resource Management Act. This will occasionally mean that the Council must apply to itself for a designation or land use consent in respect of its stormwater operations.

The Local Government Act 1974 allows Council to manage construction, maintenance and use of water courses over private property as required for safe optimal conveyance of surface runoff and protection of Council services.

Other legislation relevant to the Stormwater activity includes:

- Public Bodies Contracts Act 1959
- Public Works Act 1981
- Bio-security Act 1993
- The Civil Defence Emergency Management Act 2002 (Lifelines)
- Building Act 2004
- The Building Regulations 1992

#### **4.8 Council Bylaws**

WDC operates the Water Services Bylaw which was last reviewed in 2014 and adopted on 10 February 2015 following public consultation. The bylaw provides regulations to support the effective management, use and protection of WDC's water supply, stormwater and wastewater activities. The stated scope of the WSB is to:

- Protect public health and the security of the public water supply;
- Detail the responsibilities of both the Council and the consumers with respect to the public water supply and other water related services;
- Ensure the safe and efficient creation, operation, maintenance and renewal of all public water services, sewerage and stormwater drainage networks;
- Ensure proper hazard management to prevent or minimise flooding and erosion;
- Minimise adverse effects on the local environment particularly freshwater ecological systems and beach water quality, and assists in maintaining receiving water quality;
- Ensure that watercourses are properly maintained;
- Ensure protection of Council's water services, sewerage and stormwater drainage assets and the health and safety of employees;
- Set out acceptable types of connection to public water services, sewerage and stormwater networks.

#### **4.9 Key Stakeholders**

In addition to the general public, there are a number of key stakeholders who have an important role in the planning and delivery of service standards for the District's urban stormwater network. These organisations were approached directly during the early stages of the AMP development process to obtain feedback on the current and desired levels of service. They included:

##### **External**

- Council's stormwater maintenance contractor
- Waikato Regional Council
- Ministry for the Environment
- Fish and Game
- Ngati Maniapoto
- Residential and commercial property owners

##### **Internal**

- Councillors
- Chief Executive
- Group Manager – Assets and staff
- Group Manager – Corporate Services
- Manager Regulatory Services
- Leader Information Services
- Customer Services Staff



#### 4.10 Links to Planning Documents

The key internal planning document influencing this Plan is the Council's 2015 – 2025 LTP which sets out Council's role in maintaining and promoting community well being in the District. This Activity Management Plan is a "tactical" plan in support of and should be read in conjunction with the Council's LTP, with linkages to the Council's District Plan, Structure Plans and Council bylaws pertaining to stormwater related matters. The District Land Transport Programme, summarised in the LTP, is consistent with this AMP.

The following table summarises the linkages between AM plans and the other key components of the strategic planning and management of Council:

<b>Long Term Plan</b>	The broad strategic direction of Council set in the context of current and future customer requirements, many of which relate to the performance and financial requirements of the assets which are the subject of AM planning. The Activity Management Plan is the means for developing appropriate strategies and policies for the long-term management of Council's assets, and the basis for analysing the impact of Corporate strategic options on levels of service and long term funding needs.
<b>Annual Plan</b>	The Annual Plan is an annual installment of the LTP. The service level options and associated costs developed in the Activity Management Plan are fed into the Annual Plan consultation process.
<b>District Plan</b>	The District Plan regulates the shape and form of sustainable land use and activities pertinent to achievement of the District's environmental outcomes. It identifies and protects anticipated growth areas and formalises urban supply boundaries for utility services. It establishes standards for the construction and protection of the roading network and provides the mechanism for mitigating adverse effects on the natural and physical environment.
<b>Financial Strategy:</b>	Financial plans developed in each Activity Management Plan are consolidated into the financial strategy of Council. AM plans improve financial planning by instigating planned long term maintenance and operating programmes and provide justification for works programmes and levels of funding.
<b>Infrastructure Strategy</b>	The SW AMP informs the content of WDC's Infrastructure Strategy by considering levels of service, life cycle asst management programmes and risk and resilience of the infrastructure
<b>Business Plans</b>	The service levels and budgets defined in an AM plans are incorporated into Business Plans as performance measures for each department and individuals.
<b>Contracts</b>	The service levels, strategies and information requirements contained in the Activity Management Plan become the basis for performance orientated Contracts let for service delivery
<b>Corporate Information</b>	Quality AM is dependent on suitable information and data. This requires the availability of sophisticated AM systems which are fully integrated with the wider corporate information systems (e.g. financial, property, GIS, customer service, etc.).
<b>Community Development Plan</b>	Community development relies on essential infrastructure to underpin economic, environmental and social wellbeing.

The Stormwater AMP has synergies with a number of other Council AMPs. The stormwater AMP is intractably linked to the Roding AMP, the interface occurring at the point where road sump leads connect to the stormwater drain. The levels of service provided to road users can be significantly impacted on by construction and trench reinstatement works associated with stormwater, water supply and sewerage underground pipe networks.

Similarly, the urban stormwater activity helps to prevent surface water and roofwater inflow to the wastewater network.

At an external level, this AMP is consistent with Waikato Regional Council's Regional Plan – Water Module. This will have an increasing impact on minimum levels of service over time, particularly in relation to stormwater discharge standards.

At an internal level, future work on Council's growth strategy followed by the preparation of structure plans for its urban communities will help define the area boundaries for current and future urban stormwater services.

#### **4.11 Activity Management Strategy & Policy**

Activity Management practices undertaken through contract procurement is reviewed and made more timely and relevant to the requirements of the Roads and Footpaths activity group as time goes.

The Activity Management policies and strategies guide and integrate Activity Management practice for urban stormwater activity within WDC. The Activity Management policy states the overall intention and includes such items of Activity Management as:

- focus on delivering the required level of service to existing and future customers in the most cost-effective way
- legislation, regulatory and statutory requirements will be complied with
- long term stewardship of assets, with planning undertaken for a minimum of 10 years
- commitment to continuous improvement of Activity Management, with consideration to a correlation between the nature and scale of Council assets and Activity Management.
- risk management to support all Activity Management activities
- Activity Management will be directed to the achievement of the Council's Community Outcomes and strategic goals as stated in the Long Term Plan
- Activity Management outputs will be communicated to relevant employees and third parties to ensure they are aware of their Activity Management responsibilities.
- periodic reviews to ensure it remains relevant

The District Plan establishes zones for residential (and other) development. The minimum lot size for a residential property connected to a reticulated sewerage scheme is defined by minimum yard separation distances and maximum building site coverage of 35%. Without sewerage, a larger minimum lot size of 2500m<sup>2</sup> is required. With reticulated sewerage, the minimum lot size reduces to 600m<sup>2</sup> in a greenfield development, or 300m<sup>2</sup> in an infill development. No similar limitation on lot size is specified where reticulated stormwater drainage is not available.

In practice, this has resulted in an increasing trend towards infill development in towns such as Te Kuiti where lot sizes historically tend to be larger than the minimum size for a property connected to sewerage. Although not quantified by survey, it is anticipated that this pattern of development will be imposing additional demands on the existing stormwater network due to higher runoff in those urban areas where reticulated stormwater drainage network is available. Conversely, a greater incidence of surface water flooding or sewerage inflow/infiltration can be expected in those parts of town where reticulated stormwater drainage does not exist.

## SECTION 5 - LEVELS OF SERVICE

### 5.1 Introduction to Levels of Service

Levels of service are defined in the NAM's International Infrastructure Management Manual as the identified service quality for a particular activity (e.g. stormwater) or service area (e.g. discharge quality) against which service performance may be measured. Service levels usually relate to quality, quantity, reliability, responsiveness, environmental, acceptability and cost.

An objective of AM planning is to match the level of service provided by the asset with the expectations of customers. AM planning will enable the relationship between level of service and cost of service (the price/quality relationship) to be determined. This relationship can then be evaluated in consultation with customers to determine the optimum level of service they are prepared to pay for.

Defined levels of service can then be used to:

- Inform customers of the proposed type and level of service to be offered.
- Develop AM strategies to deliver the required level of service.
- Measure performance against these defined levels of service.
- Identify the costs and benefits of the services offered.
- Enable customers to assess suitability, affordability and equity of the services offered.

### 5.2 Levels of Service Drivers

The following LoS drivers define the scope and scale of services provided by the activity.

#### Customer Expectations

Customers require that urban stormwater drainage is provided at agreed levels of service supported through adequate infrastructure maintenance, management and construction services delivered reliably, efficiently and economically. The use of AM techniques provide the following benefits in satisfying these demands;

- Focuses on identifying and satisfying customer requirements.
- Provides the basis for customer consultation for determining level of service preferences by identifying the range and cost of service level and service delivery options
- Improves reliability of asset performance and availability of consequent services to the customer
- Enhances customer confidence that funding is being allocated in an equitable and cost effective manner and that assets are being well managed
- Improves understanding of service level options and requirements.

#### Environmental Responsibility

WDC is required under the provisions of the Resource Management Act to provide stormwater services in an environmentally responsible manner. This AM plan demonstrates how Council is addressing sustainable management of its physical resources and environmental protection issues associated with the maintenance and development of stormwater assets.

#### Safety

Asset management planning addresses WDC's safety obligations through the:

- 5 adoption of appropriate safety standards for the creation of new assets.
- 6 specification of works to maintain assets in a safe condition.
- 7 enforcement of safe operating and work practices.
- 8 compliance with industry standards and codes of practice.

#### Financial Responsibility

The Local Government Act 2002 places an emphasis on the preparation of long term financial strategy.

The Act requires Local Authorities to:

- prepare and adopt, every three years, a long term (10 years plus) financial strategy which takes into account asset creation, realisation, and loss of asset service potential
- in determining the long term financial strategy, consider all relevant information and assess the cost/benefit of options
- adopt a financial system consistent with generally accepted accounting practices.

The development of the optimised work programmes and resulting long term financial plans in this AMP for the management of WDC's urban stormwater infrastructure is the mechanism used to define the LoS for the stormwater activity .

#### Efficiency and effectiveness

Council manages the urban stormwater infrastructure on behalf of the affected district ratepayers. Delivery of agreed LoS needs to be carried out in a manner that can be shown to be both effective and efficient.

The techniques of asset management support efficiency and effectiveness by:

- 9 providing a basis for monitoring asset capacity, performance and utilisation
- 10 enabling asset managers to anticipate, plan and prioritise asset maintenance and renewal works
- 11 identifying under funding of asset maintenance and replacement
- 12 quantifying risk, allowing the minimisation of high impact (financial and service level) failures and environmental effects and resulting in savings where asset renovation is less than for replacement
- 13 extending the life of an asset by optimising maintenance and refurbishment treatment selection.

#### Corporate Profile

Council aims to be a customer focused organisation and a good corporate citizen. Effective stormwater asset management planning reflects this corporate aim.

The first step is to identify the key service criteria for each service area from the customer's perspective (the objectives of the services provided) and identify defined levels of performance for key service criteria.

Asset managers then plan, implement and control both the technical or outcome related dimensions and the functional or process related dimensions of service levels. These technical and functional dimensions are not always independent of each other. In some cases high technical quality may contribute to high functional quality or vice versa.

Recognition of the differences and relationships between the technical and functional levels of service is an important part of understanding levels of service.

<b>Typical Technical Levels of Service</b>	<b>Typical Customer Levels of Service</b>
Outcome related - measures define what the customer receives in an interaction with an organisation	Process related - measures define how the customer experience the service
Quality	Intangibles
Quantity	Responsiveness
Availability	Courtesy
Legislative requirements	Assurance (knowledge, trust, confidence)
Maintainability	Empathy (understanding, individual attention)
Capacity	
Reliability and performance	
Environmental impacts	
Cost / affordability	
Comfort	
Safety	
Reliability and performance	

#### **Statement of Service Performance**

The development of this AM plan has been based on a combination of technical levels of service, using internal knowledge and experience of such matters, and functional service levels. The following levels of service, performance measures and targets correspond to the DIA mandatory measures for the stormwater activity:

<b>Level of Service</b>	<b>Performance Measure</b>	<b>Performance Target</b>
The Council provides protection of habitable buildings in urban areas from flooding in major flood events.	The number of flood events per year resulting in stormwater entering a habitable floor in an urban area.	2
	The number of habitable floors per 1,000 properties within urban stormwater service areas	1

Level of Service	Performance Measure	Performance Target
	affected by a flood	
The Council provides a reliable stormwater collection service	The number of complaints received about the performance of the Council's urban stormwater system per 1,000 properties connected.	Less than 4
The Council responds to failures and request for service in a prompt and efficient way	Median response time to attend to a flooding event (Note: Measured from the time that the territorial authority receives notification to the time that service personnel reach the site)	Less than 3 hours
Compliance with resource consent conditions for discharge from the Councils urban stormwater system that relate to environmental effects	Number of abatement notices.	0
	Number of infringement notices.	0
	Number of enforcement orders	0
	Number of successful prosecutions against the Council in relation to stormwater resource consents	0

Target levels of service proposed by Council are communicated to the public and key stakeholders via its draft LTP/Annual Plans. The formal consultation process ultimately leads to these documents being finalised and adopted, after taking account of public submissions. They are reviewed on a three yearly basis and monitored six-monthly.

### 5.3 Customer Research and Expectations

Key to effective activity management planning understands customer needs and expectations. To date customer contact has been in the form of:

- occasional public meetings
- newsletters and pamphlets
- answering customer enquiries and complaints
- annual customer satisfaction surveys

Customer satisfaction surveys were commissioned annually from 2009. Not all WDC services were surveyed, with the stormwater activity surveyed in 2011 and 2012. The surveys in 2013 and May 2014, did not measure satisfaction with storm water services.

Whilst results prior to 2009 are available, they were measured on a different scale and direct correlation with more recent results is not achievable.

The results of the surveys from 2011 and 2012 are tabulated below and show a similar pattern. The top two results show a decline in satisfaction over the two years, although noting the high percentage of "don't knows" in 2012.

Year	Very Dissatisfied	Dissatisfied	Satisfied	Very Satisfied	Don't Know	Top Two
2011	4%	18%	58%	15%	6%	73%
2012	3%	10%	52%	13%	22%	65%

Not surprisingly, flooding and inadequate drainage/needs upgrading are the typical reasons given for dissatisfaction with stormwater services.

Example comments include:

14 *Always a lot of flooding when it rains, especially in corners of town (Te Kuiti?)*

15 *Every time it rains I can't flush my toilet*

16 *The pipes aren't big enough and the water sometimes doesn't drain fast enough. It could be improved*

#### 5.4 Expectations versus Current Levels of Service

The above comments are typical for stormwater services, and give an indication of the type of problem that exists and the public perception that a stormwater system should deal with all events. That particular expectation is not economically feasible.

Customer satisfaction surveys tend to be of minimal use in AM planning because of their subjectivity and lack of specific feedback on levels of service, priorities, location and willingness to pay. They tend to measure customer satisfaction with the services provided at the time, rather than provide information on the service levels desired. A first order attempt of identifying the gaps, if any, between desired functional levels of service and current levels of service was completed using a telephone survey of key users and stakeholders in August 2008.

The key findings in relation to the key functional aspects of the stormwater service were, however, generally positive. Of the responses that were received, Council responsiveness to complaints and capacity of the stormwater drainage network to cope with heavy rain reflect the key areas for improvement, as illustrated below:

Stormwater Service	Rating			
	Excellent - good	Average	Poor - very Poor	Don't Know
Quality of stormwater network	17%	50%	17%	17%
Adequacy of stormwater network to cope with heavy rain	42%	25%	17%	17%
Surface water drains quickly from my property	50%	17%	33%	0%
Responsiveness to complaints and enquiries	23%	24%	15%	38%
Maintenance of urban stormwater network	37%	34%	19%	10%

#### Gaps in levels of service

Looking to the future, the main gaps expressed in the current levels of service of the stormwater service were varied with limited feedback. A number of residents rated the service as fine as it is, but that was likely to be influenced by geographical location. The following relevant responses were received to the question of, "What improvements do you think the Council could make to the urban stormwater system in the next 12 months?"

17 *Keep it clean and keep up repairs and maintenance.*

18 *Just keep it clean.*

19 *Make it drain off properties and driveways a bit more quickly.*

20 *Get them clearer and flowing so water can drain away..*

### Process for addressing gaps

Identified areas for improvement relate mainly to the effectiveness and speed of drainage from properties. Addressing these issues will require additional capital investment, with Council needing to consider priorities for improved stormwater drainage in areas having high inflow to urban wastewater systems.

More attention to the way services are provided also appears to be a major gap in current levels of service e.g. improved responsiveness to enquiries and complaints. This should be a simple but effective measure to address, within existing resources, through staff training and contractor performance monitoring.

The relationship between agreed levels of service, customer expectations and willingness to pay are important to the management of the assets. In this context, a full service delivery review across the full range of Council activities would add to current information and knowledge and to provide a basis for comparing the relative acceptance of different levels of service with cost. It should include:

- The aspects of stormwater services most valued by customers
- The special user needs of groups and individuals
- The level of service appropriate for these services
- How well customers perceive Council's performance in delivering these services
- How much customers are prepared to pay for enhanced services
- The relative importance of stormwater compared with other Council services.

## SECTION 6 - FUTURE DEMAND

### 6.1 Anticipated Changes in Demand

The main drivers of demand for stormwater are:

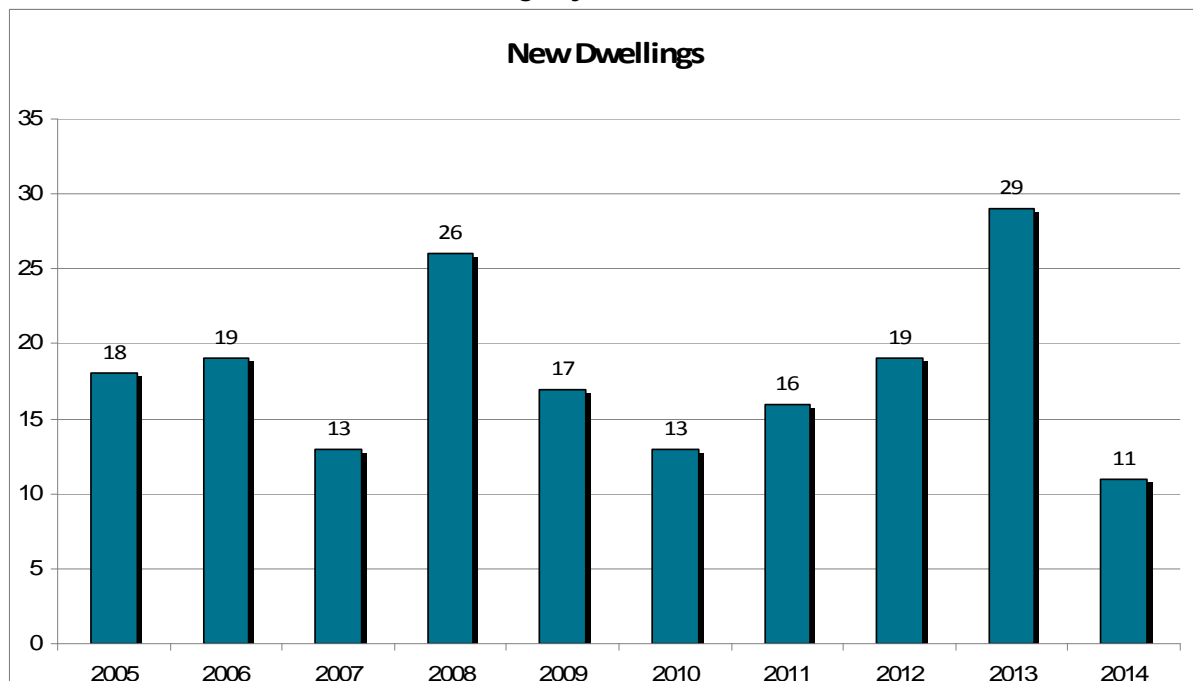
- Land use activities (e.g. industrial development, tourism and coastal settlements)
- Population increases
- Urban infill and expansion
- Global warming
- Community expectations e.g. environmental enhancements

#### Land Use Activities

In so far as stormwater capacity is concerned, increased surface water run off due to land development and associated roading/building construction will have a much greater impact on stormwater runoff than population change. The increase in hard surface areas, with an attendant increase in the runoff coefficient, will result in increased stormwater discharge volumes. Stormwater disposal and control needs to be well planned for any size subdivision, taking due consideration of flow rates and velocities to prevent scouring and for larger (10 or more lots) developments, contamination control structures.

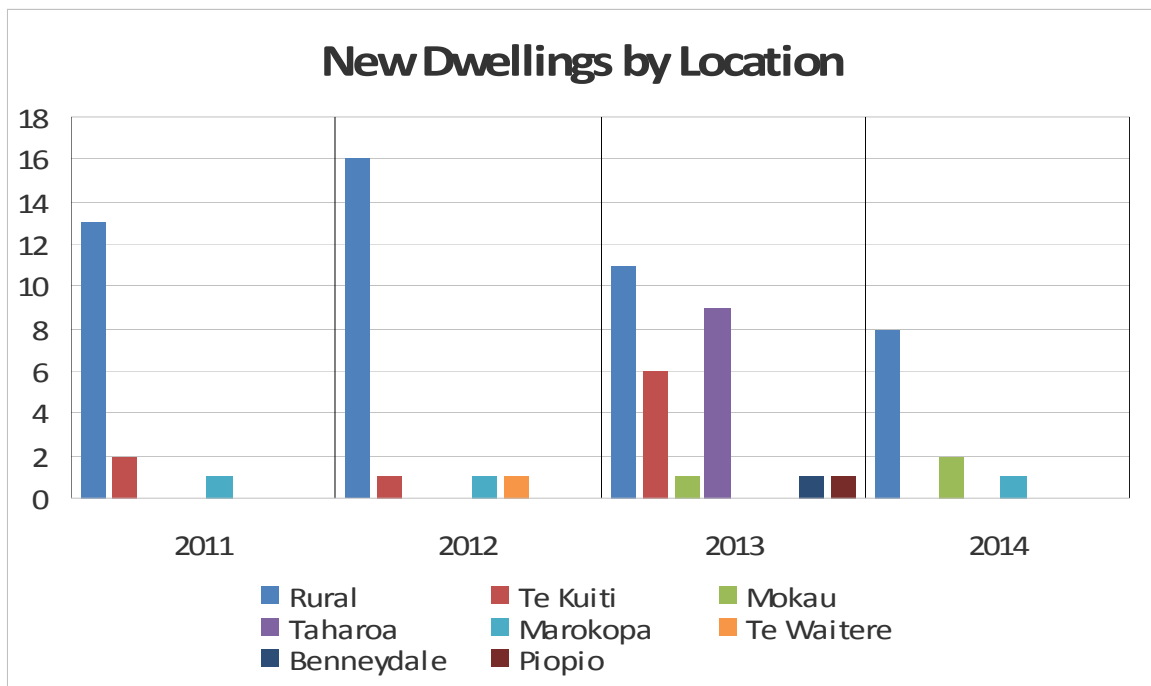
The number of new dwellings constructed in the district over the past 10 years totals 180, distributed on an annual basis as below:

**Total New Dwellings by Location for 2005 to 2014**



Over the past four years, 75 new dwellings have been established in the district, distributed as follows:



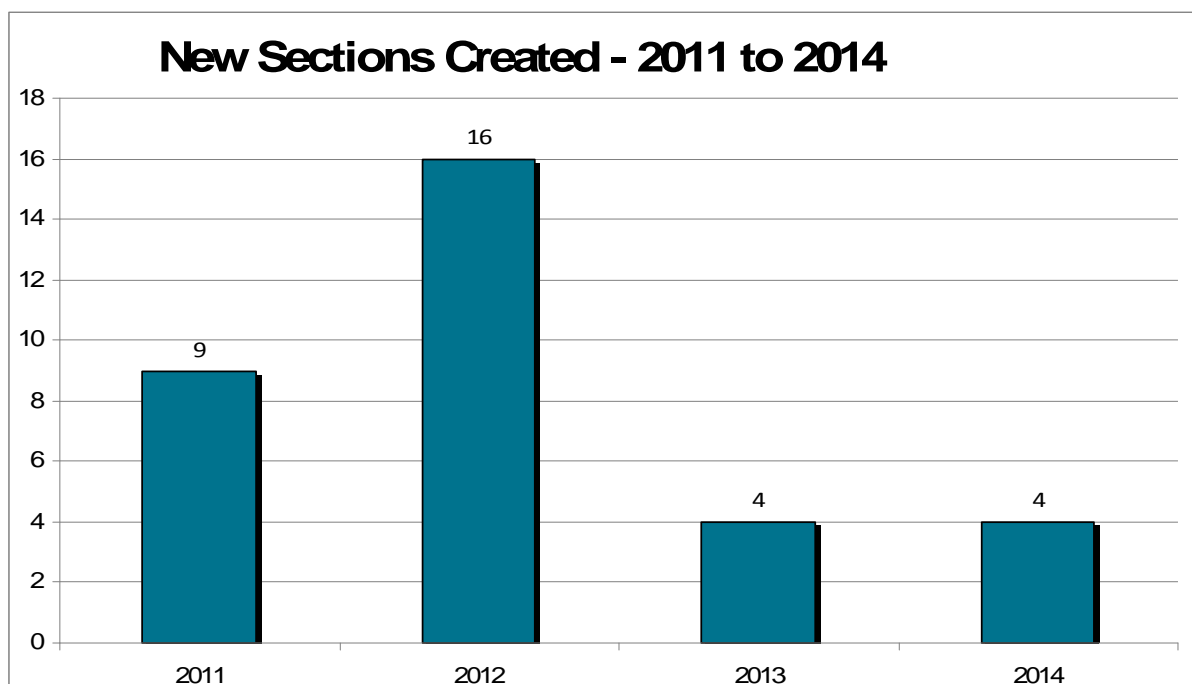


Of interest is the nine new houses at Taharoa during 2013. These were all relocated dwellings for the NZ Steel Mining company, potentially indicating an increased scale of operation at that location.

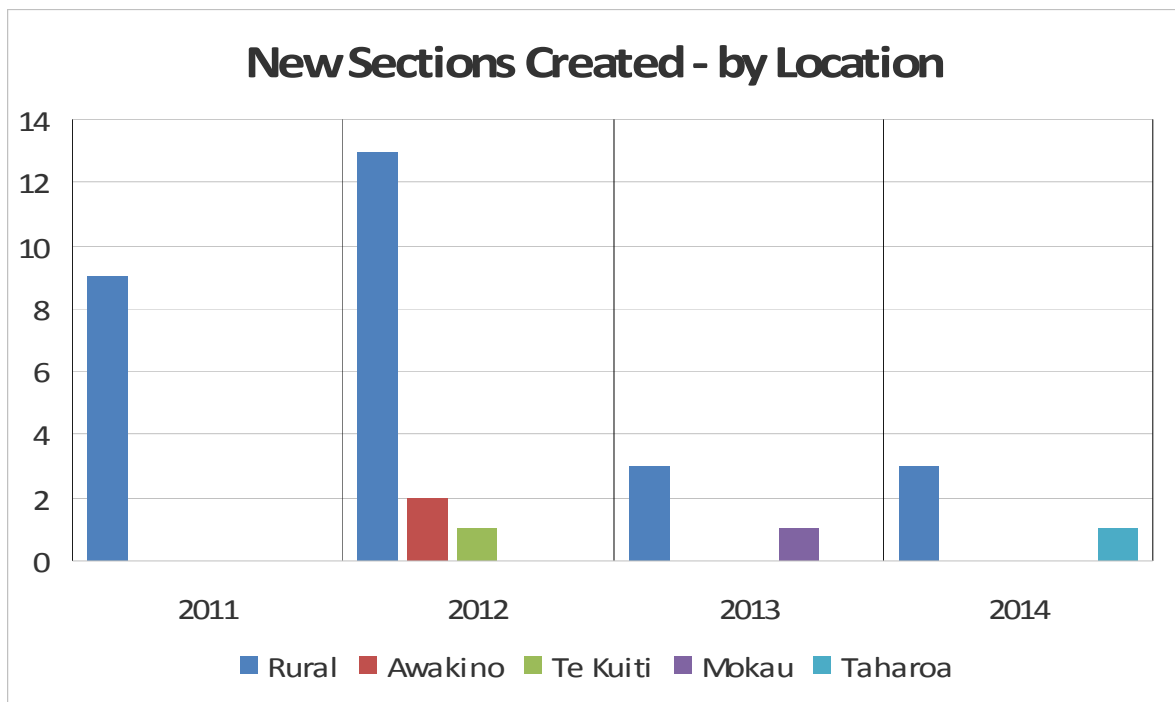
The "rural" entry comprises mostly new dwellings located immediately adjacent to urban areas, reflecting demand for lifestyle sized units. Of these, Te Kuiti and the beach settlement areas remain the preferred locations for new dwellings on rural lifestyle properties.

The growth in the number of new dwellings is underpinned by subdivisional activity. There is often a delay between new lot creation and building consents, partly due to the time involved in processing resource consents, and other external factors such as the economy and the market for new dwellings.

There were 33 new lots created over the four year period, 2011 – 2014. The graph below shows that while there was spike in new lots created during 2012, the overall trend for the number of new lots per year is very modest.



The distribution of new lots is shown below:



Further land development is to be monitored during the term of the 2015-2025 LTP in conjunction with the staged review of Council's District Plan.

The current pastoral based economy is expected to remain the economic base of the district, with growth very dependent on economic conditions and export opportunities. Industrial growth, which may impact on stormwater runoff, is partly dependent on attracting new industries. At this point, there are no known new industrial developments expected to occur in urban areas during the planning period.

Tourism is a major economic activity in the district, with Waitomo Village being a tourism site of national and international repute. Scope exists for developing opportunities for adventure tourism, building on Waitomo Village as the major tourism hub. The infrastructure at the Village is held under private ownership.

#### Population Growth

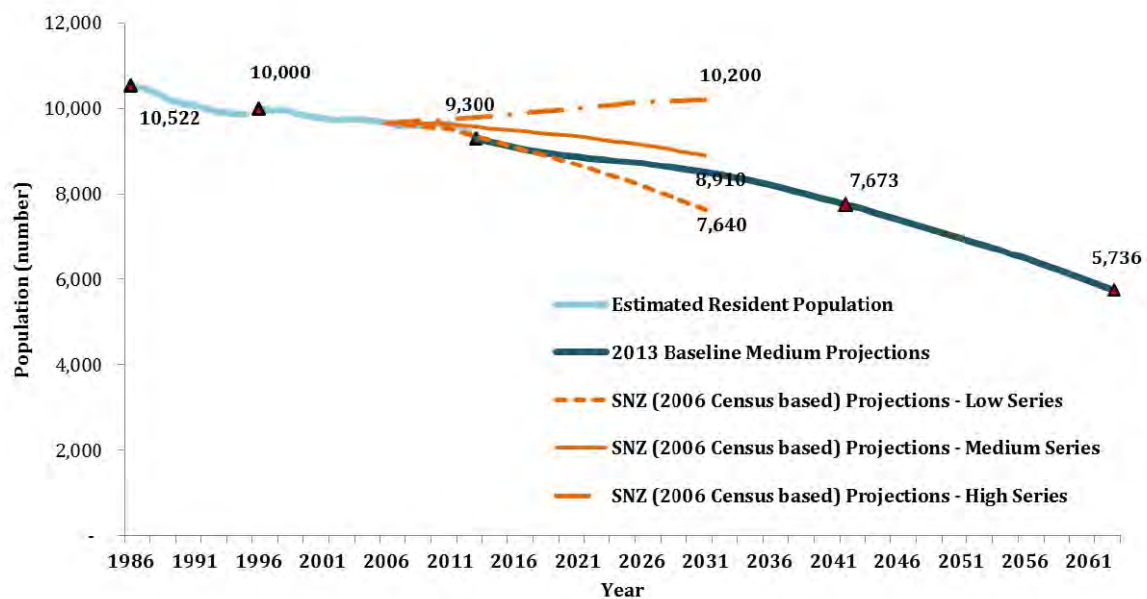
The above pattern of modest land subdivision and new dwellings is reflective of a slight decline in the normally resident population of the district, across both the rural and urban areas, over the past 7 years of the 2006 – 2013 inter-census period. The exceptions are the Taharoa and Waipa Valley (east of Te Kuiti) area units where slight population gains were recorded in 2013 – both consistent with the new dwelling and subdivisional activities identified above.

	Census usually resident population count			Population Change		
	2001	2006	2013	2001-2006	2006-2013	2001-2013
<b>Waitomo District</b>						
531500 Piopio	468	468	393	0	-75	-75
531600 Taharoa	246	216	231	-30	15	-15
531710 Mahoenui	528	480	399	-48	-81	-129
531720 Marokopa	1,569	1,572	1,536	3	-36	-33
531731 Waipa Valley	960	984	1,050	24	66	90
531732 Tiroa	72	81	51	9	-30	-21
531800 Mokauiti	1,218	1,182	1,029	-36	-153	-189
532000 Te Kuiti	4,392	4,455	4,218	63	-237	-174
619201 Inlet-Waitomo District	-	-	-			
<b>Total Waitomo District</b>	<b>9,453</b>	<b>9,438</b>	<b>8,910</b>	<b>-15</b>	<b>-528</b>	<b>-543</b>

The 2013 census, usually resident population of the district is ranked 58<sup>th</sup> out of 67 districts in New Zealand. This compares with Otorohanga District at 56<sup>th</sup> place, Ruapehu District at 52<sup>nd</sup>, and Waipa District at 21<sup>st</sup>.

The future population forecast prepared by the National Institute of Demographic and Economic Analysis (Waikato University) predicts a continuation of this downward trend for the district over the next 50 years. At a micro level, this pattern of population decline is expected to be consistent, more or less, across the district, including the coastal communities that were previously areas experiencing highest growth and demand. Overall, the demographic and development trends show that there is no population based demand for growth related infrastructure at the present time or in the foreseeable future.

The graph below presents the 2013-base medium population projection for Waitomo District to 2063, along with historical population estimates from Statistics New Zealand back to 1991. The 2006-base Statistics New Zealand (SNZ) high, medium and low projections (October 2012 update) are also included for comparison.



### Baseline Medium Population Projections for Waitomo District and Comparison with Statistics NZ (2012) Sub-national Projections

#### Urban Infill and Expansion

The District plan allows for smaller lot sizes in the residential zone where sewerage services are available, defined by minimum yard separation distances and maximum building site coverage of 35%, without resource consent. Otherwise, a minimum lot size of 2500m<sup>2</sup> is required.

With reticulated sewerage in place, infill development can occur in residential areas as a permitted activity, with minimum lot sizes reducing to 300m<sup>2</sup>. In a "Greenfield" residential development with reticulated sewerage, the minimum lot size is 600m<sup>2</sup>. No similar restriction applies in the case of stormwater availability.

Further growth, especially in the form of lifestyle blocks around the Te Kuiti/Oparure rural areas is expected to continue but with only minor impact on existing network infrastructure. A development pattern comprising lifestyle blocks of 1.0 to 5.0ha units is occurring around Te Kuiti, together with a trend towards infill subdivision in Te Kuiti itself. Current lot sizes average 1000m<sup>2</sup>, with infill allowing surplus land to be used for residential property development. This potentially facilitates a more efficient use of existing infrastructure, assuming adequate surplus capacity is available.

#### Global Warming

Current predictions of the effects of global warming on the west coast of New Zealand could mean increasing frequency and duration of high intensity rainfall events, with longer drought periods during summer months more likely to occur on the east coast. These are long run predictions, with localised variations on the overall trend expected to continue at least over the term of the current planning period. Higher intensity rainfall has been noticed in recent year with short duration heavy rain spells occurring.

The impacts of climate change might also contribute to a reduced ability for the stormwater system to cope with increased flows, particularly at the those beach communities where stormwater outlet points are within tidal zones, due to the now widely accepted predictions of rising sea level.

#### Community Expectations

The following trends are expected to impact on the quantity and quality of stormwater services provided:

- Continued public pressure for higher standards of water quality in receiving waters.
- Increasingly stringent resource consent conditions for stormwater discharges.
- High infiltration/inflow rates per head of population resulting in overloaded sewer pipes.
- Increased infiltration / inflow as the stormwater network ages.
- Demand for installation of public stormwater systems (see below)
- Impacts of climate change on rainfall patterns, runoff coefficients and rising sea levels.

The implications of these trends on existing stormwater services over the next 20 years will be:

- Extensions to the stormwater networks will be funded by developers
- Significant increased demands on the capacity of stormwater networks cannot be accommodated without substantial upgrading.
- Future maintenance and upgrades associated with the growth of the stormwater networks will be minor within the planning period.
- Most of the stormwater schemes are very small. Even the largest of the schemes, at Te Kuiti, is of average size compared nationally. Significant changes to LoS could have material impacts on costs to ratepayers (e.g. new resource consent conditions)
- Increasing demand for improved stormwater drainage systems at all urban areas
- Potential vesting of the Waitomo Village stormwater system in Council ownership

## **6.2 Demand Management Strategy**

Council is desirous of managing growth to avoid the current ad-hoc pattern of development continuing with its cumulative impact on the local natural landscape and an inevitable liability in years to come, requiring replacement of the existing self contained water supply, stormwater and wastewater disposal arrangements with public services.

The strategy is to avoid ad-hoc connection that will jeopardise downstream capacity and the risk of additional expense for the ratepayers who funded the original capital cost of the schemes. Planning and quantifying future development, consistent with a development strategy that facilitates implementation of the future vision and form of the district, is necessary.

Development, especially residential style development around the beach communities and at Waitomo Village needs to be managed to avoid over-subscription of the existing scheme capacities. Structure plans, which would feed into a future review or change to the District Plan, are needed to provide guidance for developers and to help manage the design capacity of the respective urban stormwater schemes.

A development strategy at a very high level was mooted in 2008 for the growth areas identified above. Preliminary planning maps have been prepared identifying where officers believe or understand development is most likely to occur, starting with the coastal strip bordered by the Awakino River to the north and the Mokau River to the south and including the land affected by the existing subdivisions or subdivisional consent applications. Introduction of reticulated water and sewerage to service the combined area would open the door for infill subdivision to occur down to a minimum lot size of 300m<sup>2</sup> and this would impact on the stormwater drainage requirements for these small settlements. Without reticulated sewerage, the minimum lot size is 2500m<sup>2</sup>.

At Te Waitere, a similar high level development strategy has been considered involving provision of water and upgraded sewerage services. A staged sewerage scheme with initial capacity for an additional 50 dwellings, at the apex end of the peninsular, may be investigated over the next ten years. This would facilitate infill development as for Mokau – Awakino. A project to investigate stormwater and water supply options for this settlement will be needed in the future, partly driven by the consequential requirements of the Health (Drinking Water) Amendment Act for supplies to permanent populations of 16

or more people and associated new drinking water standards. This is expected to happen after the planning period.

The expected growth at Waitomo Village has also been investigated. However, the stormwater, water and wastewater infrastructure is held in private ownership and is therefore not currently part of Council's asset management responsibilities. Discussions with the owners took place in 2008/09 and is ongoing. Due to, age, condition and performance of the existing services it will have to be completely replaced and upgraded. It is a very small scheme and therefore will have high unit cost, and this remains a sticking point. In addition, long term tenure of the land on which the infrastructure is located is a complex issue currently locked into a perpetual lease held by Tourist Holdings Limited. The development of a preliminary proposal to provide services to this area was expected to be considered in the context of the 2015 - 25 LTP but this is now looking increasingly unlikely. Before a proposal could be implemented, full infrastructure design including stormwater would need to be developed.

In Te Kuiti, a 37 lot residential subdivision in early 2008 at the north-west end of Te Kuiti continues to help fill the gap in the housing market created by a predominantly ageing housing stock for a considerable time. The stormwater infrastructure required to manage the impact of this additional housing development on existing stormwater infrastructure has been addressed through appropriate design and construction of the services for the sub division.

The following strategies have been adopted for managing stormwater service demand;

- ⇒ Catchment Assessments: There is a dearth of information regarding the age, condition and performance of the urban stormwater reticulation. Current information has been drawn from limited existing records, overlain with a desktop exercise involving input from contractors and staff to capture and record local knowledge. Similarly, catchment discharge and system capacity is not known. An early priority in the Improvement Plan will be a project to prepare Catchment Management Plans on a catchment by catchment basis according to the severity and impact of known problems to ascertain and compare design runoff with existing system capacity and determine overland flow paths for high rainfall events. Investigative techniques used will include, (as appropriate), visual inspection, CCTV inspection, and peak flow calculations. A gap analysis of the findings will provide the basis for future capacity improvements.
- ⇒ Ecological assessments: The Catchment Management Plans to be developed will include an environmental assessment of each stormwater drain and receiving water to determine and assess any ecological sensitivity and determine environmental amenity of such streams and or drains.
- ⇒ Resource Consents: Waitomo District Council holds a Comprehensive Discharge Consent valid until July 2024, with established standards for stormwater quality, and disposal methods which reflect a balance with the wider community's wishes for environmental protection, public nuisance and affordability.

Alternatives to asset based solutions for overcoming existing and anticipated demands for stormwater activities include the following non asset solutions;

- ⇒ On site disposal: On site disposal to ground is considered to be an appropriate non asset solution in areas where ground soakage is practicable. Waitomo soils are not free draining and therefore have limited capacity for soakage.
- ⇒ Stormwater detention areas: In some instances, stormwater runoff can be channeled through storage areas which double as community amenity areas. The resulting flattening of peak flows translates into reduced demands on pipe and flow path capacity. This can only be implemented following robust planning utilising information from Catchment Management Plans

### **6.3 Additional asset capacity required** *(Growth related, including new assets and asset improvements due to growth)*

There is little or no net growth demand expected over the term of this AMP.

Areas which would benefit from reticulated or improved stormwater services in the future are summarised below:

#### Te Kuiti

Te Kuiti Reticulation: Te Kuiti has a fairly comprehensive stormwater network servicing all parts of the town, although there are pockets that do not have immediate/direct connection to the system. The network consists of a mixture of open drains and pipes. There are deferred maintenance items which will be progressively addressed within budget limitation - more are expected to become apparent as network knowledge improves.

Benneydale:

There is very little stormwater infrastructure and what is there is mainly related to the roads. The town would benefit from a structure plan ahead of any potential growth (eg as a result of the new tourism activity associated with recent opening of the Timber Trail, Pureora to Ongarue, cycle trail) to guide future planning processes and existing services further investigated to improve asset data, as resources permit.

Piopio:

A limited urban stormwater drainage network services the town, with pockets that do not have immediate/direct connection to the system. The network consists of a mixture of mainly open drains with some pipes under roads. The town needs a structure plan to manage future development planning purposes and existing services further investigated to improve asset data, as resources permit.

Mokau

Mokau has limited stormwater infrastructure and what is there is mainly related to the roads. The town needs a structure plan to manage future development planning purposes and existing services further investigated to improve asset data, as resources permit.

Awakino:

There is very little stormwater infrastructure, a few open drains and what pipe work is there is mainly related to the roads. The town needs a structure plan to manage future development planning purposes and existing services further investigated to improve asset data, as resources permit.

Marokopa and Aria:

Marokopa and Aria have very little stormwater infrastructure - a few open drains and a small length of piped reticulation mainly servicing the local roading network. These two towns needs a structure plan to manage future development planning purposes and existing services further investigated to improve asset data, as resources permit.

Te Waitere:

There is very little stormwater infrastructure at Te Waitere and what is there is mainly related to the roads. The town needs a structure plan to manage future development planning purposes and existing services further investigated to improve asset data, as resources permit.

Waitomo Village

The expected growth at Waitomo Village has also been investigated. Storm water infrastructure in this area outside that related to council roading infrastructure through the Village, is probably held in private ownership and therefore would not currently be part of Council's asset management responsibilities. Discussions with the owners taking place with regard to water and sewer, with an investigation of a development proposal for this area expected to be considered in the context of the 2015 - 2025 LTP which may affect future stormwater infrastructure needs.

Taharoa:

The infrastructure is privately owned and managed. This area does not form part of this AMP.

The financial implications of the above are summarised in Section 10 of this AMP.

#### **6.4 How provision of additional asset capacity will be provided**

Local infrastructure, such as new stormwater mains, is generally put in place by developers and then vested with Council for ongoing management and maintenance.

The growth related component of the capital cost of providing additional assets or increasing the capacity of existing council infrastructure, will be apportioned using Council's financial or proposed development contributions policy.

All stormwater projects will be undertaken by contractors, with contracts awarded in accordance with Council procurement procedures.

Council has included in its 2015-25 LTP the estimated cost of the identified renewal projects. In addition, the Financial Summary in Section 10 provides for limited improvements to current levels of service, such as piping of open drains in residential areas, rather than increased stormwater capacity.

## SECTION 7 - RISK MANAGEMENT

### 7.1 Risk Management Context

Stormwater risk identification and management has been modelled on AS/NZS 4360. A pragmatic approach has been taken to risk management. In identifying risk events they have been grouped into:

- Natural events, where there is no real control over the timing or extent of the event, although probabilities may be understood, e.g. floods, lightning strikes, earthquakes.
- External impacts, where other service providers are not providing services which impact on the organisation or individuals, e.g. power supply failures, material supply failures.
- Physical failure risks, where condition or performance of the asset could lead to failure.
- Operational risks, where management of the asset or asset management activities may impact adversely on the asset. This includes unsustainable, funding deficiencies
- Risk to public e.g. manholes, open drains

As well as direct impacts on assets, the events will usually pose a risk by impacting directly or indirectly on customers and possibly others.

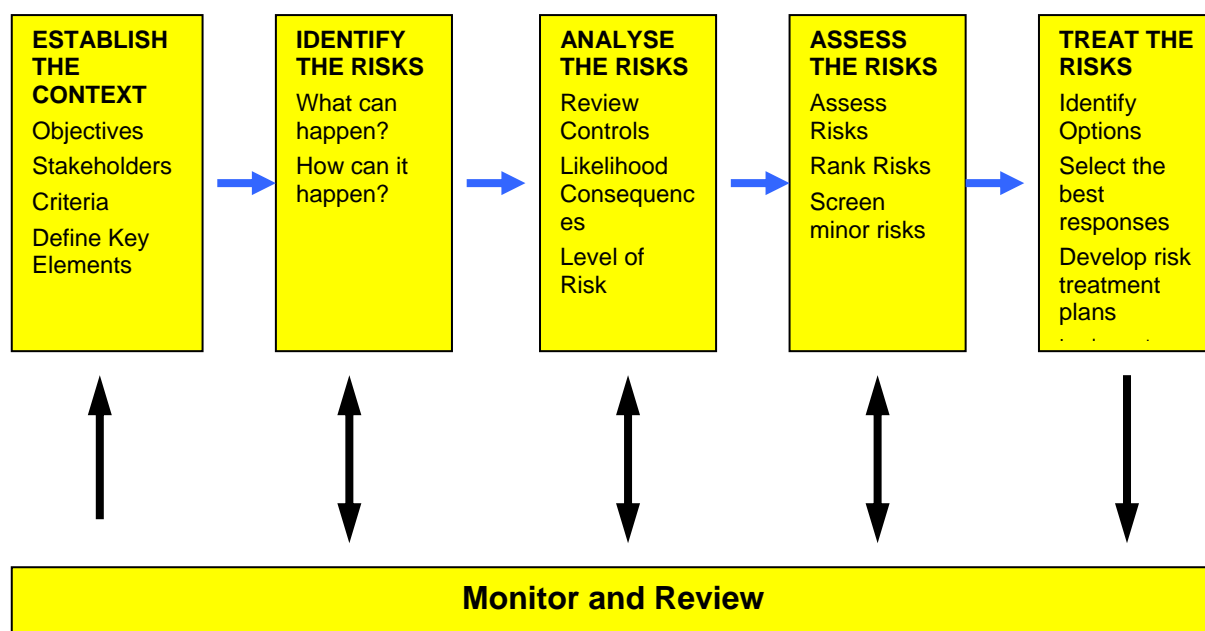
The legal liability for nuisance, negligence and third party damage needs to be recognised. Consequences of failure are linked to the asset types and include:

- Repair costs
- Loss of income
- Loss of service
- Loss of life, or injury
- Health impacts
- Environmental impacts
- Damage to property
- Failure to meet statutory requirements
- Third party loss
- Loss of image

The probability of physical failure of an asset is related directly to the current condition of the asset, hence the importance of realistic and accurate condition assessment.

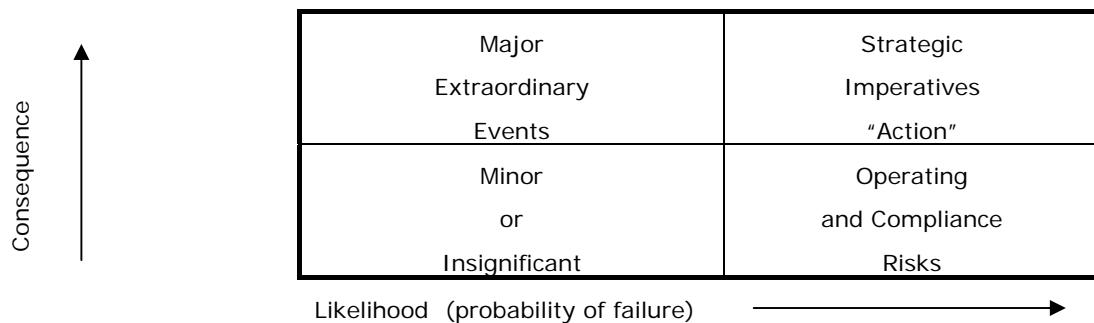
The effort put into assessing and managing risk needs to be proportional to the risk exposure.

#### ***Risk management flow chart (Refer AS / NZS 4360)***



## 7.2 Risks Tabulation

The following table lists the risks rating matrix:



Risks are aligned to: Public Health; Environment; Security of Service; Quality; Asset Protection and Capacity.

The following table explains the risk rating matrix used to assess the risks tabulated below for the stormwater assets. Risk is assessed as the product of Consequence and Probability, thus a high likelihood of the event occurring with a major consequence leads to an extreme risk that requires immediate action.

EVENT	Consequence				
	E Negligible	D Minor	C Moderate	B Major	A Catastrophic
<b>9 - 10 Almost Certain</b>	Moderate	High	High	Extreme	Extreme
<b>7 - 8 Likely</b>	Moderate	Moderate	High	Extreme	Extreme
<b>5 - 6 Moderate</b>	Low	Moderate	Moderate	High	Extreme
<b>3 - 4 Unlikely</b>	Low	Low	Moderate	High	Extreme
<b>0 - 2 Rare</b>	Low	Low	Moderate	High	High

**Table: Risk Rating**

Measures of Likelihood or probability are explained in the table below:

Likelihood	Descriptor	Description	100% Probability of Failure	Probability
<b>9 – 10</b>	<b>Almost Certain</b>	The event is expected to occur in most circumstances	Within 1 year	0.9
<b>7 – 8</b>	<b>Likely</b>	The event will probably occur in most circumstances	Within 2 years	0.5
<b>5 – 6</b>	<b>Possible</b>	The event should occur at some time	Within 3 – 10 years	0.15
<b>3 – 4</b>	<b>Unlikely</b>	The event could occur at some times	Within 11 – 20 years	0.07
<b>1 – 2</b>	<b>Rare</b>	The event may occur but only in exceptional circumstances	After more than 20 years	0.02

**Table: Probability Table**

Measures of consequence or impact are explained in the table below:



Consequence	Descriptor	Financial	Technical	Personnel Incident or Accident	Social	Political	Commercial
1	Negligible	< \$10,000	Minimal impact to production	First Aid Treatment. Limited lost time	Minimal impact or disruption	Minimal Interest	Minimal Impact
2	Minor	> \$10,000 < \$50,000	Limited disruption & some loss of production	Medical treatment required. Lost time injury	Some disruption to normal access or community systems	Minor Impact or interest. Questions raised in local Forums. Local media reports	Claims from business or repairs to other services. Customers inconvenienced.
3	Moderate	> \$50,000 < \$500,000	Significant impact, production reduced or stopped for up to two weeks	Serious injury. Extended medical treatment required	Disruption to public access and other systems. Increased potential for incidents.	Community discussion. Broad media cover. Questions raised in parliament.	Significant claims. Customers forced to other options. Questions from regulator.
4	Major	> \$500,000	Disruption and damage to system or incident involving other structure	Serious Injury or loss of life	Extensive disruption. Incidents / accidents involving the public	Loss of confidence in facility management. Corporate credibility affected.	Loss of substantial business opportunity. Rebuke or threat from regulator
5	Catastrophic	Very high. Extensive losses within & beyond the system	Extensive disruption and damage with broad impact on other infrastructure	Loss of more than one life and or extensive injuries	Broad impact on community health or the environment	Public furore and investigations. Management changes demanded	Loss of substantial part of business. Loss of licence for large area or region

**Table: Measures of Consequence or Impact**

### 7.3 Mitigation Measures

Mitigation measures typically include design and engineering measures to strengthen the ability of the asset to withstand the hazard event and or prevent public access.

When an asset has failed or is expected to fail in the future, strategies are developed to avoid or react to the failure. If the failure mode of an asset is critical to the organisation, failure avoidance is likely to be more effective than reactive activities.

Depending on the failure mode, the strategies may include: changed maintenance activities, rehabilitation works, replacement works, or abandonment of the asset.

These Strategies can provide a list of works, which may be further broken down into:

‘Should Do’ – Complete within 5 years

‘Could Do’ – Works which may possibly be deferred for 5 years

‘Defer’ – Works which can be deferred for 5 years based on the risk rating matrix above. The table below gives guidance on mitigation measures:

Risk Category	Action
Extreme	Immediate Action Required to reduce risk
High Risk	Treatment options must be reviewed and action taken to manage risk
Significant Risk	Treatment options reviewed and action taken dependant on treatment cost
Low Risk	Manage by routine procedures

**Table: Risk vs Action**

### 7.4 Critical Assets

The critical urban stormwater assets have been defined as those which would have the greatest consequences, including major impact on minimum environmental and public health service levels, in the event of failure. They include open drains and trunk mains

The stormwater drains in the central business zone of Te Kuiti were perceived to be under capacity. Some renewal and some augmentation work has been done and the heavy, concentrated rainfall events during the 2013 and 2014 period have shown that the system is relatively robust with little adverse effects after a rain storm with no flooding attributed to the WDC operated stormwater system.

Additional consideration should also be given to those assets in the Risk Assessment table below rated as having high criticality.

### 7.5 Natural Hazards

The natural hazard events considered relevant to this AMP are those most likely to impact on lifelines as defined in the Civil Defence and Emergency Management Act 2002.

#### Climate change

Climate change is expected to cause sea-level rise and increased frequency and intensity of storm events. The risk of localised flooding would increase.

WDC recognises it is prudent to consider climate change impacts in the design and planning of all major long-life infrastructures such as urban stormwater drainage systems, over the assets' working life.

WDC's current approach is to focus on structures with an assessed remaining life of 25 years or longer and where condition indicates the need for renewal or replacement. The approach encourages consideration of existing natural hazards likely to be exacerbated by climate change, in particular the risk to infrastructure

with the longest life. During the design phase, it is recommended that consideration be given to future-proofing the design so that later retrofits are both feasible and cost-effective. When looking at construction and maintenance it is important to consider infrastructure that is at risk from the cumulative effects of multiple climate change impacts.

Climate change impacts to stormwater design will initially be monitored through the NIWA's High Intensity Rainfall Design System (HIRDS). HIRDS is designed to estimate rainfall depths for hydrological design purposes and to assess the rarity of observed storm events

The Ministry for the Environment provides a series of guidance manuals to help local government assess and manage the impacts of climate change in their planning and decision-making processes, as well as infrastructure and Activity Management. The most recent MfE guidance on climate change for New Zealand has been referenced in the Council's assessment of the potential impacts of climate change.

Climate change is expected to influence:

- the frequency and intensity of extreme rainfall. The intensity of extreme rainfall may increase by up to 8 per cent by 2040 and up to 16 per cent by 2090.
- average annual rainfall. In the Waitomo District average annual rainfall is expected to increase by up to 2.5% by 2040. Seasonally the district could expect increases in winter rainfall and decreases in spring rainfall.

Increased frequency and intensity of extreme rainfall events may contribute to reduced ability of roading stormwater systems to cope, particularly at those beach communities where stormwater outlet points are within tidal zones, where it is likely there will be additional pressure from rising sea levels, increased storminess and coastal erosion, and at Te Kuiti due to high river levels during high rainfall events. Higher intensity rainfall events will increase runoff and could impact on existing road drainage capacity. Consideration has been given to catchment assessment studies to be completed for the main urban areas.

There is some uncertainty about the extent of climate change and about social, economic and environmental change. That makes it necessary to consider a range of possible futures when assessing climate impacts, and whether adaptive responses are needed. A precautionary approach requires action based on our current understanding of the effect of climate change on flood risk. An overestimation of the impacts of climate change may result in unnecessary expenditure. However an underestimation could impact on the Council through the need for emergency project works. Either scenario would affect ratepayers.

Decisions will need to be informed by a combination of advice from the best expertise and information available at the time, balanced with council funding and planning processes and priorities. Responses should be flexible enough to take into account further improvements in recognition of the potential impacts of climate change and not lock in options that minimise the ability to adapt at a later date.

This AMP has considered the longer term consequences of Climate Change, especially in consideration of new capital works in areas with potential to be affected. While limited population growth and land use change is expected in the current AMP period, the Resource Management activity does consider the longer term consequences of Climate Change as part of the resource consent process.

Given the initiatives already in progress to address the potential effects of Climate Change, it is considered there will be minimal impact over the period of this AMP. However, a distinguishing feature of climate change-related risks is that the underlying risks themselves change over time. In addition, ongoing research will continue to add to the understanding of the potential impacts of climate change. This means that from time to time WDC may need to reconfirm that its infrastructure and services will continue to perform in future climate affected operating conditions

#### Seismic event

A major earthquake with a shaking intensity of MM9 (return period of 1,000 years) would pose a major threat to WDC's urban stormwater assets. Replacement of stormwater pipes with flexible joints and pipe material, at the time of renewal, and use of bank retaining structures on critical open stormwater drains to resist lateral displacement, are means of mitigating the impacts of a major seismic event

#### Flooding

A flood equivalent to a 1 in 100 year event, similar to what occurred in the lower North Island in 2004, would overload the nominal 1 in 2 year design capacity of the stormwater network and incur significant property damage and disruption to normal land transport access.

### Volcanic eruption

An eruption of Mount Ruapehu with a 12km high ash column would block stormwater pipes and secondary flow paths with resulting property damage and disruption to normal land transport access.

#### **7.6 Resilience to natural hazards**

The main risks to the critical stormwater assets resulting from natural hazards relates to a significant earthquake, or flooding.

#### **7.7 Impact of risks on programme funding**

The funding of measures to protect stormwater assets from high risks would impact on current budget provisions. That in itself introduces a further risk; that asset condition may decline in the short term because of the diversion of funding away from core maintenance and renewal programmes in the absence of additional funding.

Further analysis of risk criticality and mitigation measures will be carried out over the next three years as part of the AMP Improvement Plan to quantify and prioritise priorities within available budgets.

#### **7.8 Risks and Resilience improvement plan**

Aspects that require further development include:

- Further investigation and better information about the impact of natural hazards.
- Further assessment of risk and programmes to mitigate risk in the light of the above investigations
- Development a more advanced approach to identifying critical assets that incorporates rating and other dimensions of criticality.
- Further assessment of current levels of resilience
- Develop a more comprehensive method of assessing resilience using risk based evaluation and optimised decision making tools to assist decision making around the desired level of resilience
- On-going review of the risk register

Risk Description	Consequence		Likelihood	Risk Rating	Best Management Option	Consequence when managed		Likelihood when managed	Managed Risk Rating	Action Plan
Siltation of Mangaokewa River	Reduction in hydraulic capacity	3	2	Moderate	Clearing and Liaison with Waikato Regional Council	Much reduced risk of overflows	2	2	Low	C
Rising sea level	Reduction in hydraulic capacity at coastal settlements	3	2	Moderate	Liaison with Waikato Regional Council	Much reduced risk of overflows	3	2	Moderate	C
Extreme rainfall event (1% AEP)	Flooding	4	2	High	Initiate a civil defence emergency management plan	Flooding, with reduced impact	4	2	High	B
Resource consent requirements for treatment of discharges	Large capital cost implication	3	7	High	Prepare and carry out programme for installation and cleaning of interceptor devices and install detention areas.	Greater control over spills and contaminants entering water ways	4	1	High	B
Collapse of Stormwater structure	Structural failure of specific culvert	2	5	Moderate	Routine inspection of specific structures	Much reduced risk of failure	2	1	Low	B

### Stormwater Risk - Reticulation

1= Negligible 2= Minor 3= Moderate 4= Major 5 = Catastrophic

## SECTION 8 - LIFECYCLE MANAGEMENT PLANS

### 8.1 Introduction

This Section describes the management plan for each urban stormwater scheme, including:

- The scope and nature of the assets.
- The current condition of assets.
- The current capacity and performance of asset relative to the levels of service defined in Section 3 and demand projections of Section 4.
- The needs, timing and costs of operational, maintenance, renewal, acquisition and disposal works required to action the life cycle asset management strategies developed in this Section.

The scope of stormwater assets consists of open drains, pipes, manholes, and discharge structures in urban areas. They exclude kerb and channel, sumps/catchpits and sump leads in urban areas, and rural drainage assets (culverts etc) which form part of the Roding AMP.

A recent programme in 2008 to collect and collate asset data has resulted in a reasonably complete inventory of information held on pipe lengths, diameters, material types and manhole locations for Te Kuiti. However, the confidence level is low and most of it needs to be verified. The same degree of information is not yet available at the remaining urban townships. Against that, most of the urban stormwater assets are located in Te Kuiti.

In all cases, there is little or no hard engineering data available on asset condition and specifically performance of network sections or the network as a whole. A long term programme to progressively collect this information is a high priority in the AMP improvement plan.

The privately owned stormwater assets (and other key infrastructure) at Waitomo Village and Taharoa do not form part of this AMP.

The strategies are translated into detailed work programmes and budget projections for each stormwater scheme summarised in Section 7.

### 8.2 Te Kuiti Stormwater Inventory

Te Kuiti (population 4200) is the only urban area in the Waitomo District which has a significant stormwater drainage system comprising some 27 km of pipe, 3 km of open drains and 374 manholes, 562 cesspits. Sump leads, which do not form part of this plan, comprise some 540 metres.

The town of Te Kuiti is established along the banks of the Mangaokewa stream. The centre of Te Kuiti is a very flat area, climbing to much steeper land in the surrounding hills. It is estimated that the total catchment area of the town is approximately 300 hectares. Whilst industry is represented, the major land use is residential in nature.

The existing stormwater system consists of a system of pipes and open channels which discharge into the Mangaokewa Stream. There is no treatment of stormwater runoff from residential or commercial areas. However there are interceptor units and grease pits installed on most industrial and commercial sites such as petrol stations, truck wash platforms and food preparation premises controlled through the trade waste bylaw. Field checks and comparison with as-built plans continue to be updated to improve the verification of accuracy of inventory data.

An hydraulic model of the stormwater system in Te Kuiti was carried out and reported in March 2001. This model showed that most of the system will accommodate a 50% (i.e. once every two years) AEP event but that events exceeding that will result in progressively widespread overloading of the system with widespread shallow flooding of the low lying flat regions of Te Kuiti. This flooding, although widespread, would not of itself be life threatening.

The table below contains an assessment of the current condition and performance of stormwater assets using the grading standards adopted by the NZ Water Managers Group.

Asset Type	Asset Component	Condition Grading	Performance Grading	Condition Data Confidence	Expected Economic Life (years)
Reticulation	Pipelines (Concrete)	2	2	D	80
	Pipelines (AC)	2	3	D	60
	Pipelines (uPVC)	2	2	D	80
	Pipelines (Ribloc)				50
	Service connections	4	3	D	70
	Manholes	2	2	B	80

### Asset Performance and Condition Grading – Te Kuiti

Condition and performance gradings range from 1 (excellent) to 5 (very poor/failure mode).

Data confidence grades range from A (highly reliable) to D (very uncertain).

Overall, the table shows that the existing stormwater assets in Te Kuiti are in reasonable condition and performing satisfactorily, but with low level confidence as to the reliability of these assessments. Service connections and AC pipes are the main areas of priority based on this information.

## 8.3 Asset Performance

### Environmental Standards

The largest pollution risk in terms of stormwater discharges will come from industrial sites or accidental spillages due to accidents etc on the transport network. It is desirable that pollutants are controlled at source so that actual and potential pollutants can be identified and treatment designed to suit the particular pollutant. Litter traps may need to be implemented on stormwater emanating from the CBD area of Te Kuiti. An investigation is underway to determine appropriate mitigation structures before entering the Mangaokewa River with each structure costing in excess of \$100,000. There are 11 potential sites.

### Reliability

The District Plan contains maps showing the area at risk of flooding in Te Kuiti from the 1% AEP event.

### Capacity

It is known that there are undersized assets within the reticulation and this will be identified as part of the Catchment Management Plans and addressed in the improvement plan for rectification in due time.

### Safety

The main safety concerns are access to large stormwater pipes at the discharge end of catchment areas and open drains across private property.

## 8.4 Stormwater Asset Operational & Maintenance Programme

### Operations

Asset operational activity is work or expenditure which has no effect on asset condition but which is necessary to keep the asset functioning, such as the provision of staff, consumable materials, resource consent applications and compliance, monitoring, and investigations. Asset operational activities exclude maintenance work.

Operational requirements, procedures and activities are documented in the maintenance contract. The majority of the processes and decision-making is based on local knowledge and the judgment of experienced staff drawing from available historical information and recognised analytical procedures. Inadequacies in current data needed to support more robust decision making is addressed in the AM improvement programme contained in Section 8.

The anticipated work needs and costs over the next ten years comprise:

- operational activity (monitoring, inspections, etc.)
- expected maintenance work requirements.

The 30-year financial projections for operations and maintenance work are summarised in the financial summary section.

### Maintenance

Maintenance can be defined as that group of activities that help preserve an asset in a condition which allows it to perform its required function.

Maintenance is the regular work and immediate repairs necessary to keep the asset operational.

The ongoing efficiency of the routine maintenance is critical to achieve optimum asset life cycle costs that best suit the desired levels of service. Maintenance falls into two categories, planned and unplanned, each having quite different triggering mechanisms and objectives:

- |                               |   |
|-------------------------------|---|
| <b>Unplanned maintenance:</b> | ⇒ Corrective work carried out in response to reported problems or defects with the stormwater system (e.g., collapsed or blocked pipes, etc.).  |
| <b>Planned maintenance:</b>   | ⇒ Preventative maintenance carried out to a predetermined schedule with the aim of ensuring continuity of service, preserving asset design life and, if economic, extending asset life (e.g. annual reticulation cleaning programmes) |
|                               | ⇒ On-condition maintenance carried out as a result of condition or performance evaluations of assets and asset components (e.g. manhole cleaning, sign cleaning etc).   |

### Deferred Maintenance

Deferred maintenance occurs when either planned or unplanned maintenance is not carried out, leading to an increased requirement for planned maintenance or renewals in future years. There are a number of historic deferred maintenance items to be dealt with, blocked pipes etc

### Operational Strategies

- ⇒ Complete Catchment Assessments for each urban area including design runoff calculation, verify existing system in each catchment, and preliminary identification and mapping of secondary flow paths.
- ⇒ Prepare Catchment Management Plans that will entail calculation of the design runoff, identification of gaps and capacity limitations of the existing stormwater network at each location, identification and protection of (through the use of easements, district plan rules etc)



secondary flow paths and an assessment of the impact of each flow path on the relevant properties.

- ⇒ Prepare quality AM plans based on a sound knowledge of customer needs and preferences,
- ⇒ Optimise asset management practices and decision-making;
  - ⇒ Review computer based asset management systems
  - ⇒ Document existing, and develop new business processes
  - ⇒ Continue to collect AM data (physical attributes, asset performance/ condition, and costs)
- ⇒ Determine the condition and decay rates of the networks by analysing condition reports provided by contractors and/or works staff during the day to day operation of stormwater assets and, as necessary, carrying out material testing. Operate stormwater assets in accordance with current resource consents.
- ⇒ Minimise asset ownership costs by:
  - ⇒ considering all life cycle costs, including operational costs, when evaluating asset renewal/ acquisition options
  - ⇒ identify, evaluate and introduce new technologies that may improve operational and management efficiency and modify standards as appropriate
  - ⇒ continue to observe competitive tendering procedures for asset maintenance, renewal, and construction works.

#### Resource Consents

- ⇒ Discharge consent applications will prescribe standards for effluent quality, disposal method and operation, which reflect statutory requirements, community wishes with respect to environmental protection, public nuisance and affordability.

#### Operational Standards and Specifications

Operate assets in compliance with:

- ⇒ this AM plan
- ⇒ defined processes and procedures
- ⇒ resource consents
- ⇒ statutory requirements.

#### Funding of Operations and Maintenance

Operations and maintenance costs are 100% funded from targeted uniform annual charges split 85% (urban) and 15% (rural) rating areas respectively.

#### Mode of Service Delivery

Maintenance works are undertaken by external contractors as required in accordance with Council procurement procedures.

### **8.5 Stormwater Asset Renewal Programme**

Asset renewal is major work, which does not increase the assets design capacity but restores, rehabilitates, replaces or renews an existing asset to extend its economic life and/or restores the service potential. Work which increases the design capacity of assets is defined as upgrading/development work.

The renewal programme is based on the estimated economic lives for the key stormwater asset components. Renewal requirements peak in the 40 to 60 year age bracket. Given the relatively large diameter of stormwater pipes compared to sewerage pipes, the cost per unit length of pipe is high. A replacement programme to achieve this will not be affordable or sustainable without phasing of the work over a longer period of time than the asset age profile currently suggests. This implies that while some stormwater pipes will need to assume a shorter life than would normally be expected, others will be assigned an effective life beyond the presently recognised range.

The indicative renewal programme is detailed in Appendix D. Further work on condition assessment will help prioritise pipes that require early attention within this regime ahead of each annual programme.

#### Renewal Strategies

The general renewal strategy is to rehabilitate or replace assets when justified by:

- Asset performance: Renewal of an asset where it fails to meet the required level of service. Non-performing assets are identified by the monitoring of asset reliability, capacity, and efficiency during planned maintenance inspections and operational activity. Indicators of non-performing assets include;
  - structural failure
  - repeated asset failure (blockages, surcharging etc), repeated stormwater overflows
  - ineffective stormwater treatment
- Economics: Renewals are programmed with the objective of achieving;
  - the lowest life cycle cost for the asset (it is uneconomic to continue repairing the asset), or
  - an affordable medium-long term cash flow, or
  - savings by co-coordinating renewal works with other planned works in the area.
- Risk: The risk of failure and associated financial and social impact justifies action (e.g. probable extent of property damage, safety risk).

Renewal works are assessed and prioritised in accordance with the cost/ benefit of each project, Council's objectives and strategies, and available funds.

The following priority ranking table is used as a guide for identifying and prioritising renewal works:

Priority	Renewal Criteria
<b>1 (High)</b>	<ul style="list-style-type: none"> <li>▪ Asset failure has occurred and renewal is the most cost effective option.</li> <li>▪ Asset failure is imminent and failure is likely to have major impact on the environment, public safety or property.</li> <li>▪ Asset performance is non-compliant with resource consent requirements.</li> </ul>
<b>2</b>	<ul style="list-style-type: none"> <li>▪ Asset failure is imminent, but failure is likely to have only a minor impact on the environment, public safety or property.</li> <li>▪ Asset failure is imminent and proactive renovation is justified economically.</li> <li>▪ Road upgrading scheduled within five financial years as asset is nearing end of economic life.</li> <li>▪ Asset renewal is justified on the basis of benefit cost ratio and deferment would result in significant additional costs.</li> </ul>
<b>3</b>	<ul style="list-style-type: none"> <li>▪ Asset failure is imminent, but failure is likely to have a negligible impact on the environment, public safety or property.</li> <li>▪ Asset renewal is justified on the basis of life cycle costs, but deferment would result in minimal additional cost.</li> </ul>
<b>4</b>	<ul style="list-style-type: none"> <li>▪ Existing assets have a high level of flexibility and efficiency compared with replacement alternative.</li> </ul>
<b>5 (Low)</b>	Existing asset materials or types are such that problems are not expected to become an issue on the short to medium term.

**Table: Selection Criteria for Asset Renewal**

The renewal strategy will be reviewed at least annually and any deferred work will be re-prioritised, based on its life cycle costs and benefits, with all replacement work and a revised programme established. Integral with the replacement strategy will be a funding strategy. Essentially cash flow

levelling will be applied to balance income with expenditure through either raising loans, or reducing levels of service or deferring work.

#### Renewal Standards and Specifications

The standards and specifications for renewal works are generally the same as for new works.

#### Deferred Renewals

Renewal works identified in terms of the renewal strategies may be deferred if the cost is beyond the community's ability to fund it. This can occur when higher priority works are required on other infrastructure assets (e.g. sewerage), or there are short term peaks in expenditure or if an inadequate rating base exists.

When renewal work is deferred, the impact of the deferral on economic inefficiencies and the system's ability to achieve the required service standards will be assessed. Although the deferral of some renewal works may not impact significantly on the operation of assets, repeated deferral will create a liability in the longer term.

A register of all deferred works will be maintained, the total value of which will be recognised in the financial reporting.

#### Funding of Renewal or Replacements

Renewals/replacements are principally funded from depreciation reserves which in turn are 100% funded from targeted uniform annual charges split 85%/15% between rural and urban rating areas.

#### Mode of Service Delivery

Replacement and renewal works are undertaken by external contractors in accordance with Council procurement procedures.

### **8.6 Stormwater Asset Development Programme**

Development works are those works that create a new asset that did not exist or works which upgrade or improve an existing asset beyond its existing design capacity. New assets are acquired as a result of:

- taking over new infrastructure constructed with subdivisional development (constructed at the developer's expense and to Council specifications).
- extensions constructed by Council to service new areas
- asset upgrading constructed by Council to provide;
  - additional system capacity to overcome inadequacies or provide for growth (e.g. larger stormwater drains, etc)
  - new resource consent standards (e.g. treatment facilities)
  - higher levels of service (e.g. piping of open drains in urban areas)

An indicative capital development programme is shown in Appendix D.

The capacity of stormwater drainage pipes, and hence the finite level of service, is determined from design storms comprising rainfall intensity and return period and surface permeability. Council has adopted the Hamilton City Council (HCC) design standards for these parameters, which distinguish between open field and infill development. The latter is more relevant to current circumstances in Waitomo District. Under the HCC standards, the design storm return periods for residential, industrial and commercial zones are 2, 5 and 10 years respectively (i.e. a rain storm that occurs once every two years, etc). Beyond that, secondary flow paths designed to a rainstorm having a 50 to 100 year return period are required to safely manage the ensuing overflow. These can be in the form of open drains through residential property, ponding in public parks or using the road network as temporary flow paths.

Where these overland flow paths do not follow normal demarcated drains they need to be identified, mapped and protected from development, if future flooding is to be prevented.

Catchment management plans that will entail calculation of the design runoff, identification of gaps and capacity limitations of the existing stormwater network at each location, identification and protection of (through the use of easements, district plan rules etc) secondary flow paths and an assessment of the impact of each flow path on the relevant properties is the next important planning activity.

The effects of stormwater discharges on the relevant receiving water also need to be considered. Council already holds a comprehensive discharge consent which is a type of general consent to capture the various and numerous point stormwater discharges. Compliance reporting is relatively modest at this stage yet it is about \$30,000 per year. It can be expected to be much more stringent when the consent is renewed in 2024.

#### Development Strategies

Urban stormwater schemes will be developed to meet community expectations, growth projections over the next 20 years, and technical and environmental standards.

A 10 year programme is essential to obtain the long term vision for the network and to confirm compliance with regional policy statements and the strategic goals for growth and development of the district. This programme can be debated and amended to accommodate changing needs of the community.

New works will be identified on the following basis

- Growth - ability to meet the most likely demand projections
- Regulatory - anticipated expenditure needed to meet resource consents required under the Resource Management Act
- Operational efficiency - to reduce costs and improve efficiency

The selection criteria for the prioritising and programming of asset development projects are as summarised in the table below. It includes consideration of risk, costs and benefits, affordability and ranking with other projects.

Priority	Selection Criteria for New Capital Works
<b>1 (High)</b>	<ul style="list-style-type: none"> <li>■ Proposed work is consistent with relevant community outcomes and is driven by sustainable demand or required to augment existing capacity</li> <li>■ Work will provide long term environmental and public health benefits to community</li> <li>■ Work is required for compliance with statutory obligations</li> <li>■ Work involves completion of an earlier stage of the project</li> <li>■ Public health safety represents a high proportion of work benefits</li> </ul>
<b>2</b>	<ul style="list-style-type: none"> <li>■ Proposed work is consistent with relevant community outcomes</li> <li>■ Work required for medium term environmental benefits</li> <li>■ Public health considerations represent a high proportion of work benefits</li> <li>■ Upgrading of infrastructure scheduled within five financial years as asset is nearing end of economic life.</li> <li>■ Work is strongly supported by community at large through a process of public consultation or involves work funded by a targeted rate</li> </ul>
<b>3</b>	<ul style="list-style-type: none"> <li>■ Proposed work is consistent with relevant community outcomes</li> <li>■ Work is strongly supported by local sector of community through a process of public consultation</li> <li>■ Capital work is justified on the basis of economic evaluation, but deferment would result in minimal loss of opportunity or additional cost.</li> </ul>
<b>4</b>	<ul style="list-style-type: none"> <li>■ Work is supported by interest group or small part of local community through a process of public consultation</li> </ul>
<b>5 (Low)</b>	<ul style="list-style-type: none"> <li>■ Project is discretionary and can be deferred with minimal loss of benefit to the community</li> </ul>

### Selection criteria for new stormwater works

- Project approvals will be supported by an economic appraisal using cost/benefit analysis techniques which take into account ;
  - capital costs
  - any change in net annual operating costs
  - any change in annual maintenance requirements
  - any salvage value of existing assets or components.
- All options are examined when evaluating upgrading options, including;
  - repair
  - renovation techniques
  - replacement
  - augmentation
- The risk, cost and benefits of accepting new privately funded assets constructed in association with property development or as a result of an agreed ownership transfer (e.g. Waitomo Village infrastructure) will be reviewed and a decision to approve made on a case by case recommendation by Council staff. Such assets will be accepted into public ownership by Council when satisfactorily completed in accordance with approvals given. Council will not contribute to the cost of such works unless there are exceptional levels of service or equity issues.

#### Funding of Additional Capacity

Growth-related work will be funded principally from financial contributions, with Council maximising the use of external subsidies where possible. Other capital works costs will be funded from loan in the first instance, with loan servicing charges rated through targeted uniform annual charges as for other stormwater activities. Refer to Council's Revenue and Financing Policy in its 2015-25 LTP for further details.

#### Mode of Service Delivery

Development works involving the construction of new assets will be undertaken by external, arms length contract, on a case by case basis.

## **8.7 Stormwater Disposal Programme**

Assets may become surplus to requirements for any of the following reasons:

- under utilisation
- obsolescence
- provision exceeds required level of service
- uneconomic to upgrade or operate
- policy change
- service provided by other means (e.g. private sector involvement)
- potential risk to continued ownership (financial, environmental, legal, social, vandalism).

Disposal activity for stormwater assets would typically relate to the sale of surplus land and the demolition of obsolete structures.

There are currently no stormwater assets targeted for disposal.

Asset Disposal Strategies

- Develop AM systems and asset condition / performance data to allow better planning for the disposal of assets through rationalisation of the asset stock or when assets become uneconomic to own and operate.
- When considering disposal options all relevant costs of disposal will be considered, including;
  - evaluation of options
  - consultation/ advertising
  - obtaining resource consents
  - professional services, including engineering, planning, legal, survey
  - demolition / make safe
  - site clearing, decontamination, and beautification.

The use of revenue arising from the sale of any assets shall be decided by Council at the time of its consideration of the asset's disposal.

## SECTION 9 - ASSET MANAGEMENT PRACTICES

This section outlines the decision making systems that WDC currently use to determine long term maintenance, renewal and capital expenditure requirements for stormwater assets under three broad areas of activity:

- ⇒ **Processes:** The necessary processes, analysis and evaluation techniques needed for life cycle asset management.
- ⇒ **Information systems:** The information support systems used to store and manipulate the data
- ⇒ **Data:** Data available for manipulation by information systems to produce the required outputs.

### 9.1 Current Asset Management Processes

Activity	Strategy
Service Delivery	Contracts are let for the delivery of minor repair work, major repair, rehabilitation, renewal, upgrading and development work. The day to day system operation and inspection is undertaken on day works by maintenance contractors and monitored by WDC staff.
Safety Management	A formal safety management system is an integral component of effective service delivery across all activities. Since the larger part of utilities are situated in the road reserves the WDC Safety Management System (SMS) adopted by the Council on 31 January 2007 (Resolution No. 01/07) controls much of the safety regulations. Copy of the SMS can be found on the Council's Intranet under the page headed Operations. Further safety guidelines are contained in the directives of the Department of Labour.
Financial Control	The NCS financial management system is used to record the cost of each work activity for comparison with budget and financial control. Payments made to Contractors relate to each contract.
Procurement	<p>Council's procurement policy for stormwater capital works shadows the NZTA Procurement Procedures, linked with Council's delegations manual. Physical works having a value greater than \$20,000 are tendered using a range of competitive pricing options. Works valued at under \$20,000 are market priced using an expedited procedure requiring a minimum of three invited quotations. Where experience over the previous 13 months indicates that 3 or more quotes cannot be obtained, quotations may be obtained from contractors able to do the work that have been identified by the advertising in the last 13 months.</p> <p>Stormwater works having a value less than \$20,000 may be let using any procedure (including negotiation) that assures a satisfactory and competitive price.</p> <p>Expedited procedures may be applied to emergency works within set criteria.</p> <p>Professional services contracts for stormwater works may follow the same tendering process as for physical works. Contracts valued less than \$20,000 may follow a simplified evaluation method. Any tender procedure (including negotiation) may be followed for contracts having a value less than \$10,000.</p> <p>The procurement policy for stormwater works is guided by a comprehensive contract management policy posted on the Intranet.</p> <p>Decisions on budgeted capital works can be decided by a Tenders Committee made up of senior management. Projects above the value of \$100,000 are specifically reported to Council.</p>
Performance	Records are kept of audited activities, forward and completed maintenance programmes.

Activity	Strategy
Monitoring	
Condition Monitoring	Preventative maintenance inspections are routinely undertaken by Council contractors and staff to monitor the condition of stormwater assets. In addition the condition of the pipe networks is measured by CCTV surveys on as required basis. Site inspections are undertaken to assess the condition of infrastructure where performance is outside the targeted level of service.
Quality Assurance	Audit procedures are defined for controlling the quality of data received from external contractors for condition assessments. Data from maintenance contractors is received for work activity, cost, and attribute and spatial data for physical works.
Maintenance/ operations	Records are kept of all maintenance and repair works. This data is eventually transferred to the BizeAsset system.
Optimised life cycle strategy	Asset maintenance and renewal decisions are based on an assessment of asset age, asset condition and performance information. Decisions are currently optimised by considering life cycle costs, latest technologies and professional judgment. Decisions are outcome focused to allow for advances in technology in design and material selection.
Risk Management	Risk management is practised both formally and informally. Judgments are made based on the knowledge of experienced staff considering local conditions and AS/NZS 4360 guidelines.
Staff Development	Staff are kept abreast of changes in science and technology through a human resources training programme. Council is a member of SOLGM, the NZ Water and Wastes Association, Ingenium and other sector groups.

## 9.2 Current Asset Management Data

### Asset Attributes

Moderately complete records of the networks exist; significant service areas are identified and recorded by location and type and spatial attributes. Attribute data for stormwater assets is stored in the inventory database. The information available is known to be incomplete and of variable accuracy. A comprehensive programme to address this has been identified in the LTP for consideration and is steadily being updated to include new information, more accurate information and information from completed projects.

Council operates a hybrid asset management tool known as 'BizeAsset' Asset Management System. 'BizeAsset' was designed for small to medium sized councils to meet the advanced asset management requirements of local government. 'BizeAsset' uses a GIS platform with a web-front end to maximise efficiency and simplicity. The system is easy to maintain with powerful outputs such as asset valuations, maintenance history, map production, etc. Council currently uses 'BizeAsset' modules for Wastewater (Sewerage), Water, and Stormwater. The 'BizeAsset' functionality currently utilized within these modules is asset register, accounting (asset valuation), maintenance history ('maintenance event' not 'maintenance cost') and predictive analysis.

The efficient operation of stormwater assets is supplemented by the knowledge and judgment of experienced staff.

### Condition Data

Condition information available on stormwater assets is evolving with renewal decisions based on age, condition and performance assessments and the renewal selection criteria included in the lifecycle management section above.



## 9.3 Infrastructure Assets - Data Confidence Assessment

ASSET CLASS	DATA CONFIDENCE RATING	FORECAST CONFIDENCE RATING	METHOD OF COMPLETING THE RATING ASSESSMENT
<b>Wastewater</b>			Internal knowledge and assessment of data collection procedures, completeness, accuracy and documentation
Reticulation:			
Te Kuiti (79%)	2	B	
Benneydale (3%)	2	B	
Piopio (17%)	1	A	
Te Waitere (1%)	1	B	
Pump stations - All	2	B	
Treatment plants - All	2	B	
Discharge structures - All	2	B	
<b>Water Supply</b>			Internal knowledge and assessment of data collection procedures, completeness, accuracy and documentation
Headworks - All	2	B	
Treatment plants - All	2	B	
Storage reservoirs - All	2	B	
Reticulation:			
Te Kuiti (68%)	2	B	
Benneydale (8%)	2	B	
Piopio (9%)	2	B	
Mokau (15%)	2	B	
<b>Stormwater</b>			Internal knowledge and assessment of data collection procedures, completeness, accuracy and documentation

Reticulation	3	C	
Outlet structures	1	A	
<b>Roads and Footpaths</b>			Internal knowledge and assessment of data collection procedures, completeness, accuracy and documentation
Bridges	1	A	
Surfacing	1	B	
Pavement	3	C	
Culverts	2	C	
Kerb and channel	1	A	
Retaining structures	2	B	
Streetlights	1	A	
Road signage	2	B	
Footpaths	2	B	

## SECTION 10 - FINANCIAL SUMMARY

### 10.1 Valuation of Stormwater Assets

The key components of Waitomo District's urban stormwater infrastructure and their attendant values as at 1 July 2011 are summarised in the table below: **CONFIRM**

Community	Sum of optim_rep_val	Sum of dep_rep_val
Mokau-Awakino	148,230	138,788
Piopio	31,819	16,307
Te Kuiti	11,529,903	7,079,037
Te Waitere	11,821	11,516
(blank)		
<b>Grand Total</b>	<b>\$11,721,773</b>	<b>7,245,648</b>

The above valuation has been drawn from Councils asset inventory and the BizeAsset database. The assets were valued using the Depreciated Replacement Cost methodology as described in the NZ Infrastructure Asset Valuation and Depreciation Guidelines. Assets were depreciated on a straight line basis to determine the Optimised Depreciated Replacement Cost – see Valuation Certificate, and schedule of the effective lives used, in the appendices.

The confidence rating for each of the significant asset components of the stormwater valuation as detailed in the valuation report is:

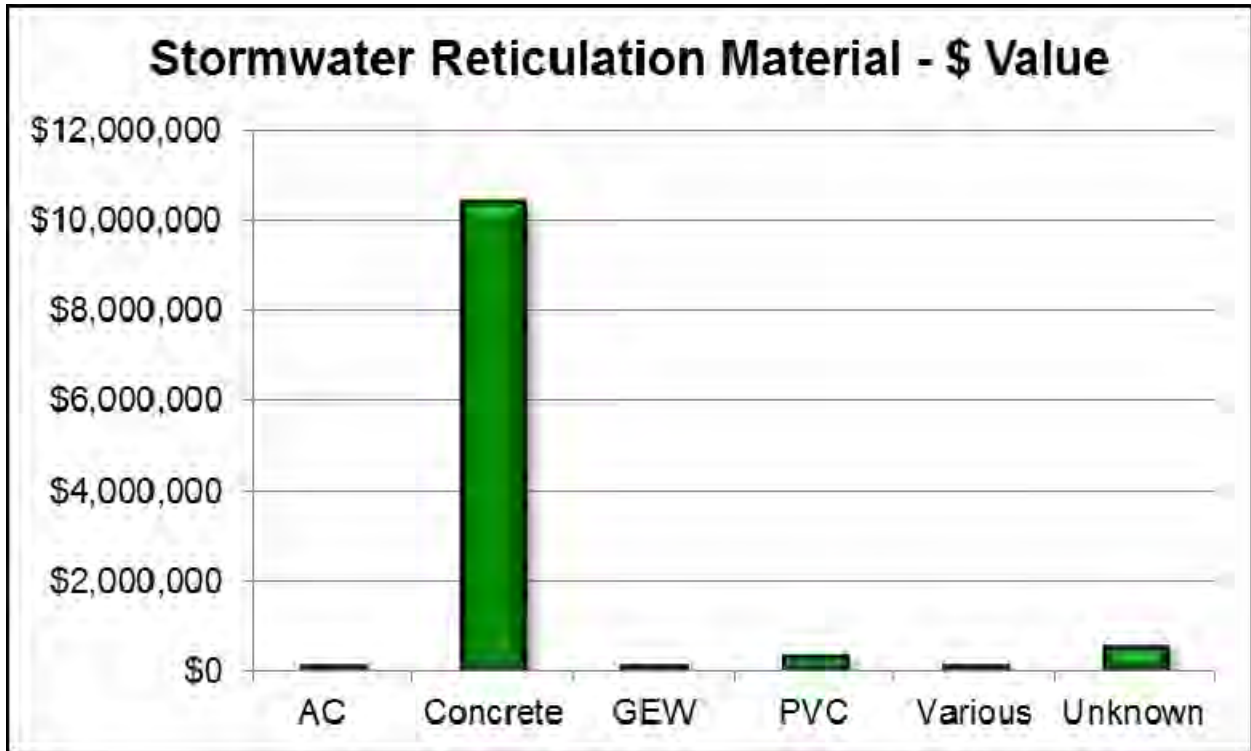
Valuation Element	Confidence Grade
Fixed asset register downloads	Good confidence
Attribute details	Low confidence
Asset categorisation	Medium confidence
Economic lives information	Low confidence
Unit replacement rates	Good confidence
<b>Overall rating</b>	<b>Good confidence</b>

The following table shows the financial projections for the stormwater activity over the next ten years. The following definitions apply to the respective activity classes shown:

Activity Class	Definition
Maintenance and Operations	All actions necessary to retain an asset as near as practicable to its original condition, but excluding renewals and rehabilitation. Includes costs such as insurances, rates, energy and consumables associated with owning and using the asset
Renewals	Works to upgrade, refurbish or replace existing assets with assets of equivalent capacity or performance capability
Improvements	Expenditure used to create new assets or to increase the capacity of existing assets beyond their original design capacity or service potential. Improvements increase the value of asset stock

Stormwater	EAP 2014/15	LTP 2016	LTP 2017	LTP 2018	LTP 2019	LTP 2020	LTP 2021	LTP 2022	LTP 2023	LTP 2024	LTP 2025
<b>Operating Expenditure</b>											
Urban	362	374	392	422	420	437	448	496	496	512	488
Rural	37	47	48	50	51	53	56	58	60	62	65
<b>Total Operating Expenditure</b>	<b>399</b>	<b>421</b>	<b>440</b>	<b>472</b>	<b>471</b>	<b>490</b>	<b>504</b>	<b>554</b>	<b>556</b>	<b>574</b>	<b>553</b>
<b>Net Operating Cost/(Surplus)</b>	<b>399</b>	<b>421</b>	<b>440</b>	<b>472</b>	<b>471</b>	<b>490</b>	<b>504</b>	<b>554</b>	<b>556</b>	<b>574</b>	<b>553</b>
<b>Capital Expenditure</b>											
Urban	349	345	245	253	210	203	213	286	325	338	262
Rural	5	5	5	5	6	6	6	6	6	7	7
<b>Total Capital Expenditure</b>	<b>354</b>	<b>350</b>	<b>250</b>	<b>258</b>	<b>216</b>	<b>209</b>	<b>219</b>	<b>292</b>	<b>331</b>	<b>345</b>	<b>269</b>
<b>Net Expenditure</b>	<b>753</b>	<b>771</b>	<b>690</b>	<b>730</b>	<b>687</b>	<b>699</b>	<b>723</b>	<b>846</b>	<b>887</b>	<b>919</b>	<b>822</b>
<b>Funded By</b>											
Internal Loans	0	25	42	43	45	37	39	40	42	44	46
Reserves	364	334	222	229	185	185	193	265	261	269	236
Targeted Rate - Stormwater (Urban)	343	360	372	402	401	416	429	476	518	536	467
Targeted Rate - Stormwater (Rural)	46	53	55	57	58	60	63	65	67	69	72
<b>Total Funding</b>	<b>753</b>	<b>772</b>	<b>691</b>	<b>731</b>	<b>689</b>	<b>698</b>	<b>724</b>	<b>846</b>	<b>888</b>	<b>918</b>	<b>821</b>

These projections and the AMP will be reviewed ahead of the 2018 – 2028 LTP in light of improved asset information that will be collected and recorded in the interim



The strategy for this forecast was to:

- assign realistic timing to projects given the resources available under Councils current funding sources and in relation to impacts on other Activity Management Plans
- optimise timing of projects to improve asset data ahead of financial commitment, and to smooth expenditure to a sustainable long term programme (see Appendix B)
- generate consistent budgeting philosophies across all asset groups
- align expenditure with improved assets data
- reduce the backlog of currently approved works

## 10.2 Funding Sources

Current funding sources available for the urban stormwater activity include:

### Rates:

Council's LTP includes full details of its revenue and financing policy. In so far as the stormwater activity is concerned, the cost of the collection and disposal of stormwater is funded by way of a targeted uniform annual charge (TUAC), differentiated between the Te Kuiti urban and rural communities and levied on each property in each service area.

### Financial/development contributions:

Council has two different policy tools available to it that can be used for funding the cost of additional capacity imposed on existing infrastructural assets as a result of growth. The Resource Management Act 1991 sets out the process for Council to charge developers financial contributions while the LGA 2002 prescribes the process for Council to adopt a development contributions policy. One or other can be used as a source of funding on a single activity, but not both.

Financial contributions can be applied as a condition of consent on a consent by consent basis, corresponding to work required to mitigate an adverse effect of a subdivision on existing infrastructure. Council's existing District Plan enables financial contributions to be charged where necessary, but so far has not been applied. Council's existing stance in relation to the financial contributions policy is to not charge them. This approach seems to reflect an informal policy of trying to encourage economic development.

Council does not currently have a development contributions policy however this will be reviewed as part of the District Plan Review which will occur between 2015-18.

## SECTION 11 - ASSUMPTIONS

The following basic assumptions have been made in preparing the 30 year forecasts.

- Growth of the existing stormwater infrastructure will be minor over the term of the plan. There is no provision in this AMP for additional assets vested in Council from subdivisional development - this will be re-assessed in the next 3 year planning cycle
- Movement in contract rates as the result of re-tendering stormwater supply maintenance and capital works will be within the construction price index used in the financial projections
- The gradual increase in operations and maintenance expenditure in real terms over the planning period due to the continued ageing of the asset will be offset in part by improved asset renewal decision making that will reduce maintenance needs made possible by enhanced information used in the asset management system.
- Maintenance allocations are largely based on maintaining current levels of expenditure.
- Forecast expenditure will not be affected by more detailed evaluation of asset renewal requirements and more stringent consent and legislative requirements.
- Changes in the district population will not impact on the expenditure forecasts for the stormwater network
- Resource consents required for any planned stormwater project will not result in any material delay or additional expenditure

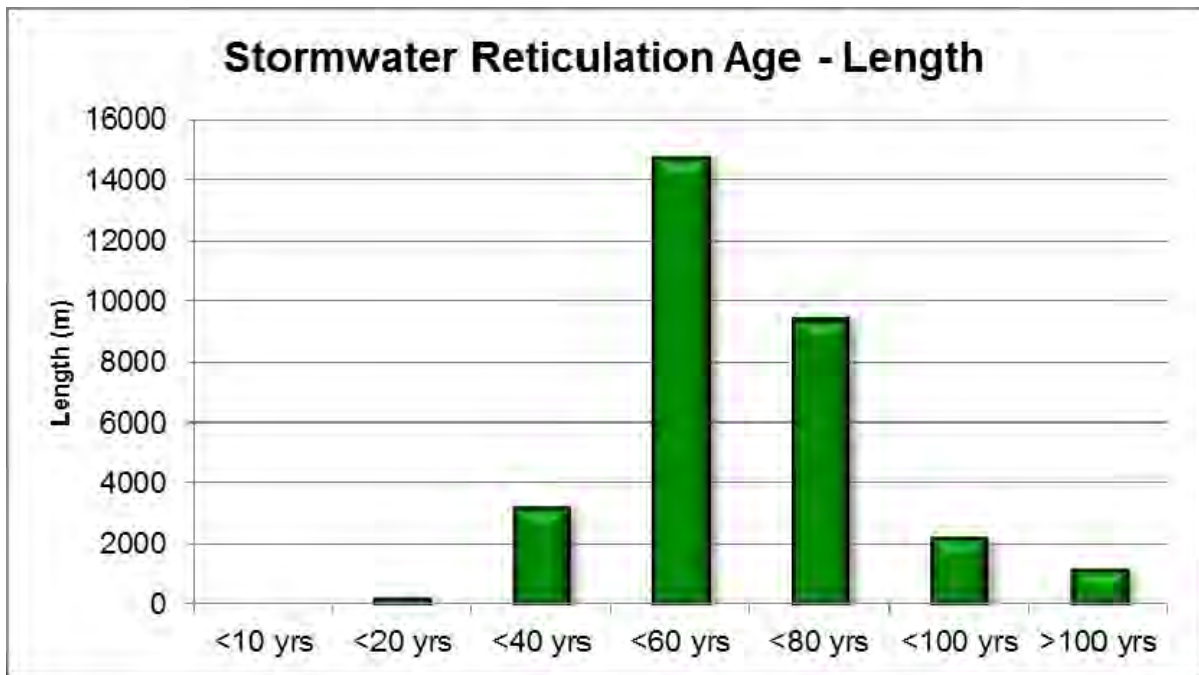
The key issues arising from the 10-year forward projections are summarised below, based on the assumptions noted above:

### **Maintenance**

Operation and maintenance costs average approximately \$150,000 per year over the next 10 years. The funding provided for renewals over the preceding 3 years had been taken up by addressing issues that become apparent during the time

### **Renewals**

The actual timing of renewals has been determined from age, condition assessment and capacity assessments of the existing drainage networks based on present asset data. This shows a large spike in required renewals for the period 30 to 80 years from now. Using replacement values the renewals costs have been smoothed to flatten this peak.



Within the 10 year blocks, and as asset information improves, planned renewals will be individually and specifically assessed against actual asset condition and performance to verify that the renewal is actually needed, before the work is done.

Where possible, any identified shortfall in capacity will be addressed at the time of pipe replacement so that any existing undersized pipes will be replaced with larger diameter pipes. The average renewal works expenditure based on current information is approximately \$100,000 per annum.

#### **New Works (Augmentation):**

As noted above, completion of urban catchment management plans may identify capacity shortfalls in the existing stormwater network. Similarly, concept design work proposed for Mokau-Awakino and structure planning for Te Waitere may result in new drainage works proposed for these areas. The capital development programme will be reviewed after these projects have been completed.



## SECTION 12 – PLAN IMPROVEMENT AND MONITORING

Activity management planning involves a process of constant improvement. The following table summarises the proposed actions and timetables for improving accuracy and confidence in the Stormwater AM Plan. It identifies and prioritises what needs to be done, who is going to do it and when it is to be completed by. Many of the steps will entail additional resourcing. The details of these requirements have been included in the relevant budgets of the LTP.

Ref	Description	1	2	3	4	Target Completion Date	Officer Responsible	Additional Resources Required	Actual Completion Date	Comment
1	Consultation to ascertain the community's service needs and preferences and to ensure their views are considered when selecting the best level of service scenario.	x				Next review 2015	Group Manager Corporate Services	Survey consultant	Continuous	Levels of service survey for SW last completed in 2012
2	Ensure the right level of funding is allocated to maintain the asset service potential.		x			March 2017	Water Manager			Annually
4	Formalise asset inspection and data collection procedures.			x			Water Manager	Asset Engineer & GIS person		On going
5	Improve contractor maintenance reporting and integrate costing information with spatial data in Bizze@sset				x		Water Manager	Asset Engineer & GIS person		On going
6	Develop accurate and complete asset inventory registers for each urban drainage area.		x				Water Manager	Asset Engineer & GIS person		Require Catchment Management Plans to be completed
7	Initiate a long term condition and performance assessment programme, initially for Te Kuiti,	x					Group Manager Assets	Water Manager & GIS person		Require Catchment Management Plans to be completed

Ref	Description	1	2	3	4	Target Completion Date	Officer Responsible	Additional Resources Required	Actual Completion Date	Comment
8	Initiate a SW scheme proposal for Mokau-Awakino and Te Waitere				x	December 2025	District Plan Update	Planning Consultant		
10	Develop a greater focus on risk identification and management, obtaining more detailed information on critical assets.				x		Water Manager	GIS person		Require Catchment Management Plans to be completed
11	Cost and prioritise the works developed from the risk assessment exercise.			x			Water Manager	GIS person		Require Catchment Management Plans to be completed
12	Develop strategies to meet the community's desire for higher environmental standards and anticipated more stringent Resource Consent requirements.				x		Group Manager Assets	Water Manager		Require Catchment Management Plans to be completed
13	Improve the definition of standards for maintenance			x			Water Manager			Using Hamilton City Engineering Standards
14	Complete environmental impact studies for each stormwater drain and receiving water				x	2025 - 2027	Water Manager	Consultant		
15	Review design standards for stormwater pipe sizing based on effects of climate change on rain storm intensity and frequency		x			Catchment Management Plans to be completed	Water Manager	Consultant		Require Catchment Management Plans to be completed WDC uses Hamilton City Standards

Ref	Description	1	2	3	4	Target Completion Date	Officer Responsible	Additional Resources Required	Actual Completion Date	Comment
16	Prepare Catchment Management Plans for each urban drainage area including calculation of design runoff, identification of gaps and capacity limitations of the existing stormwater network at each location, identification and protection of (through the use of easements, district plan rules etc) secondary flow paths and an assessment of the impact of each flow path on the relevant properties.					2026-28	Group Manager Assets	Water Manager  Consultant & GIS person		
17	Arrange regular forum of adjacent councils stormwater officers to discuss best practice trends, concerns, future developments, that may affect neighbouring authorities, cost sharing on consultants or specialist providers (e.g. spare survey or design capacity in larger councils shared by others).				x		Water Manager			Ongoing

**Key – Relative Priority:**

- 1 = High importance/high urgency
- 2 = High importance/low urgency
- 3 = Low importance/high urgency
- 4 = Low importance/low urgency

## SECTION 13 - REFERENCES AND ACKNOWLEDGEMENTS

Material from the following documents has been used in the preparation of this Stormwater Activity Management Plan:

- 2007 Waikato Regional Council Regional Plan (Water Module)

## SECTION 14 - APPENDICES

Appendix	Title
A	Glossary
B	Extract from Schedule 10, Local Government Act 2002 – Information to be included in long term plans
C	Extract from LGA 2002 – s.101B Infrastructure Strategy
D	Indicative AMP Programmes 2015 – 2045
E	Te Kuiti SW Mains – Remaining Lives and Replacement Costs
F	Waitomo District Council Management Structure – September 2007
G	Effective Lives of Stormwater Assets
H	Extract from Waikato Regional Council Regional Plan – Water Module
I	Current Contractual Commitments

## Appendix A: Glossary

The following terms and acronyms (in brackets) are used in this AM plan:

<b>Activity</b>	An activity is the work undertaken on an asset or group of assets to achieve a desired outcome.
<b>Advanced Activity Management (AAM)</b>	Activity Management practice that has evolved to a state that matches business needs. AAM employs predictive modelling, risk management and optimised renewal decision making techniques to establish asset lifecycle treatment options and related long term cash flow predictions. (See Core Activity Management).
<b>Annual plan</b>	The Annual Plan provides a statement of the direction of Council and ensures consistency and coordination in both making policies and decisions concerning the use of Council resources. It is a reference document for monitoring and measuring performance for the community as well as the Council itself.
<b>Asset</b>	A physical component of a facility which has value, enables services to be provided and has an economic life of greater than 12months.
<b>Activity Management (AM)</b>	The combination of management, financial, economic, engineering and other practices applied to physical assets with the objective of providing the required level of service in the most cost effective manner.
<b>Activity Management system (AMS)</b>	A system (usually computerised) for collecting analysing and reporting data on the utilisation, performance, lifecycle management and funding of existing assets.
<b>Activity Management Plan</b>	A plan developed for the management of one or more infrastructure assets that combines multidisciplinary management techniques (including technical and financial) over the lifecycle of the asset in the most cost effective manner to provide a specified level of service. A significant component of the plan is a long term cash flow projection for the activities.
<b>Activity Management strategy</b>	A strategy for Activity Management covering, the development and implementation of plans and programmes for asset creation, operation, maintenance, renewal, disposal and performance monitoring to ensure that the desired levels of service and other operational objectives are achieved at optimum cost.
<b>Asset register</b>	A record of asset information considered worthy of separate identification including inventory, historical, financial, condition, construction, technical and financial information about each.
<b>Benefit cost ratio (B/C)</b>	The sum of the present values of all benefits (including residual value, if any) over a specified period, or the life cycle of the asset or facility, divided by the sum of the present value of all costs.
<b>Berm</b>	The area of a road reserve between the kerb or surface water channel and property boundary exclusive of footpath.
<b>Capital expenditure (CAPEX)</b>	Expenditure used to create new assets or to increase the capacity of existing assets beyond their original design capacity or service potential. CAPEX increases the value of an asset.
<b>Cash flow</b>	The stream of costs and/or benefits over time resulting from a project investment or ownership of an asset.
<b>Components</b>	Specific parts of an asset having independent physical or functional identity and having specific attributes such as different life expectancy, maintenance regimes, risk or criticality.
<b>Condition monitoring</b>	Continuous or periodic inspection, assessment, measurement and interpretation of resulting data, to indicate the condition of a

	specific component so as to determine the need for some preventive or remedial action
<b>Core Activity Management</b>	Activity Management which relies primarily on the use of an asset register, maintenance history, condition assessment, defined levels of service, and simple risk and benefit/ cost assessments in order to establish work priorities and long term cash flow predictions.
<b>Critical assets</b>	Assets for which the financial, business or service level consequences of failure are sufficiently severe to justify proactive inspection and rehabilitation. Critical assets have a lower threshold for action than non-critical assets.
<b>Current replacement cost</b>	The cost of replacing the service potential of an existing asset, by reference to some measure of capacity, with an appropriate modern equivalent asset.
<b>Deferred maintenance</b>	The shortfall in rehabilitation work required to maintain the service potential of an asset.
<b>Demand management</b>	The active intervention in the market to influence demand for services and assets with forecast consequences, usually to avoid or defer CAPEX expenditure. Demand management is based on the notion that as needs are satisfied expectations rise automatically and almost every action taken to satisfy demand will stimulate further demand.
<b>Depreciated replacement cost (DRC)</b>	The replacement cost of an existing asset after deducting an allowance for wear or consumption to reflect the remaining economic life of the existing asset.
<b>Depreciation</b>	The wearing out, consumption or other loss of value of an asset whether arising from use, passing of time or obsolescence through technological and market changes. It is accounted for by the allocation of the historical cost (or revalued amount) of the asset less its residual value over its useful life.
<b>Disposal</b>	Activities necessary to dispose of decommissioned assets.
<b>Economic life</b>	The period from the acquisition of the asset to the time when the asset, while physically able to provide a service, ceases to be the lowest cost alternative to satisfy a particular level of service. The economic life is at the maximum when equal to the physical life however obsolescence will often ensure that the economic life is less than the physical life.
<b>Geographic information system (GIS)</b>	Software which provides a means of spatially viewing, searching, manipulating, and analysing an electronic data-base.
<b>Infrastructure assets</b>	Stationary systems forming a network and serving whole communities, where the system as a whole is intended to be maintained indefinitely at a particular level of service potential by the continuing replacement and refurbishment of its components. The network may include normally recognised 'ordinary' assets as components.
<b>Level of service</b>	The defined service quality for a particular activity (i.e. roading) or service area (i.e. street-lighting) against which service performance may be measured. Service levels usually relate to quality, quantity, reliability, responsiveness, environmental acceptability and cost.
<b>Life</b>	A measure of the anticipated life of an asset or component; such as time, number of cycles, distance intervals etc.

<b>Life cycle</b>	Life cycle has two meanings: (a) The cycle of activities that an asset (or facility) goes through while it retains an identity as a particular asset i.e. from planning and design to decommissioning or disposal. (b) The period of time between a selected date and the last year over which the criteria (e.g. costs) relating to a decision or alternative under study will be assessed.
<b>Life cycle cost</b>	The total cost of an asset throughout its life including planning, design, construction, acquisition, operation, maintenance, rehabilitation and disposal costs.
<b>Maintenance</b>	All actions necessary for retaining an asset as near as practicable to its original condition, but excluding rehabilitation or renewal.
<b>Maintenance plan</b>	Collated information, policies and procedures for the optimum maintenance of an asset, or group of assets.
<b>Maintenance standards</b>	The standards set for the maintenance service, usually contained in preventive maintenance schedules, operation and maintenance manuals, codes of practice, estimating criteria, statutory regulations and mandatory requirements, in accordance with maintenance quality objectives.
<b>Net present value (NPV)</b>	The value of an asset to the organisation, derived from the continued use and subsequent disposal in present monetary values. It is the net amount of discounted total cash inflows arising from the continued use and subsequent disposal of the asset after deducting the value of the discounted total cash outflows.
<b>NIMT</b>	North Island Main Trunk rail line
<b>Objective</b>	An objective is a general statement of intention relating to a specific output or activity. They are longer term aims and are not necessarily outcomes that managers can control.
<b>Operation</b>	The active process of utilising an asset which will consume resources such as manpower, energy, chemicals and materials. Operation costs are part of an assets life cycle costs..
<b>Optimised renewal decision making (ORDM)</b>	An optimisation process for considering and prioritising all options to rectify performance failures of assets. The process encompasses NPV analysis and risk assessment.
<b>Performance indicator (PI)</b>	A qualitative or quantitative measure of a service or activity used to compare actual performance against a standard or other target. Performance indicators commonly relate to statutory limits, safety, responsiveness, cost, comfort, asset performance, reliability, efficiency, environmental protection and customer satisfaction.
<b>Performance monitoring</b>	Continuous or periodic quantitative and qualitative assessments of the actual performance compared with specific objectives, targets or standards.
<b>Planned maintenance</b>	Planned maintenance activities fall into 3 categories :
	(a) Periodic - necessary to ensure the reliability or sustain the design life of an asset.
	(b) Predictive – condition monitoring activities used to predict failure.
	(c) Preventive - maintenance that can be initiated without routine or continuous checking (e.g. using information contained in maintenance manuals or manufacturers' recommendations) and is not condition-based.

<b>Rehabilitation</b>	Works to rebuild or replace parts or components of an asset, to restore it to a required functional condition and extend its life, which may incorporate some modification. Generally involves repairing the asset using available techniques and standards to deliver its original level of service (i.e. heavy patching of roads, slip-lining of stormwater mains, etc.) without resorting to significant upgrading or replacement.
<b>Renewal</b>	Works to upgrade, refurbish, rehabilitate or replace existing facilities with facilities of equivalent capacity or performance capability.
<b>Repair</b>	Action to restore an item to its previous condition after failure or damage.
<b>Replacement</b>	The complete replacement of an asset that has reached the end of its life, so as to provide a similar or agreed alternative, level of service.
<b>Remaining economic life</b>	The time remaining until an asset ceases to provide service level or economic usefulness.
<b>Risk cost</b>	The assessed annual cost or benefit relating to the consequence of an event. Risk cost equals the costs relating to the event multiplied by the probability of the event occurring.
<b>Risk management</b>	The application of a formal process to the range of possible values relating to key factors associated with a risk in order to determine the resultant ranges of outcomes and their probability of occurrence.
<b>Routine maintenance</b>	Day to day operational activities to keep the asset operating (replacement of light bulbs, cleaning of drains, repairing leaks, etc.) and which form part of the annual operating budget, including preventative maintenance.
<b>Service potential</b>	The total future service capacity of an asset. It is normally determined by reference to the operating capacity and economic life of an asset.
<b>Strategic plan</b>	Strategic planning involves making decisions about the long term goals and strategies of an organisation. Strategic plans have a strong external focus, cover major portions of the organization and identify major targets, actions and resource allocations relating to the long term survival, value and growth of the organisation.
<b>Unplanned maintenance</b>	Corrective work required in the short term to restore an asset to working condition so it can continue to deliver the required service or to maintain its level of security and integrity.
<b>Traffic volume</b>	The number of vehicles flowing in both directions past a particular part in a given time (for example, vehicles per hour or vehicles per day).
<b>Upgrading</b>	The replacement of an asset or addition/ replacement of an asset component which materially improves the original service potential of the asset.
<b>Valuation</b>	Estimated asset value which may depend on the purpose for which the valuation is required, i.e. replacement value for determining maintenance levels or market value for life cycle costing.



**Appendix B: Extract – Schedule 10, Local Government Act 2002 – Information to be included in Long Term Plans**

**1. Community outcomes**

- A long-term plan must, to the extent determined appropriate by the local authority, describe the community outcomes for the local authority's district or region.

**2. Groups of activities**

- (1) A long-term plan must, in relation to each group of activities of the local authority,—
  - (a) identify the activities within the group of activities:
  - (b) identify the rationale for delivery of the group of activities (including the community outcomes to which the group of activities primarily contributes):
  - (c) outline any significant negative effects that any activity within the group of activities may have on the local community:
  - (d) include the information specified in [clauses 4](#) and [5](#)—
    - (i) in detail in relation to each of the first 3 financial years covered by the plan; and
    - (ii) in outline in relation to each of the subsequent financial years covered by the plan.
- (2) In this schedule, each of the following activities is a group of activities:
  - (a) water supply:
  - (b) sewerage and the treatment and disposal of sewage:
  - (c) stormwater drainage:
  - (d) flood protection and control works:
  - (e) the provision of roads and footpaths.
- (3) Despite subclause (2), a local authority may treat any other activities as a group of activities

**3. Capital expenditure for groups of activities**

- (1) A long-term plan must, in relation to each group of activities of the local authority and for each financial year covered by the plan, include a statement of the amount of capital expenditure that the authority has budgeted to—
  - (a) meet additional demand for an activity; and
  - (b) improve the level of service; and
  - (c) replace existing assets.
- (2) For the purpose of this clause, capital expenditure budgeted for 2 or all of the purposes in subclause (1) may be treated as if it were made solely in relation to the primary purpose of the expenditure.

**4. Statement of service provision**

- A long-term plan must, in relation to each group of activities of the local authority, include a statement of the intended levels of service provision that specifies—
  - (a) any performance measures specified in a rule made under [section 261B](#) for a group of activities described in [clause 2\(2\)](#); and

- (b) the performance measures that the local authority considers will enable the public to assess the level of service for major aspects of groups of activities for which performance measures have not been specified under paragraph (a); and
- (c) the performance target or targets set by the local authority for each performance measure; and
- (d) any intended changes to the level of service that was provided in the year before the first year covered by the plan and the reasons for the changes; and
- (e) the reason for any material change to the cost of a service.

#### **5. Funding impact statement for groups of activities**

- (1) A long-term plan must, in relation to each year covered by the plan, include a funding impact statement in relation to each group of activities of the local authority.
- (2) The funding impact statement must be in the prescribed form and must identify—
  - (a) the sources of funding to be used by the local authority; and
  - (b) the amount of funds expected to be produced from each source; and
  - (c) how the funds are to be applied.

#### **6. Variation between territorial authority's long-term plan and assessment of water and sanitary services and waste management plans**

- A long-term plan for a territorial authority must identify and explain any significant variation between the proposals outlined in the long-term plan and the territorial authority's—
  - (a) assessment of water and other sanitary services under [section 125](#);
  - (b) waste management and minimisation plans adopted under [section 43](#) of the Waste Minimisation Act 2008

#### **7. Council-controlled organisations**

- A long-term plan must, in relation to each council-controlled organisation,—
  - (a) name the council-controlled organisation and any subsidiary of the council-controlled organisation; and
  - (b) identify—
    - (i) the local authority's significant policies and objectives in relation to ownership and control of the organisation; and
    - (ii) the nature and scope of the activities to be provided by the council-controlled organisation; and
    - (iii) the key performance targets and other measures by which performance is to be judged.

#### **8. Development of Māori capacity to contribute to decision-making processes**

- A long-term plan must set out any steps that the local authority intends to take, having undertaken the consideration required by [section 81\(1\)\(b\)](#), to foster the development of Māori capacity to contribute to the decision-making processes of the local authority over the period covered by that plan.

## **9. Financial strategy and infrastructure strategy**

- A long-term plan must include a local authority's financial strategy described under [section 101A](#) and infrastructure strategy described under [section 101B](#).

## **10. Revenue and financing policy**

- A long-term plan must include a local authority's revenue and financing policy already adopted under [section 102\(1\)](#).

## **11. Significance and engagement policy**

- A long-term plan must contain—
  - (a) a summary (or other description) of the local authority's significance and engagement policy under [section 76AA](#); and
  - (b) a reference to where the full policy can be found, which may be done by providing a link to the relevant document on an Internet site maintained by or on behalf of the local authority.

## **12. Forecast financial statements**

- (1) A long-term plan must include, for each of the financial years covered by the plan, forecast financial statements for the local authority.  
(2) A long-term plan may include, for each of the financial years covered by the plan, or for any of those years, forecast financial statements for any council-controlled organisation or any other entity under the local authority's control.

## **13. Financial statements for previous year**

- (1) A long-term plan must include the numerical information from the forecast financial statements referred to in [clause 12\(1\)](#) that were prepared for the financial year that is the year before the first year covered by the plan.  
(2) The numerical information must be presented in a way that allows the public to compare the information with the numerical information contained in the forecast financial statements for each of the financial years covered by the plan.

## **14. Statement concerning balancing of budget**

- If the local authority has resolved, under [section 100\(2\)](#), not to balance its operating budget in any year covered by the long-term plan, the plan must include—
  - (a) a statement of the reasons for the resolution and any other matters taken into account; and
  - (b) a statement of the implications of the decision.

## **15. Funding impact statement**

- (1) A long-term plan must include a funding impact statement in relation to each year covered by the plan.  
(2) The funding impact statement must be in the prescribed form and must identify—
  - (a) the sources of funding to be used by the local authority; and
  - (b) the amount of funds expected to be produced from each source; and
  - (c) how the funds are to be applied.  
(3) If the sources of funding include a general rate, the funding impact statement must—

- (a) include particulars of the valuation system on which the general rate is to be assessed; and
- (b) state whether a uniform annual general charge is to be included and, if so,—
  - (i) how the charge is to be calculated; and
  - (ii) the local authority's definition of a separately used or inhabited part of a rating unit, if the charge is to be calculated on that basis; and
- (c) state whether the general rate is to be set differentially and, if so,—
  - (i) the categories of rateable land, within the meaning of [section 14](#) of the Local Government (Rating) Act 2002, to be used; and
  - (ii) the objectives of the differential rate, in terms of the total revenue sought from each category of rateable land or the relationship between the rates set on rateable land in each category.

(4) If the sources of funding include a targeted rate, the funding impact statement must—

- (a) specify the activities or groups of activities for which the targeted rate is to be set; and
- (b) include particulars of the category, or categories, of rateable land, within the meaning of [section 17](#) of the Local Government (Rating) Act 2002, to be used; and
- (c) for each category, state—
  - (i) how liability for the targeted rate is to be calculated; and
  - (ii) the local authority's definition of a separately used or inhabited part of a rating unit, if the rate is to be calculated on that basis; and
- (d) if the targeted rate is set differentially, state the total revenue sought from each category of rateable land or the relationship between the rates set on rateable land in each category; and
- (e) state whether lump sum contributions will be invited in respect of the targeted rate.

(5) If the sources of funding include a general rate or a targeted rate, the funding impact statement must, for the first year covered by the long-term plan, include examples of the impact of the rating proposals in subclauses (3) and (4) on the rates assessed on different categories of rateable land with a range of property values.

(6) If the same source of funding is to be used in more than 1 of the years covered by the long-term plan, in order to comply with subclauses (2)(a), (3), and (4) with respect to that source, it is sufficient—

- (a) to comply with those subclauses in relation to 1 of those years; and
- (b) for the funding impact statement to specify the other years in respect of which that source is to be used.

## 16. Rating base information

- A long-term plan must state, for each year covered by the plan, the projected number of rating units within the district or region of the local authority at the end of the preceding financial year.

## 17. Reserve funds

- A long-term plan must identify each reserve fund set aside by the local authority and, in relation to each fund, specify—
  - (a) the purpose of the fund; and
  - (b) the activities to which the fund relates; and
  - (c) the amount expected to be in the fund at—
    - (i) the commencement of the first year to which the long-term plan relates; and
    - (ii) the end of the last year to which the long-term plan relates; and
  - (d) the amount expected to be deposited in the fund in the period to which the long-term plan relates; and
  - (e) the amount expected to be withdrawn from the fund in the period to which the long-term plan relates.

## 18. Significant forecasting assumptions

- A long-term plan must clearly identify—
  - (a) all the significant forecasting assumptions and risks underlying the financial estimates:
  - (b) without limiting the generality of paragraph (a), the following assumptions on which the financial estimates are based:
    - (i) the assumptions of the local authority concerning the life cycle of significant assets; and
    - (ii) the assumptions of the local authority concerning sources of funds for the future replacement of significant assets:
  - (c) in any case where significant forecasting assumptions involve a high level of uncertainty,—
    - (i) the fact of that uncertainty; and
    - (ii) an estimate of the potential effects of that uncertainty on the financial estimates provided.

## 19. Additional information to be included in long-term plan for unitary authority with local boards

- In the case of a unitary authority for a district that includes 1 or more local board areas, a long-term plan must also—
  - (a) identify the non-regulatory activities of the unitary authority for which decision-making responsibility is allocated to 1 or more local boards under [section 48L](#) or under [section 17](#) of the Local Government (Auckland Council) Act 2009:
  - (b) group the activities to which paragraph (a) relates separately from any other activity or group of activities of the unitary authority (there

may be 1 or more groups, but each group of activities specified in [clause 2\(2\)](#) must be separately identified):

- (c) include the estimated local board funding allocation for each local board for each year to which the long-term plan relates:
- (d) include the local board agreement for each local board area for the first year to which the long-term plan relates.

**Appendix C: Extract – Schedule 10, Local Government Act 2002 – s.101B  
Infrastructure Strategy**

- A local authority must, as part of its long-term plan, prepare and adopt an infrastructure strategy for a period of at least 30 consecutive financial years.
  - (2) The purpose of the infrastructure strategy is to—
    - (a) identify significant infrastructure issues for the local authority over the period covered by the strategy; and
    - (b) identify the principal options for managing those issues and the implications of those options.
  - (3) The infrastructure strategy must outline how the local authority intends to manage its infrastructure assets, taking into account the need to—
    - (a) renew or replace existing assets; and
    - (b) respond to growth or decline in the demand for services reliant on those assets; and
    - (c) allow for planned increases or decreases in levels of service provided through those assets; and
    - (d) maintain or improve public health and environmental outcomes or mitigate adverse effects on them; and
    - (e) provide for the resilience of infrastructure assets by identifying and managing risks relating to natural hazards and by making appropriate financial provision for those risks.
  - (4) The infrastructure strategy must outline the most likely scenario for the management of the local authority's infrastructure assets over the period of the strategy and, in that context, must—
    - (a) show indicative estimates of the projected capital and operating expenditure associated with the management of those assets—
      - (i) in each of the first 10 years covered by the strategy; and
      - (ii) in each subsequent period of 5 years covered by the strategy; and
    - (b) identify—
      - (i) the significant decisions about capital expenditure the local authority expects it will be required to make; and
      - (ii) when the local authority expects those decisions will be required; and
      - (iii) for each decision, the principal options the local authority expects to have to consider; and
      - (iv) the approximate scale or extent of the costs associated with each decision; and
    - (c) include the following assumptions on which the scenario is based:
      - (i) the assumptions of the local authority about the life cycle of significant infrastructure assets;
      - (ii) the assumptions of the local authority about growth or decline in the demand for relevant services;
      - (iii) the assumptions of the local authority about increases or decreases in relevant levels of service; and

- (d) if assumptions referred to in paragraph (c) involve a high level of uncertainty,—
  - (i) identify the nature of that uncertainty; and
  - (ii) include an outline of the potential effects of that uncertainty.

(5) A local authority may meet the requirements of [section 101A](#) and this section by adopting a single financial and infrastructure strategy document as part of its long-term plan.

(6) In this section, **infrastructure assets** includes—

- (a) existing or proposed assets to be used to provide services by or on behalf of the local authority in relation to the following groups of activities:
  - (i) water supply;
  - (ii) sewerage and the treatment and disposal of sewage;
  - (iii) stormwater drainage;
  - (iv) flood protection and control works;
  - (v) the provision of roads and footpaths; and
- (b) any other assets that the local authority, in its discretion, wishes to include in the strategy.

Section 101B: inserted, on 8 August 2014, by [section 36](#) of the Local Government Act 2002 Amendment Act 2014 (2014 No 55).

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Appendix D: SW Valuation

Year	Asset Type	Total Length (m)	Community	Total Depreciated Replacement Value	Total Optimised Replacement Value	Average Age	Average Remaining Life	Total Replacement Cost
2015-16	Gravity Main	277.37	Te Kuiti	\$16,446.70	\$100,152.60	75.8	14.2	\$100,152.60
2016-17	Gravity Main	275.42	Te Kuiti	\$20,778.48	\$102,233.96	69	16	\$102,233.96
2017-18	Gravity Main	156.66	Te Kuiti	\$32,431.45	\$121,617.92	49.5	18	\$102,390.66
2018-19	Gravity Main	301.97	Te Kuiti	\$26,847.09	\$98,852.26	65.3	24.7	\$98,852.26
2019-20	Gravity Main	291.41	Te Kuiti	\$30,147.64	\$93,561.63	61	29	\$93,561.63
2020-21	Gravity Main	434.31	Te Kuiti	\$30,737.89	\$95,393.40	61	29	\$95,393.40
2021-22	Gravity Main	106.82	Te Kuiti	\$50,700.71	\$147,195.62	59	31	\$147,195.62
2022-23	Gravity Main	127.36	Te Kuiti	\$46,939.24	\$136,275.20	59	31	\$136,275.20
2023-24	Gravity Main	125.64	Te Kuiti	\$46,305.32	\$134,434.80	59	31	\$134,434.80
2024-25	Gravity Main	113.03	Te Kuiti	\$35,913.77	\$120,942.10	59	31	\$120,942.10
2025-30								\$0.00
2030-35								\$0.00
2035-40								\$0.00
2040-45	Gravity Main	\$765.78	Te Kuiti	\$271,223.39	\$787,422.74	59	31	\$787,422.74
2045-50	Gravity Main	557.19	Te Kuiti	\$47,960.41	\$126,346.22	57.3	34.7	\$126,346.22
2050-55	Gravity Main	\$1,442.11	Te Kuiti	\$176,852.74	\$418,258.98	52.3	39.2	\$418,258.98
2055-60	Gravity Main	11,363.16	Te Kuiti	\$2,460,945.52	\$4,816,560.48	44.0	46.0	\$4,816,560.48
2060-65								\$0.00
2065-70	Gravity Main	\$2,322.51	Te Kuiti	\$870,867.46	\$1,405,401.49	35.3	55.4	\$1,405,401.49
2070-75	Gravity Main	4,143.02	Te Kuiti	\$1,503,083.42	\$2,266,756.64	31.2	59.7	\$2,266,756.64
2075-80	Gravity Main	1,155.69	Te Kuiti	\$259,046.87	\$365,644.20	26.6	63.4	\$365,644.20
2080-85	Gravity Main	695.2	Te Kuiti	\$164,008.82	\$220,063.00	24.8	69	\$220,063.00
2085-90	Gravity Main	925.4	Te Kuiti	\$216,898.17	\$274,952.98	19.1	74.6	\$274,952.98
2090-95	Gravity Main	91.91	Te Kuiti	\$14,724.24	\$17,210.15	13	77	\$17,210.15

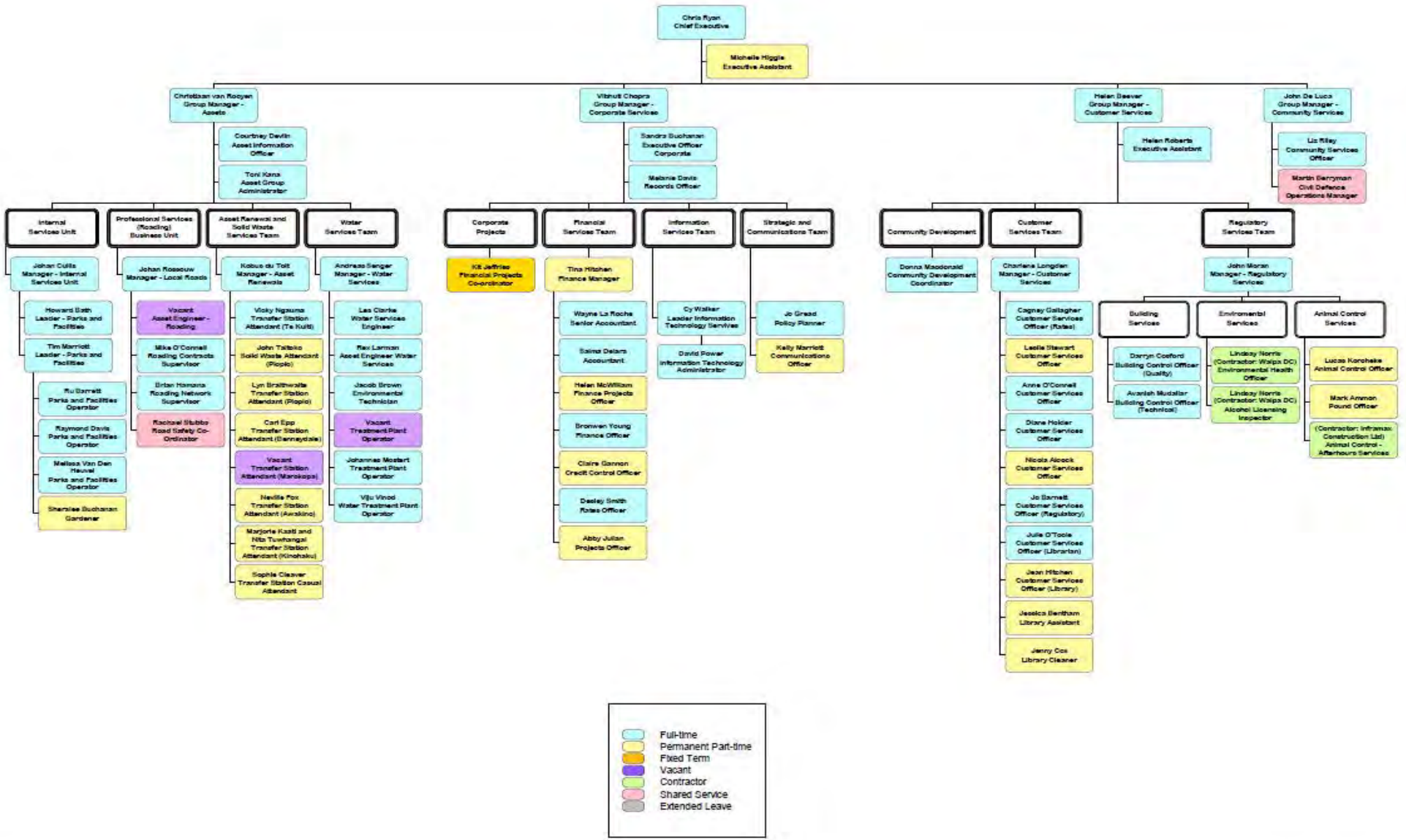
**Appendix E: Te Kuiti SW Mains – Remaining Life and Replacement Costs by Material by Community**

Remaining Life	AC (m)	Concrete (m)	GEW (m)	PVC (m)	Various (m)	Unknown Open Drains (m)	Total (m)	Optimised Replacement Cost
<b>TE KUITI</b>								
<10yrs	0	0	0	0	0	0	0	\$0
<20yrs	0	202	0	0	0	0	202	\$34,632
<-40yrs	120	2,782	134	0	175	0	3,211	\$1,747,332
, <-60yrs	638	11,370	135	0	103	2,259	14,505	\$5,003,995
<-80yrs	0	7,747	424	158	0	915	9,244	\$3,886,585
<-100yrs	0	1,768	0	203	0	0	1,971	\$604,753
>-100yrs	0	0	0	1192	0	0	1192	\$252,606
Subtotal	759	23,869	692	1553	278	3,174	30,325	0
<b>Te Kuiti Optimised Replacement Cost</b>	<b>\$139,971</b>	<b>\$10,305,246</b>	<b>\$110,853</b>	<b>\$342,109</b>	<b>\$85,615</b>	<b>\$546,109</b>	<b>\$11,529,903</b>	<b>\$11,529,903</b>
<b>PIOPIO</b>								
<-60yrs	0	0	193	0	0	0	193	\$31,819
<b>Piopio Optimised Replacement Cost</b>	<b>0</b>	<b>0</b>	<b>\$31,819</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>\$31,819</b>	<b>\$31,819</b>
<b>MOKAU</b>								
<-60yrs	0	0	0	0	69	0	69	\$22,277
<-80yrs	0	0	0	0	0	114	114	\$15,782
<-100yrs	0	265	0	0	0	0	265	\$90,657
>-100yrs	0	0	0	69	0	0	69	\$19,514
Subtotal	0	265	0	69	69	114	517	0
<b>Mokau Optimised Replacement Cost</b>	<b>0</b>	<b>\$90,657</b>	<b>0</b>	<b>\$19,514</b>	<b>\$22,277</b>	<b>\$15,782</b>	<b>\$148,230</b>	<b>\$148,230</b>
<b>Te Waitere</b>								
<-80yrs	0	0	0	0	0	72	72	
<b>Te Waitere Optimised Replacement Cost</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>\$11,821</b>	<b>\$11,821</b>
<b>TOTAL ORC</b>	<b>\$139,971</b>	<b>\$10,395,903</b>	<b>\$142,672</b>	<b>\$361,622</b>	<b>\$107,892</b>	<b>\$561,891</b>	<b>\$11,821</b>	<b>\$11,721,772</b>

**Optimised Replacement Cost (2014 \$)**

Community	<10yrs	<20yrs	<40yrs	<60yrs	<80yrs	<100yrs	>100yrs	
Te Kuiti	\$0	\$34,632	\$1,747,332	\$5,003,995	\$3,886,585	\$604,753	\$252,606	
Poipio	\$0	\$0	\$0	\$31,819	\$0	\$0	\$0	
Mokau	\$0	\$0	\$0	\$22,277	\$15,782	\$90,657	\$19,514	
Te Waitere	\$0	\$0	\$0	\$0	\$11,821	\$0	\$0	
	\$0.00	\$34,632.00	\$1,747,332.00	\$5,058,091.00	\$3,914,188.00	\$695,410.00	\$272,120.00	\$11,721,773.00

WDC Staffing Structure



**Appendix G: Effective Lives of Stormwater Assets**

Reticulation Material	Base Life Yrs	NZ-Guidelines
Unknown	80	60-150
CONC	90	60-150
PVC	120	60-150
Corrugated Plastic	80	60-150
RC	80	60-151
RIBLOC	60	60-150
GEW	100	60-150
AC	80	60-150
Feature Type	Base Life	
Cesspit	70	60-150
Manhole	100	60-151
Open Drain	100	60-152

Pipe Size	ORC(2009)	On-Cost	Unit Cost 2009	CPI 2009-2012	Unit Cost 2012
<100	165	8%	178	4.30%	186
100	113	8%	122	4.30%	127
150	138	8%	149	4.30%	155
200	154	8%	166	4.30%	173
225	165	8%	178	4.30%	186
230	179	8%	193	4.30%	202
250	186	8%	201	4.30%	210
300	194	8%	210	4.30%	219
350	223	8%	241	4.30%	251
375	242	8%	261	4.30%	273
400	265	8%	286	4.30%	299
450	282	8%	305	4.30%	318
500	307	8%	332	4.30%	346
550	332	8%	359	4.30%	374
600	376	8%	406	4.30%	424
610	378	8%	408	4.30%	426
650	421	8%	455	4.30%	474
670	421	8%	455	4.30%	474
675	421	8%	455	4.30%	474
700	454	8%	490	4.30%	511
750	514	8%	555	4.30%	579
760	518	8%	559	4.30%	583
800	575	8%	621	4.30%	648
900	659	8%	712	4.30%	742
1000	774	8%	836	4.30%	872
1200	936	8%	1011	4.30%	1054
1350	1051	8%	1135	4.30%	1184
1500	1207	8%	1304	4.30%	1360
1600	1347	8%	1455	4.30%	1517
1800	1501	8%	1621	4.30%	1691
1830	1501	8%	1621	4.30%	1691
1	165	8%	178	4.30%	186

### **3 Water Module**

#### **3.5 Discharges\***

##### **3.5.11 Implementation Methods – Stormwater Discharges**

###### **3.5.11.1 Good Practice**

Waikato Regional Council will, in conjunction with territorial authorities, organisations, industry groups and individuals discharging stormwater, provide guidance to develop and implement good practices or appropriate codes of practice.

###### **3.5.11.2 Integration with Territorial Authorities**

Waikato Regional Council will work with territorial authorities to ensure the integrated management of stormwater in the Region by:

1. Ensuring territorial authorities inform Waikato Regional Council of significant resource consent applications that are likely to adversely affect the quality of stormwater discharges.
2. Ensuring Waikato Regional Council has input into district plan development and reviews.
3. Working with territorial authorities to identify and manage contaminated sites.

###### **3.5.11.3 Stormwater Management**

Waikato Regional Council will work with resources users (including territorial authorities) to:

1. Find ways to mitigate adverse effects of existing stormwater discharges;
2. Promote the development of stormwater management plans which record the way in which the stormwater network is operated, including methods to avoid, remedy or mitigate the adverse effects of stormwater discharge; and
3. Promote alternative methods for the treatment and disposal of stormwater from existing and new subdivisions and development.

###### **3.5.11.4 Permitted Activity Rule – Discharge of Stormwater to Water**

The discharge of stormwater to surface water (including geothermal water) is a **permitted activity** subject to the following conditions:

- a. The discharge shall not originate from a catchment that includes any high risk facility<sup>1</sup>, contaminated land\*, operating quarry or mineral extraction site unless there is an interceptor system\* in place.
- b. Any erosion occurring as a result of the discharge shall be remedied as soon as practicable.
- c. The catchment shall not exceed one hectare for discharges that originate from urban areas.
- d. There shall be no adverse increase in water levels downstream of the discharge point which causes flooding on neighbouring properties, as a result of the discharge.
- e. The discharge shall comply with the suspended solids standards in Section 3.2.4.6.
- f. The discharge shall not contain any material which will cause the production of conspicuous oil or grease films, scums or foams, or floatable suspended materials at any point downstream that is a distance greater than three times the width of the stream at the point of discharge.
- g. The discharge shall not contain concentrations of hazardous substances that may cause significant adverse effects on aquatic life or the suitability of the water for human consumption after treatment.
- h. There shall be no discharge to any Significant Geothermal Feature.

For the purposes of conditions a) and g) levels of hazardous substances in stormwater or sediments that comply with the following guidelines and standards, in relation to the substances that they address will be deemed to be complying with the conditions:

- i. Licences under the Hazardous Substances and New Organisms Act 1996 for the use of the substance in New Zealand specifying discharge and receiving water standards for the substance.
- ii. Health and Environmental Guidelines for Selected Timber Treatment Chemicals (Ministry for the Environment, Ministry of Health, 1997).
- iii. Environmental Guidelines for Water Discharges from Petroleum Industry Sites in New Zealand (Ministry for the Environment, 1998).
- iv. Guidelines for Assessing and Managing Contaminated Gasworks Sites in New Zealand (Ministry for the Environment, August 1997).
- v. Australian/New Zealand Water Quality Guidelines For Fresh And Marine Waters, (Australian & New Zealand Environment & Conservation Council, 2001).

For the purposes of this Rule, 'urban area' includes the inner city or town and built up environments, irrespective of local body administrative boundaries, that are serviced by roads where the speed limit is 80 kilometres an hour or less.

**Advisory Note:**

- Rules controlling discharge structures are set out in Section 4.2.10.
- Significant Geothermal Features are defined in the Glossary, and in Development and Limited Development Geothermal Systems, identified on maps in Section 7.10 of this Plan.

**3.5.11.5 Permitted Activity Rule – Discharge of Stormwater onto or into Land**

The discharge of stormwater (including geothermal water) onto or into land is a **permitted activity** subject to the following conditions:

- a. The discharge shall not originate from a catchment that includes any high risk facility<sup>2</sup> or contaminated land\* unless there is and interceptor system\* in place.
- b. The discharge shall be below a rate that would cause flooding outside the design discharge soakage area, except in rain events equivalent to the 10% Annual Exceedence Probability design storm or greater. Any exceedence shall go into designated overland flow paths.
- c. There shall not be any overland flow resulting in a discharge to surface water, except in rain events equivalent to the 10% Annual Exceedence Probability design storm or greater; then there shall be no adverse surface water effects as a result of the discharge.
- d. Any erosion occurring as a result of the discharge shall be remedied as soon as practicable.
- e. The discharge shall not contain concentrations of hazardous substances that may cause significant adverse effects on aquatic life or the suitability of the water for human consumption after treatment.

For the purposes of conditions a) and e) of this rule, the levels of hazardous substances in stormwater or sediments that comply with the following guidelines and standards, in relation to the substances that they address will be deemed to be complying with the condition:

- i. Licences under the Hazardous Substances and New Organisms Act 1996 for the use of the substance in New Zealand specifying discharge and receiving water standards for the substance.
- ii. Health and Environmental Guidelines for Selected Timber Treatment Chemicals (Ministry for the Environment, Ministry of Health, 1997).
- iii. Environmental Guidelines for Water Discharges from Petroleum Industry Sites in New Zealand (Ministry for the Environment, 1998).
- iv. Guidelines for Assessing and Managing Contaminated Gasworks Sites in New Zealand (Ministry for the Environment, August 1997).
- v. Australian/New Zealand Water Quality Guidelines for Fresh and Marine Water, (Australian & New Zealand Environment & Conservation Council, 2001).

**3.5.11.6 Controlled Activity Rule – Discharge of Stormwater Onto or Into Land**

The discharge of stormwater (including geothermal water) onto or into land that does not comply with Rule 3.5.11.5 is a **controlled activity** (requiring resource consent) subject to the following standards and terms:

- a. The discharge shall be below a rate that would cause overland flow leading to a discharge to surface water, except in rain events equivalent to the 10% Annual Exceedence Probability design storm or greater. Any exceedence shall go into designated overland flow paths.

Waikato Regional Council reserves control over the following matters:

- i. Measures used to control erosion or flooding.
- ii. Measures to avoid, remedy or mitigate the effects of the discharge on groundwater quality.
- iii. Measures (including contaminant loading rates) to ensure that the soil at the site is not contaminated by the discharge to a level that will affect the range of existing and foreseeable uses of the site.
- iv. Measures for avoiding, remedying or mitigating the effects of maintaining stormwater treatment systems.
- v. Information and monitoring requirements.
- vi. Measures to avoid, remedy or mitigate the effects of the discharge on surface water bodies.
- vii. Measures to avoid, remedy or mitigate adverse effects on neighbouring property.

#### **3.5.11.7 Controlled Activity Rule – Discharge of Stormwater Into Water**

The discharge of stormwater to surface water (including geothermal water) that is lawfully established at the time of notification of this Plan (28 September 1998) and does not comply with Rule 3.5.11.4 is a **controlled activity** (requiring resource consent) subject to the following standards and terms:

- a. The discharge shall not contain concentrations of hazardous substances that are causing significant adverse effects on aquatic life or the suitability of the water for human consumption after treatment.

Waikato Regional Council reserves control over the following matters:

- i. Measures used to control erosion or flooding.
- ii. Measures to avoid, remedy or mitigate the effects of the discharge on the receiving water bodies.
- iii. Measures for avoiding, remedying or mitigating the effects of maintaining stormwater treatment systems.
- iv. Information and monitoring requirements.
- v. The degree of compliance with discharge or receiving water standards for any hazardous substance in relevant New Zealand Standards, Guidelines or licences issued under the Hazardous Substances and New Organisms Act 1996.

#### **3.5.11.8 Discretionary Activity Rule – Discharge of Stormwater**

The discharge of stormwater into water, and/or into or onto land which does not comply with Rules 3.5.11.4, 3.5.11.5, 3.5.11.6 and 3.5.11.7 is a **discretionary activity** (requiring resource consent).

#### **Advisory Notes:**

- Information requirements to enable the assessment of any application under this Rule are set out in Section 8.1.2.2 of this Plan. In addition, assessment shall also take into account the matters identified in the policies of Section 3.2.3 of this Plan.
- Rules controlling discharge structures are set out in Section 4.2.10 of this Plan.

#### **Explanation and Principal Reasons for Adopting Methods 3.5.11.1 to 3.5.11.8**

The non-regulatory methods for stormwater management implement Policy 7 by encouraging at-source management and treatment of stormwater prior to its discharge to receiving waters. **Method 3.5.11.1** supports initiatives to develop, implement and manage stormwater discharges, for example, codes of practice, guidelines, environmental management systems, best practicable options and good practices. The oil industry is one that has produced a detailed code of practice that addresses management of stormwater discharges from service stations. Other treatment options for stormwater include the use of grassy swales, sumps or artificial wetlands, and the diversion of the 'first flush' into trade waste systems.

**Methods 3.5.11.2 and 3.5.11.3** promote the need for integrated management of stormwater with territorial authorities. Given that territorial authorities own and manage the large majority of stormwater systems in the Region, they are clearly very influential in terms of the standards and technology adopted.

If Waikato Regional Council wishes to bring about improvements in these areas, it needs to work with territorial authorities and have regard to the practical constraints which exist and the communities' ability to pay for improvements.

Under the RMA, the discharge of stormwater to water may only occur if it is expressly allowed by a rule in a regional plan or by a resource consent. In accordance with Policy 1, **Rule 3.5.11.4** allows the discharge of stormwater only from area that are not likely to cause contamination. The nature of the catchment from which stormwater is derived is an important factor influencing the risk of adverse effects from discharges. Consequently, discharges from contaminated land and those high risk facilities identified in Section 3.2.4.5, are not permitted activities unless there is an interceptor system in place.

In accordance with Policies 2 and 3, **Rule 3.5.11.5** provides for the discharge of stormwater to land provided that the stormwater is not sourced from either contaminated land or high-risk facilities unless there is an interceptor system in place. Land-based disposal is promoted in preference to water-based disposal as a way to ensure that accidental spills of contaminants are not directly discharged into water bodies. Land-based disposal is also consistent with tangata whenua views.

**Rule 3.5.11.6** allows the discharge of stormwater onto land from stormwater catchments draining high risk facility sites, provided the specific standard and term is complied with. Waikato Regional Council has reserved its control over issues relating to the effects of the discharge on the natural and human uses and values of the water, flooding, erosion, soil contamination and change in water levels downstream from the discharge.

**Rule 3.5.11.7** identifies that consent applications for existing discharges of stormwater will not be declined by Waikato Regional Council, despite the fact that they have potential to have adverse effects on the environment from the contaminants present. Control is reserved over a number of matters related to environmental effects, so that conditions can be placed on the consent, which will ensure any effects are minor.

Any stormwater discharge into water or onto and/or land that does not comply with the permitted or controlled activity rules is a discretionary activity under Rule 3.5.11.8. This allows for any adverse effects to be assessed against the criteria set out in the RMA.

Footnotes:

1. As listed in Section 3.5.12.
2. As listed in Section 3.5.12.



### 3.5.12 High Risk Facilities

The following is a generic list of high risk facilities:

Activity	Reason for High Risk Classification
1. Mechanical workshops and service stations.	These sites use and handle large volumes of oils and other petroleum products. Spillages of these substances are not uncommon, hence the greater risk of stormwater discharges to the environment.
2. Printers.	Relatively large quantities of dyes and paints are handled at these sites. The risk of spillages is relatively high.
3. Spray painting facilities.	Paints can not only be spilt at these sites but can enter stormwater as a consequence of drift from spray painting operations.
4. Meat, fish and shellfish processing industries.	Wastes from these industries can typically have a high BOD. This can cause significant adverse effects.
5. Dairy products processing.	Wastes from these industries can typically have a high BOD. This can cause significant adverse effects.
6. Waste management sites (transfer stations, compost sites, landfills etc.).	Litter, hazardous substances and high BOD wastes can all enter stormwater systems from these sites.
7. Truck wash facilities	The activity of truck washing can wash hazardous contaminants of trucks as well as sediments and wastes from spillages on site.
8. Unenclosed manufacturing and bulk storage of fertiliser.	Fertilisers can give rise to high levels of nutrient in stormwater discharges. Where fertilisers are manufactured or stored in such a way that fertilisers can enter stormwater the risk of adverse effects is unacceptably high.
9. Textile fibre and textile processing industries where dyeing and washing of fabric occurs.	Large quantities of dye and high BOD wastes (from wool scourers for instance) are handled on these site. The risk of spillages that could enter stormwater is high.
10. Tanneries and leather finishing.	Large quantities of dye and high BOD wastes are handled on these sites. The risk of spillages that could enter stormwater is high.
11. Footwear manufacture.	Large quantities of dye and high BOD wastes are handled on these sites. The risk of spillages that could enter stormwater is higher.
12. Manufacture of paper and paper products.	Hazardous substances such as chlorine based bleaches and dyes are regularly handled on these sites. The risk of spillages etc. entering stormwater can be high.
13. Manufacture or processing of chemicals, and of petroleum, coal, rubber and plastic products.	The risk of spillages associated with hazardous substances used in these industries can be high.
14. Manufacture of clay, glass, plaster, masonry, asbestos and related mineral products.	The risk of spillages associated with hazardous substances used in these industries can be high.

<b>Activity</b>	<b>Reason for High Risk Classification</b>
15. Manufacture of fabricated metal products, machinery and equipment.	The risk of spillages associated with hazardous substances used in these industries can be high.
16. Electroplaters, Foundries, galvanizers and metal surfacing.	The risk of spillages associated with hazardous substances used in these industries can be high.
17. Concrete batching plants and, asphalt manufacturing plants.	The risk of spillages associated with hazardous substances used in these industries can be high.
18. Stock saleyards.	High BOD run-off can be associated with these sites.
19. Bakeries.	Outside washing of trays, dishes and pans can result in high BOD, fats, greases and detergents entering stormwater systems.
20. Car wash and valet services.	High oil, solvent and solid discharges can occur from these activities.
21. Commercial laundries (excluding self-service laundrettes and Laundromats).	The risk of spillages associated with detergents, alkalis and salts used in this industry can be high.
22. Furniture/wood manufacturing and refinishing industries.	Some of these industries work outside extensively, usually with no stormwater treatment, Contaminants such as sawdust, glues and alkali stripper solution in the stormwater coming of these sites can include high solids, BOD and high pH.
23. Timber preservation, treatment and storage sites where chemically treated timber is sorted.	A range of hazardous substances are used on these sites (e.g. Copper Chrome, Arsenic, Boron and copper-quinoline compounds). In addition, timber treatment chemicals have been shown to be able to leach from treated wood in storage.

### 3.5.13 Environmental Results Anticipated

1. A reduction in the number of treated effluent discharges to surface waters and an increase in those utilising land-based treatment systems.
2. Improved water quality as a result of reduced point source discharges to surface waters.
3. More recycling of effluent and minimisation of farm nutrient loss.
4. Avoidance of contamination of ground water by on-site sewage discharges in new areas.
5. Reduced incidence of 'public health' issues associated with on-site sewage disposal.
6. Uses and values identified by the Water Management Classes protected.
7. The quality of stormwater discharges improved.
8. A trend toward land-based disposal of stormwater.

**Appendix I: Current WDC Contractual Commitments for Stormwater Activity**

Inspections and emergency attendance – Veolia Water Limited



**WASTEWATER**

**ACTIVITY MANAGEMENT PLAN**

**2015 - 2025**

Adopted by Council on.

DOCUMENT CONTROL SHEET

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Revision No.	Author	Detail	Reviewed by	Approved for issue by:	Signature	Date
1	<u>CVR</u>			<u>CVR</u>		
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## SECTION 1 - EXECUTIVE SUMMARY

This Activity Management Plan (AMP) is Waitomo District Council (WDC) Wastewater Activity Management Plan including the proposed 2015-25 expenditure forecast for the wastewater assets owned and managed by WDC. It is planned to review and update this document regularly, in line with the three yearly planning cycle of the Long Term Plan (LTP), to incorporate improved decision making techniques, better asset information and a better understanding of customer expectations.

The Wastewater Activity programmes and budgets contained within the draft LTP have been drawn from this Plan. It is intended that Council will adopt this AMP as a draft before June 2015 in support of the draft LTP. It will be adjusted following public consultation on and adoption of the final LTP in June 2015.

This AMP is intended to demonstrate responsible stewardship of wastewater assets by WDC on behalf of its customers and stakeholders. The AMP also acts as a vehicle for communication with all parties with an interest in WDC's asset management practices. It provides a focus within WDC for ongoing development of good asset management practices and demonstrates that the service potential of the wastewater network is maintained at optimum cost to provide a defined level of service over the long term.

The AMP aims to provide the tactics that will enable Council to achieve its strategic goals most cost effectively, via the LTP process. It should be read in conjunction with WDC's 2015-25 LTP. It is based on existing levels of service, currently available information and the knowledge, experience and judgment of Council staff and contractors.

The wastewater assets at Waitomo Village are privately owned and operated, and do not form part of this AMP. It is noted however that the option of the Village wastewater (and water supply scheme) being vested in the Council, has been the subject of ongoing discussion between the parties. Complexities relating to long-term tenure of the associated land is the current focus of discussions with the two local Trusts. The Waitomo Village system supplies predominantly commercial operations and an intermittent tourist population of up to 600,000 per year.

There is no plan to expand the wastewater services to other small townships within Waitomo District, particularly as the low rate of population growth and urban development is not expected to place demand for further wastewater infrastructure, consistent with WDC's 2014 Water and Sanitary Services assessment. The main obstacle is the high unit cost of providing consented wastewater services to small communities .

### 1.1 SCOPE OF ASSETS USED TO PROVIDE THE SERVICE

WDC owns and operates four separate wastewater schemes at Te Kuiti, Piopio, Te Waitere and Benneydale respectively.

Each scheme comprises a reticulation network, pump stations, treatment plant and effluent disposal system. A summary of operating parameters for each scheme is shown in the table below.

Scheme	Resource consents	Resource consent expiry date(s)	Population served	Treatment capacity (m <sup>3</sup> per day)	Spare treatment capacity	Length of reticulation (km)	Sewer reticulation requiring replacement within the next 10 years
Te Kuiti	RC 961414 - Discharge up to 7,000m <sup>3</sup> effluent per day to Mangaokewa Stream	7 October 2005 - On Application	4218 plus wet industries	6900m <sup>3</sup> /d (Peak flow capacity 6900m <sup>3</sup> /d)	10%	51.457	10%
	RC 961414 - Discharge up to 44,000m <sup>3</sup> sludge to land	7 October 2005 - On Application					



Scheme	Resource consents	Resource consent expiry date(s)	Population served	Treatment capacity (m <sup>3</sup> per day)	Spare treatment capacity	Length of reticulation (km)	Sewer reticulation requiring replacement within the next 10 years
	RC 961414 - Construct outfall structure in bed and banks Mangaokewa Stream	7 October 2005 - On Application					
Benneydale	RC 118813 - Discharge up to 85m <sup>3</sup> per day of treated effluent into Mangapehi Stream	1 May 2025	240	85	10%	2.169	10%
Te Waitere	RC 108047 - Discharge up to 5.2m <sup>3</sup> treated effluent per day to land	30 September 2017	30-40	5.2	0	0.63	0.535
Piopio	RC 117290 - Discharge up to 135.4m <sup>3</sup> treated effluent per day to Mokau River	30 June 2028	500	135	20%	10.761	0%

**Table: Summary of wastewater schemes main parameters**

The distribution of wastewater assets by community and optimised replacement value is shown in the table below

DISTRICT WASTE WATER		
Community	Type	ORC
Te Kuiti	Reticulation	\$ 11,426,505
	Points	\$ 2,714,822
	Treatment & PS	\$ 11,466,070
	TOTAL	\$25,607,397.00
Benneydale	Reticulation	\$ 417,847
	Points	\$ 109,996
	Treatment & PS	\$ 968,789
	TOTAL	\$1,496,632.00
Te Waitere	Reticulation	\$ 108,252
	Points	\$ 1,248
	Treatment & PS	\$ 95,804
	TOTAL	\$205,304.00
Piopio	Reticulation	\$1,118,737
	Separator tanks	\$ 643,465
	Treatment plant	\$2,801,141
	TOTAL	\$4,563,343.00
<b>GRAND TOTAL</b>		<b>\$31,872,676</b>

## 1.2 STRATEGIC ENVIRONMENT

### 1.2.1 Vision

Councils Vision for the 2015 – 2025 Long Term Plan is:

“Creating a better future with vibrant communities and thriving business”

Council’s Wastewater Activity supports this vision by:

- a. Maintaining and improving the wastewater reticulation collection system to maintain a healthy living environment
- b. Operating the treatment plants in accordance with discharge consent requirements to help preserve the natural environment for future generations

### 1.2.2 Community Outcomes

The Wastewater Activity contributes to the following community outcomes:

Vibrant Communities
<b>CO5</b> A place where we preserve the natural environment for future generations, ensuring that natural resources are used in a sustainable manner
Effective Leadership
<b>CO8</b> A place where the development of partnership for the delivery of programmes and services is encouraged and pursued.
Sustainable Infrastructure
<b>C10</b> A place that provides safe, reliable and well managed infrastructure which meets the District community needs and supports maintenance of public health, provision of good connectivity and development of the District

### 1.2.3 Strategic Goals for the Group

- To protect public health
- To protect the environment from the adverse effects of discharging treated effluent to land, air and water
- To enable economic development

### 1.2.4 Rationale for Activity

The Activity exists to ensure that the natural environment is protected from detrimental effects of sewage, and that the wastewater management needs of the District community are met

## 1.3 SUMMARY OF ACTIVITY ISSUES

A brief summary of current issues at each existing wastewater scheme is as follows:

### 1.3.1 Te Kuiti

Treatment:

- a. The upgraded treatment plant is a modified activated sludge system with clarification, filtration and ultra violet treatment before discharge capable of treating 7,000m<sup>3</sup> per day at peak. The plant still operates under the existing operative resource consent while a new consent is finalised.
- b. The treatment plant is performing in accordance with the treatment parameters agreed for the new consent.
- c. Average annual daily discharge volume is 3,360m<sup>3</sup>/day including significant trade waste discharge volume from two meat works plants.
- d. Trade waste discharge consents are in place for both meat works plants.

- e. High rainfall events result in high inflow/infiltration into the reticulation system which is managed through by passing the excess inflow into storage ponds from where it is pumped back to the reactor and put through the full treatment process.

Reticulation:

- a. Overall the reticulation system is perceived to be in fairly good condition providing the required level of service, although rainwater inflow and infiltration into parts of the system is high and creates surcharge problems at some points during high rainfall events.
- b. The ingress of water due to inflow and infiltration is managed at the treatment plant through storage and pump back to front of treatment process without putting quality aspects of the discharge consent at risk.
- c. Low areas of the reticulation occasionally overflow during a normal rainfall year due to surcharge of the system caused mainly by silt and gravel in the system and bottlenecks as result of poor planning or construction in the past. These issues are resolved as they become apparent.

Pump Stations:

- a. The system contains four secondary pump stations and a main pump station.
- b. Two of the pump stations have overflow pipes that may discharge into the Mangaokewa Stream during extreme rainfall events. This rarely happens and is reported if it does. There is a minimal health risk because of high dilution under such circumstances.
- c. The main pump station has been refurbished and reconfigured to improve operation and maintenance and is monitored by SCADA and telemetry to optimise energy use and smoothing flow thereby also improving treatment plant operation.

**1.3.2 Benneydale**

- a. Benneydale is a small town with wastewater and water supply services because it was originally a mining and later timber milling town
- b. About 90% of houses have reticulated sewerage. The rest relies on privately owned, individual septic tanks.
- c. The consented discharge volume for that part of town that could be fully reticulated economically, is 85m<sup>3</sup>/day
- d. The new discharge consent expires in May 2025
- e. The plant has been restored to its original design with a small wetland added as agreed with local Iwi.
- f. A soakage field for summer discharge has been added to protect the recreational capacity of the Mangapehi stream during low summer flows as required under the new consent.
- g. The plant is monitored using SCADA and telemetry since early October 2008

**1.3.3 Te Waitere**

- a. The system has a very small discharge, less than 5m<sup>3</sup> per day and is about 30 years old.
- b. There have been no recorded pollution events at this facility, though anecdotal information suggests overflows into the harbour have occurred, due to power failure with long duration.
- c. There is no spare capacity without expanding the grey-water collection tank in which case the pump unit and its electrical supply may also have to be upgraded.
- d. Discharge is to land, on average 1.6m<sup>3</sup>/day. The Consent for 5.2m<sup>3</sup>/day expires in 2017.
- e. The present soakage field is under stress and a detailed investigation is needed. It will have to be reconstructed to work effectively and additional land will be required. It is expected to require additional treatment by a new/modified discharge consent.
- f. A cadastral survey proved that the land in the area of the soakage field is moving; it moved roughly 1.0m in last 15 years.
- g. There is demand for residential development in the town and immediate surrounds. A high level, managed development plan for the area has been considered by Council December 2008 and put on hold. The whole area will need a full geotechnical stability assessment before any further development is approved.

**1.3.4 Piopio**

- a. The Piopio scheme is a small diameter reticulation system consisting of individual septic tanks as primary treatment with effluent pumped to a central treatment facility. The system was fully commissioned in late 2012. The necessary discharge consent application has been obtained and the scheme has been fully operational since June 2012, operating well within the discharge parameters.

## 1.4 LEVELS OF SERVICE

This AMP is focused on clarifying and defining key levels of service for each wastewater scheme and then identifying and costing future operations, maintenance, renewal and capital works required to provide these levels of service. The levels of service set out in Section 3 are based on customer expectations, strategic goals designed to achieve relevant Community Outcomes and statutory requirements. They will be used as the focus for future customer consultation.

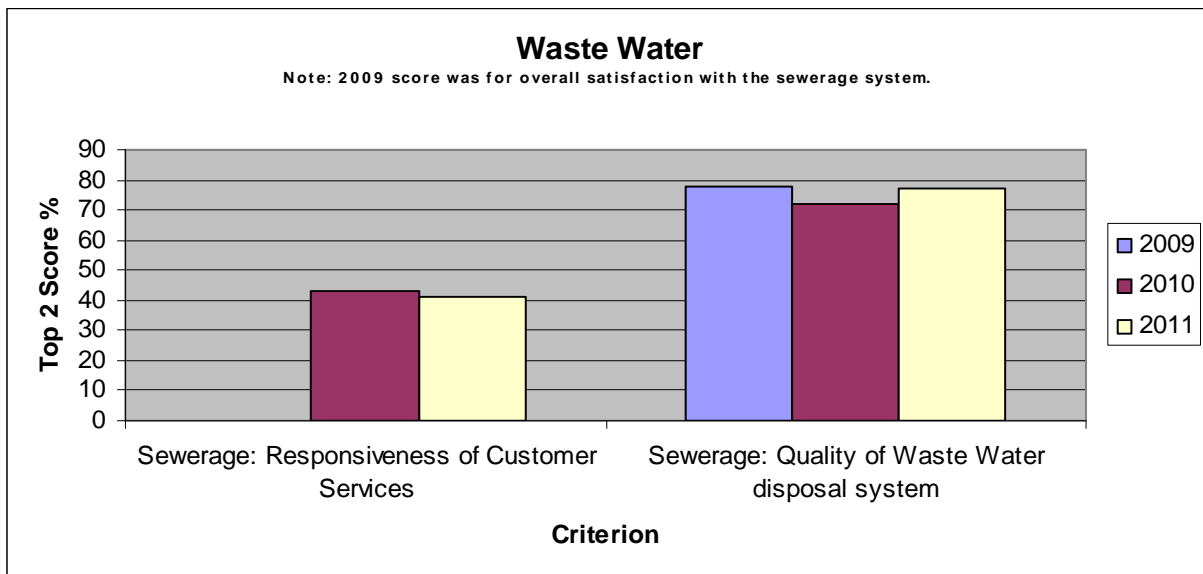
### 1.4.1 Performance Measures

The Levels of Service and Key Performance Indicators for this Group of Activities are:

LEVEL OF SERVICE	PERFORMANCE MEASURE	Performance Target
Wastewater schemes are adequate and maintained sufficiently.	Number of complaints received by the Council in a year* about ; (a) sewage odour (b) sewerage system faults (c) sewerage system blockages, and (d) the Council's response to issues with its sewage system.	Total complaints per 1000 connections ≤20
Environmental impacts of Council's sewerage systems are managed effectively.	Compliance with the Council's resource consents for discharge from its wastewater schemes, measured by the number of: (a) abatement notices, and  (b) infringement notices; and  (c) enforcement orders, and  (d) convictions,  received by the Council in a year	Zero
Timely response to sewage overflows	The median response times for attendance, in a year, measured from the time that the Council receives notification to the time that service personnel reach the site	≤3 hours
	The median response times for resolution, in a year, measured from the time that the Council receives notification to the time that service personnel confirm resolution of the blockage or other fault	≤ 9 hours
Provision of effective and reliable sewerage systems and service	Number of dry weather sewage overflows from the Council's sewerage systems in a year.	≤ 5 per 1,000 connections

### 1.4.2 Residents Satisfaction Surveys

Data from Residents Satisfaction Surveys (RSS) over the period 2009 - 2011 shows the following trends. There were no questions about wastewater services in the 2014 RSS



## 1.5 FUTURE DEMAND

The main drivers of demand in wastewater are:

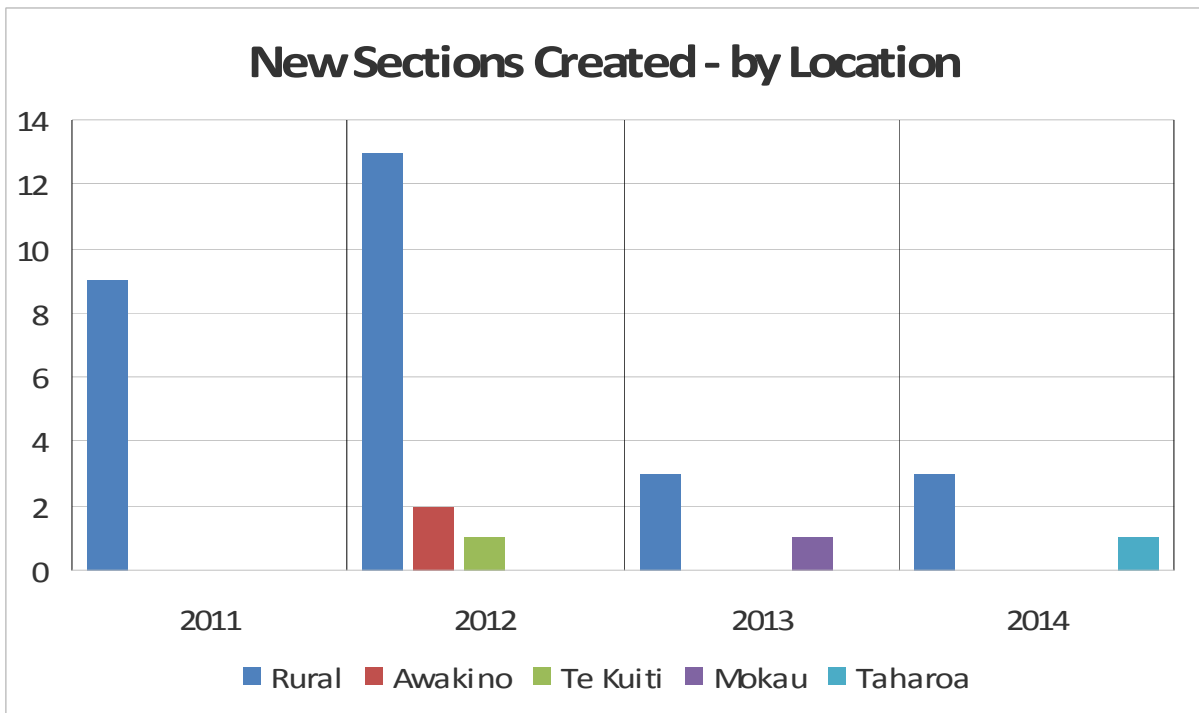
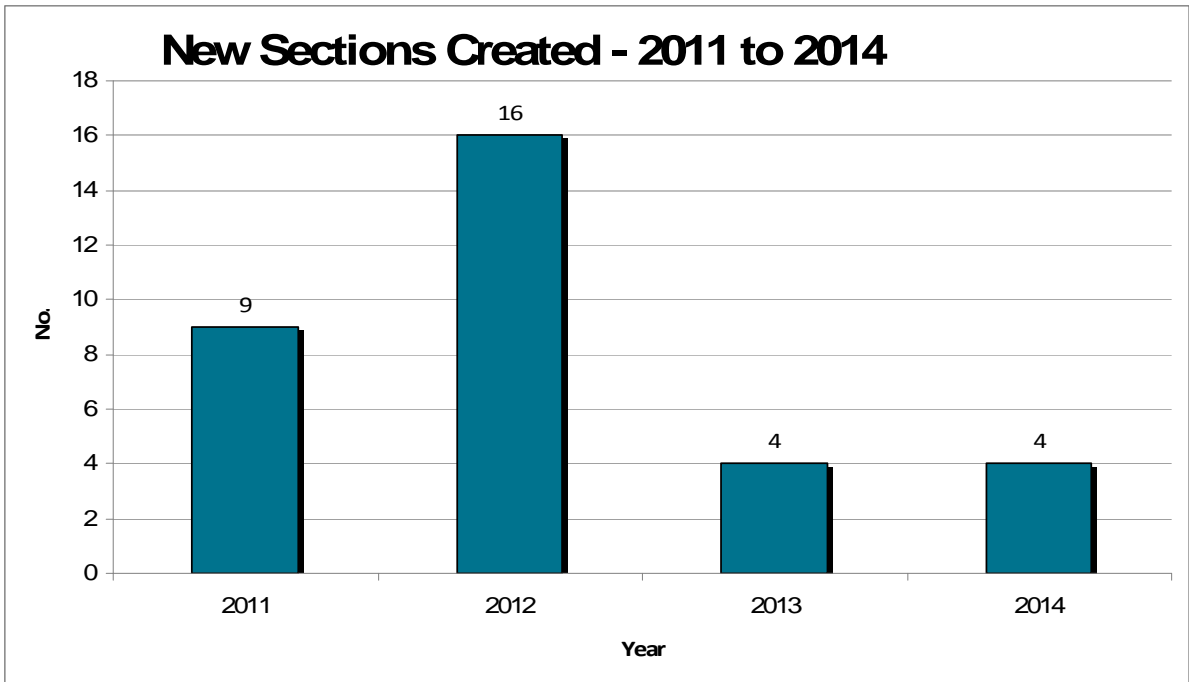
- Land use activities (e.g. industrial trade wastes, tourism and coastal settlements)
- Population growth
- Climate change
- Community expectations

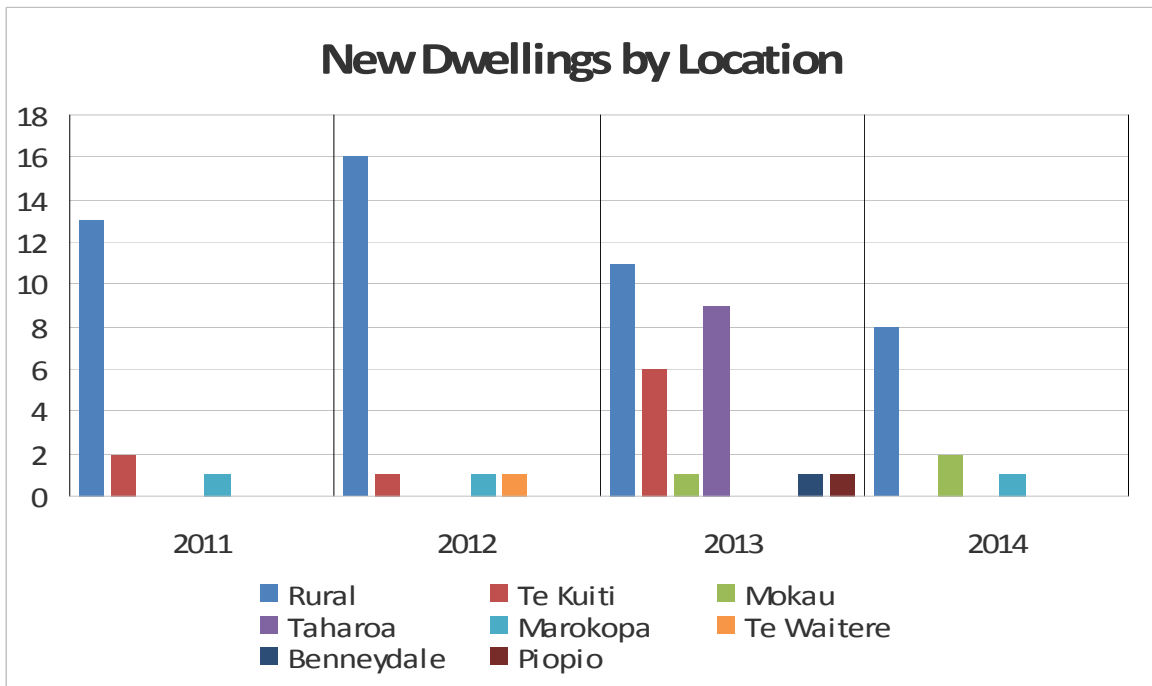
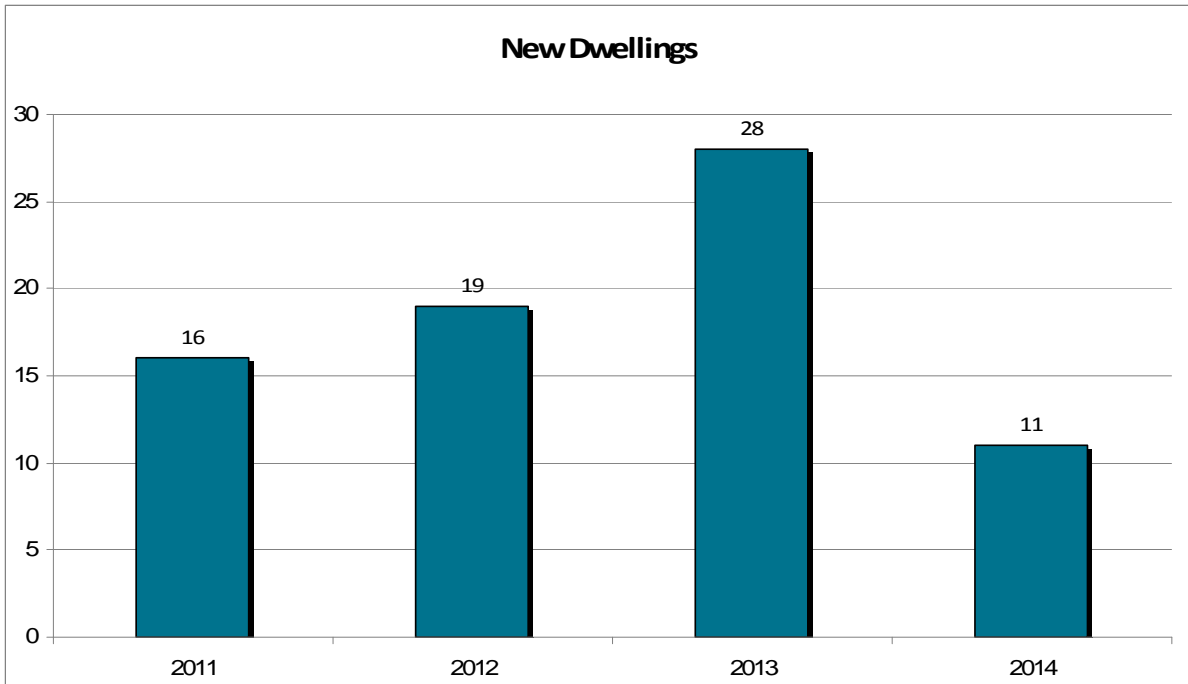
### 1.5.1 Population

The district resident population has experienced a slight decline over the 2006 to 2013 inter-census period. The future population forecast prepared by the National Institute of Demographic and Economic Analysis (Waikato University) predicts a continuation of this downward trend for the district over the next 50 years. At a micro level, this pattern of population decline is expected to be consistent, more or less, across the district, including the coastal communities that were previously areas experiencing highest growth and demand. Overall, the demographic and development trends show that there is no population based demand for growth related infrastructure at the present time or in the foreseeable future.

### 1.5.2 Land-use development

From a recent, informal, desktop planning exercise, drawing from development proposals which are known to officers and/or are in the early stages of consent processing, it has been identified that further growth is unlikely to place pressure on the provision of Council services. Indications are the recent trends of relatively slow development are likely to continue into the foreseeable future. It is expected that any increase in demand from residential development over the term of this AMP will be minor and won't impact on the existing capacity of the wastewater infrastructure.





Of interest is the nine new houses at Taharoa during 2013. These were all relocated dwellings for the NZ Steel Mining Company, potentially indicating an increased scale of operation at that location. Wastewater services to houses at Taharoa is a private arrangement under the ownership and control of the Company.

Wastewater services are investigated for any size subdivision, taking due consideration of existing capacity and/or alternative supply arrangements, particularly in the case of large scale developments, should they occur.

The current agricultural and pastoral based economy is expected to remain predominant in the district, with growth very dependent on economic conditions and export opportunities. Industrial growth, which will in part impact on demand for wastewater treatment and disposal capacity, is largely dependant on attracting new industries. There are currently two major wet industries discharging to the Te Kuiti wastewater system. The effects of discharges from these industries are managed through Council's Trade Waste Bylaw and specific trade waste discharge consents.

### 1.5.3 Climate Change

The impacts of climate change may influence demand for wastewater services due to the frequency of intensive rainfall conditions. This may impact on the capacity of the reticulation networks and treatment plants due to the high levels of inflow from urban areas not serviced with stormwater, and infiltration levels over winter months.

### 1.5.4 Community Expectations

The following trends are expected to impact on the quantity and quality of stormwater services provided:

- Continued public pressure for land based effluent disposal
- Increasingly more stringent resource consent conditions for wastewater disposal

### 1.5.5 Demand implications

The implications of these demand trends on the quantity and quality of wastewater services over the next 30 years will be:

- Future maintenance and renewals costs associated with the wastewater infrastructure can be expected to increase within the planning period.
- Relatively minor changes to LoS could have major impacts on costs.
- Consent requirements for discharge consents will increase supply costs
- Potential demand for the management and development of the Waitomo Village wastewater supply scheme.

In the meantime, no provision has been made over the term of this AMP for additional wastewater infrastructure to support growth planning.

## 1.6 LIFE CYCLE ASSET MANAGEMENT

Asset management practices focus on lifecycle activities (creation, maintenance, renewal, development and disposal) for each asset group to improve the decision making and evaluation of options associated with each asset and to optimise lifecycle costs.

Apart from the current issues listed earlier in this document, the following asset management planning approaches are noted for each scheme:

### 1.6.1 Te Kuiti

- Te Kuiti has a totally pumped sewer system therefore energy is a significant cost component
- 77% of the reticulation has a remaining life in excess of 20 years, with 68% having a remaining life of less than 60 years
- The age and high proportions of AC and GEW pipe material types will impact on renewal programmes during the 2015 – 2025 and subsequent planning periods.
- The reticulation has a inflow/infiltration issue which causes occasional problems
- In extreme rain fall events inflow/infiltration can strain the treatment process and may cause breaches of the consented discharge volumes.
- The cost of reducing inflow and infiltration to manageable levels is estimated to be significant and a set amount of \$100,000 annually is allocated to progressively solve this problem.
- A new discharge consent is expected to be issued in early 2015 for a term of 25 years
- The upgrade to the treatment plant included improvements to operating systems, a stormwater inflow bypass pipeline and treatment/storage, plus reconfiguration of the aerobic/anaerobic treatment ponds and provision for tertiary treatment and sludge management at a cost of \$9.3m, including design costs was completed by June 2013.
- The upgrade provides a flexible operating environment that meets the agreed new consent conditions.
- Sewers due for renewal during the next 10 years have been programmed to smooth expenditure.
- The estimated cost of the required reticulation renewals for the Te Kuiti scheme over the next ten years (2015 – 2025) is about \$1.2M

### 1.6.2 Benneydale

- The existing treatment plant was rehabilitated in 2009-10 which improved the quality of the discharge effluent significantly.



- A seasonal (summer) land disposal system was constructed in 2011 to bring the water quality of the Mangapehi Stream to recreational use standard during summer.
- The old reticulation of 1894m has been extended by 265m and all the properties that could be economically serviced are connected to the waste water system.
- The optimised replacement cost of the reticulation in Benneydale is \$418,000. The remaining useful life of the old reticulation according to asset information held is 2 years. Investigation was done in mid 2011 and it was concluded that some repair work is required over the next 3 years which would allow the life of the old reticulation to be extended to be about 20 years.

### 1.6.3 Te Waitere

- Reticulation is only available to a limited number of properties.
- The perception was that extension of the system is required which will require additional land to extend the land disposal area.
- Such work would require new, probably modified discharge consent with more stringent discharge conditions, land use activities as well as other components of the basic system.
- Initial investigation showed that the surface layer of the land on some parts of the peninsula is moving.
- Further expansion/development had been put on hold until a full geotechnical investigation to establish land stability had been done. This will probably only happen in the period beyond 2025
- Expansion of the network may require secondary and probably tertiary treatment capacity to be introduced.

### 1.6.4 Piopio

- The Piopio waste water system was fully commissioned by end 2012.
- Future development in excess of the spare capacity of about 32 equivalent units will necessitate expansion of the whole system at Piopio.
- Alternatively, a more feasible option might be to construct an additional new plant on a separate or adjacent site to a design capacity of 180 additional residential equivalent units.

### 1.6.5 Other Areas

There is a possibility of implementing future schemes at other townships within Waitomo District, particularly in the coastal communities where growth is partly impeded by the lack of appropriate wastewater infrastructure.

Mokau, Awakino and Marokopa do not have public sewerage schemes; however it is proposed that a scheme be investigated for Mokau - Awakino to a concept stage. The projected timetable for this work would commence with a concept design after 2025 followed by detailed design and construction in the following years subject to budget approval. An initial concept was done with estimated cost around \$17 million.

The wastewater scheme at Waitomo village is privately owned and operated, and does not form part of this AMP.

## 1.7 RISK MANAGEMENT PRACTICES

A pragmatic approach has been taken to risk management, with identified risk events grouped into:

- Natural events, where there is no real control over the timing or extent of the event, although probabilities may be understood, e.g. floods, lightning strikes, earthquakes.
- External impacts, where other service providers impact on continuity of the wastewater activity, e.g. power supply failures, material supply failures.
- Physical failure risks, where condition, performance of the asset or third part damage could lead to failure.
- Operational risks, where maintenance and or management of the asset or asset management activities may impact adversely on the asset.

Part of WDC's asset management practices includes risk management decision making tools used to prioritise long term renewal, upgrade and development expenditure for water supply infrastructure.

## 1.8 FINANCIAL SUMMARY

In November 2014 the provisional 2015-25 LTP financial forecast for the wastewater activity was determined by identifying new works, and the continuation/evaluation of current maintenance and renewal strategies within each of the components, i.e. reticulation networks, pump stations, treatment plants based on the asset data as contained in BizeAsset. This is summarised in the following table:

**Table: Wastewater operational, renewal and capital costs for the 10 year LTP period 2015-25 (Note: Excludes allowance for inflation)**

Sewerage	EAP 2014/15	LTP 2016	LTP 2017	LTP 2018	LTP 2019	LTP 2020	LTP 2021	LTP 2022
<b>Operating Income</b>								
Te Kuiti	825	826	862	891	922	955	992	1,032
Te Waitere	0	0	0	0	0	0	0	0
Benneydale	2	1	1	1	1	1	1	1
Piopio	1	1	1	1	1	1	1	1
<b>Total Operating Income</b>	<b>828</b>	<b>828</b>	<b>864</b>	<b>893</b>	<b>924</b>	<b>957</b>	<b>994</b>	<b>1,034</b>
<b>Operating Expenditure</b>								
Te Kuiti	2,926	2,769	2,798	2,896	2,985	3,047	3,080	3,126
Te Waitere	49	43	43	47	47	55	54	58
Benneydale	159	162	168	171	176	181	185	191
Piopio	265	269	278	287	291	293	298	302
<b>Total Operating Expenditure</b>	<b>3,399</b>	<b>3,243</b>	<b>3,287</b>	<b>3,401</b>	<b>3,499</b>	<b>3,576</b>	<b>3,617</b>	<b>3,677</b>
<b>Net Operating Cost/(Surplus)</b>	<b>2,571</b>	<b>2,415</b>	<b>2,423</b>	<b>2,508</b>	<b>2,575</b>	<b>2,619</b>	<b>2,623</b>	<b>2,643</b>
<b>Capital Expenditure</b>								
Te Kuiti	515	428	537	423	381	505	394	401
Te Waitere	5	14	16	0	56	0	0	0
Benneydale	65	35	38	40	42	42	44	49
Piopio	0	53	3	3	3	3	4	4
<b>Total Capital Expenditure</b>	<b>585</b>	<b>530</b>	<b>594</b>	<b>466</b>	<b>482</b>	<b>550</b>	<b>442</b>	<b>454</b>
<b>Net Expenditure</b>	<b>3,156</b>	<b>2,945</b>	<b>3,017</b>	<b>2,974</b>	<b>3,057</b>	<b>3,169</b>	<b>3,065</b>	<b>3,097</b>
<b>Funded By</b>								
Internal Loans	515	14	16	0	56	0	0	49
Reserves	456	702	723	611	522	579	413	374
TK Sewerage Service Charge	1,614	1,644	1,661	1,696	1,793	1,879	1,903	1,907
TK Sewerage Targeted Rate - Trade Waste Contribution	176	166	168	174	179	183	185	188
TW Sewerage Service Charge	42	43	43	47	47	56	55	57
BD Sewerage Service Charge	139	149	166	195	201	207	214	221
PP Sewerage Service Charge	215	226	239	253	260	267	296	301
<b>Total Funding</b>	<b>3,157</b>	<b>2,944</b>	<b>3,016</b>	<b>2,976</b>	<b>3,058</b>	<b>3,171</b>	<b>3,066</b>	<b>3,097</b>



The strategy for this forecast was to:

- Assign realistic timing to projects given the resources available under Council's current funding sources and in relation to impacts on other Activity Management Plans
- Optimise timing of projects
- Generate consistent budgeting philosophies across all asset groups
- Align expenditure with growth predictions
- Reduce the backlog of currently approved but uncompleted works.

In summary, the overall wastewater forecast for the next 10 years proposes:

- Operational and maintenance costs increase steadily across all schemes inline with inflation adjustments.
- Renewal costs fluctuate between schemes with non-operational expenditure smoothing applied in all cases to avoid major spikes in overall expenditure for each scheme from one year to the next.
- Major renewals expenditure in Te Kuiti due to poor pipe condition leading to high inflow/infiltration may be required. The work planned for detailed surveys of the reticulation will confirm the scope and cost estimate of the work required.
- No other capital works expenditure is included in the programme.

## **1.9 ASSUMPTIONS**

The following basic assumptions have been made in preparing 10 year funding requirement forecasts:

- All expenditure is stated in dollar values as at 30 June 2014 with no allowance made for inflation over each subsequent year of the 10 year planning period.
- Operational cost will increase with upgraded plants due to higher levels of final effluent quality required
- It is anticipated that there will be a gradual increase in operation and maintenance expenditure in real terms over the planned period due to ever more stringent compliance requirements leading to higher compliance costs and the continued ageing of the asset. A small part may be offset by improved asset management decision making made possible by enhanced information used in asset management systems.
- Programmed renewal works are expected to result in delaying increase in cost of maintenance over time. As this possible reduction is difficult to quantify it has not been allowed for in the financial forecasts.
- Maintenance allocations are largely based on maintaining current levels of service including compliance with current resource consents.
- Significant increases in the renewal funding may however result from more detailed evaluation of assets.

These projections and the AMP will be reviewed in 2017 in light of improved asset information that will be collected and recorded over the next 3 years ahead of the 2018 LTP.

## **1.10 FUNDING OF ACTIVITY**

The current funding options available for the Wastewater Activity include:

- Rates
- Capital works subsidies from Ministry of Health
- Fees and trade wastes charges
- Financial and development contributions

## **1.11 AMP IMPROVEMENT PROGRAMME**

An improvement plan that outlines steps required to improve the quality of both the content and presentation of this AMP document is included as Section 12 (Improvement Plan section). This has been compiled in conjunction with the plan update.

Key activities/programmes identified in the improvement plan are:

- Consult to ascertain the community's service needs and priorities and to ensure their views is considered when selecting the best level of service scenario.
- Ensure the right level of funding is being allocated to maintain the asset service potential.
- Formalise asset data collection and recording procedures.
- Improve contractor maintenance reporting
- Initiate a long term infiltration and inflow investigation and reduction programme, initially for Te Kuiti.

- Improve accuracy and completeness of assets registers for each scheme.
- Develop a greater focus on risk identification and management, obtaining more detailed information on critical assets and prioritise identified risk mitigation works.
- Monitor and enforce agreements made under the Trade Waste Bylaw for the Te Kuiti scheme

## SECTION 2 - INTRODUCTION

### 2.1 WAITOMO DISTRICT

The Waitomo District occupies a large area extending from the west coast of the North Island between Mokau and Te Waitere through to Pureora forest in the east, and from Mapiu in the south to Waitomo Village in the north. The District is situated within the Waikato Region and comprises 3,363.57 sq km of land. The total, normally resident, population is 8,910 (2013 Census), with Te Kuiti the main residential and service center having a population of 4,400. Other towns include Mokau, Waitomo, Piopio, Awakino, Marokopa and Benneydale. The local economy is based on farming, forestry, mining and tourism. Major industrial users of wastewater infrastructure include two abattoirs based in Te Kuiti, and a local hospital.



## 2.2 PURPOSE OF AM PLANNING

Council is responsible for the management of three urban wastewater schemes which have an optimised replacement value of approximately \$31,872,676.

The size of this investment and the importance of wastewater services to the community demands excellence in the management of these assets. The community expects wastewater assets to be managed in such a way that costs are minimised while providing the levels of service that the community desires.

This Activity Management Plan (AMP) is the tool combining management, financial, engineering and technical practices to ensure that the level of service required by customers is provided at the lowest long term cost to the community. The plan is intended to demonstrate to the District's ratepayers that Council is managing their assets responsibly and to an optimised price / quality trade-off resulting from alternative levels of service.

## 2.3 BENEFITS OF ACTIVITY MANAGEMENT PLANNING

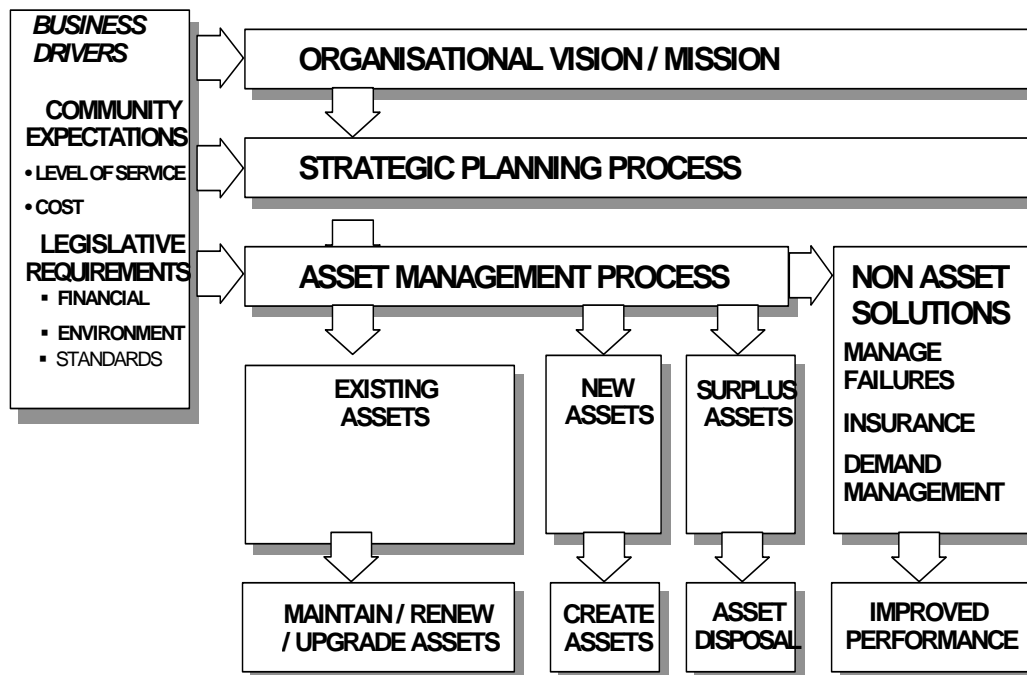
The main benefits derived from AM planning are:

- Improved understanding of service level options and standards
- Minimum lifecycle (long term) costs are identified for an agreed level of service
- Better understanding and forecasting of asset related management options and costs
- Managed risk of asset failure
- Improved decision making based on costs and benefits of alternatives
- Clear justification of forward works programmes and funding requirements
- Improved accountability over the use of public resources
- Improved customer satisfaction and organisational image

A fundamental objective throughout the preparation (and future review) of this plan will be to identify potential opportunities for reductions in asset lifecycle costs.

## 2.4 PROCESS FOR DEVELOPING ACTIVITY MANAGEMENT PLAN

AM plans are a key component of the Council's planning process, being prepared within the context of Council's strategic and financial planning processes. These links, and the key outputs of the asset management planning process, are illustrated in the figure below.



This plan is the latest version of the Council's Wastewater AMP developed through a "living" process of regular updating and improvement. The first version was prepared in 2001 then revised in 2003, 2004, 2006, 2009 and 2012, linking asset management planning to the processes and principles outlined in the

Local Government Act 2002 for long term planning. It is based on levels of service confirmed during annual resident satisfaction surveys the latest available asset information and knowledge of council staff. A programme of AM improvement (see Section 12) will be undertaken to improve the quality of decision making arising from improved knowledge of asset condition and performance, growth predictions and customer expectations and the accuracy of the financial projections.

The timing of this version is consistent with the three yearly review of the Council's Long Term Plan (LTP). This Activity Management Plan (AMP) is one of several AMPs prepared within the current planning cycle as part of a much larger, organisation wide project.

The establishment of the organisation wide project plan, known as the "Road Map", was led by the Group Manager - Corporate Services and sponsored by the Chief Executive. The Road Map is a detailed organisational work programme for the adoption of the Long Term Plan 2015 – 2025. It ensured that key organisational planning issues were addressed systematically and across the organisation.

A specific AM planning strategy/work plan for the AMP section of the Road Map was developed to facilitate cross organisation coordination and to improve alignment of expectations between Council and management. Input to the project included the Group Manager – Assets and asset management staff, and Corporate Services. The project was coordinated and quality managed internally and peer reviewed externally.

The AMP will be subject to ongoing review, particularly in relation to changing service delivery standards and expectations, and changes in the demand for and use of services. By monitoring community service delivery requirements, Council will be better able to develop and manage its assets and ensure community demand and service levels are sustainable and met in the most effective and timely manner. A programme of AM improvement (see Section 12) will also be undertaken to improve the quality of decision making, the knowledge of assets and customer expectations and the accuracy of the financial projections.

## 2.5 KEY STAKEHOLDERS

In addition to the general public, there are a number of key external stakeholders who have an important role in the planning and delivery of service standards for the District's wastewater network. These organisations were approached directly during the consultation period of the AMP development process to obtain feedback on the current and desired levels of service. They included:

### External

- Council's wastewater reticulation maintenance contractor (Veolia Water)
- Waikato Regional Council
- Ministry of Health (District Officer of Health)
- Ministry for the Environment
- Fish and Game
- Ngati Maniapoto
- Trade wastes dischargers
- Residential and commercial users

There are a number of internal stakeholders who have had involvement in the development of this AM plan as part of the cross organisational project team referred to above:

### Internal

- Councillors
- Chief Executive
- Asset managers and AM staff
- Finance Manager
- Information Technology Manager
- Customer Services Staff

## 2.6 LEGAL AUTHORITY FOR COUNCIL ACTION

Council is a "Network Utility Operator", a "Requiring Authority" and a discharge consent holder as defined in the Resource Management Act 1991 for each of the plants. It is legally responsible for the control of its wastewater systems.

The Council also has a separate role as a Consent Authority for the purposes of the Resource Management Act. This will occasionally mean that the Council must apply to itself for a designation or land use consent in respect of its wastewater operations.



The legal authority for Council to be involved in the provision of wastewater and ownership of assets is contained in the Local Government Act 2002.

The rationale for Council's involvement stems in part from statutory requirements. The Local Government Act 2002 empower Council to acquire land for public works:

- Section 181 empowers Council to construct work on private land that it considers necessary for (inter alia) land drainage, rivers clearance and stormwater drainage
- Section 189 (1), "Power to Acquire Land": empowers Council to 'purchase, or take in the manner provided for in the Public Works Act 1981, any land or interest in land, whether within or outside its district, that may be necessary or convenient for the purposes of, or in connection with, any public work that the local authority was empowered to undertake, construct or provide immediately before 1 July 2003'.

## 2.7 JUSTIFICATION FOR OWNERSHIP

Council ownership of wastewater infrastructure assets is justified by the following factors relating to the service;

- Core Business - Council accepts responsibility for providing essential services. These services include sewage disposal.
- Public Benefit - the service is generally assessed to provide mainly public benefits
- Funding - Council has access to more favourable financing options than is available to the private sector
- Exclusivity – although it is simple to exclude customers from utilising the service by disconnection, in practice this is not feasible for public health and safety reasons.
- Monopoly Supply - in practice urban sewage disposal systems are a monopoly as customer options (septic tank, tanker collection, chemical/composting toilets) are generally not viable in a built environment.
- Equity - Public funding of wastewater is deemed necessary because of the contribution of wastewater services to the health and well-being of both individuals and the community
- Community Opinion - the public and Council have strongly expressed a preference for key infrastructure assets to remain in public ownership.

## 2.8 THE EXTENT OF COUNCIL'S RESPONSIBILITY

Council is the primary service provider for the construction, maintenance and repair of the wastewater systems within Waitomo District. Council may maintain the District's wastewater systems as it sees fit, subject to Government and regional council requirements.

The activity comprises a number of elements ranging from sewer pipes and pumping stations to treatment plants and effluent disposal systems. Council oversees this responsibility by coordinating and contracting physical works to outside organisations.

Through the provisions of the Health Act, Council works with the District Health Board to undertake projects and maintenance that form part of a national wastewater assistance programme. Council has received financial assistance from Ministry of Health under the SWSS scheme towards new construction costs where the work was related to public health protection.

## 2.9 LINKS TO OTHER PLANNING DOCUMENTS

The key internal planning document influencing this Plan is the Council's 2015 – 2025 Long Term Plan (LTP) which sets out Council's role in maintaining and promoting community well being in the district. The AM plan is a "tactical" plan in support of the Council's LTP, with linkages to the Council's District Plan, Structure Plans and Council bylaws pertaining to transport related matters.

The following table summarises the linkages between AM plans and the other key components of the strategic planning and management of Council:

- **Long Term Plan** The broad strategic direction of Council set in the context of current and future customer requirements, many of which relate to the performance and financial requirements of the assets which are the subject of AM planning. The AMP is the means for developing appropriate strategies and policies for the long term management of Council's assets, and the basis for analysing the impact of Corporate strategic options on levels of service and long term funding needs.
- **Annual Plan** The service level options and associated costs developed in the AMP are fed into the Annual Plan consultation process.

- **Financial Plan:** Financial plans developed in each AMP are consolidated into the short and long term programmes of Council. AMPs improve financial planning by identifying planned long term maintenance and operation programmes and provides justification for works programmes and levels of funding.
- **Business Plans** The service levels and budgets defined in an AMPs are incorporated into Business Plans as performance measures for each Department and individuals.
- **Contracts** The service levels, strategies and information requirements contained in the AMP become the basis for performance orientated Contracts let for service delivery
- **Corporate Information** Quality AM is dependent on suitable information and data. This requires the availability of sophisticated AM systems which are fully integrated with the wider corporate information systems (e.g. financial, property, GIS, customer service, etc.).

This AMP should be read in conjunction with the Waitomo District Council's Long Term Plan 2012 – 2022. It is based on confirmed levels of service, currently available information and the knowledge of Council staff and contractors.

The Wastewater AMP has synergies with a number of other Council AMPs. For example, the stormwater network is pivotal in removing or mitigating inflow/infiltration from overloading the sewerage network and treatment processes. Similarly, the roading network provides the corridor for hosting many underground infrastructural services such as water and wastewater networks, and demand management strategies for water supply impact on discharge volumes to Council's sewerage systems.

The District Plan establishes zones for residential (and other) development. The minimum lot size for a residential property connected to a reticulated sewerage scheme is defined by minimum yard separation distances and maximum building site coverage of 35%. Without reticulated sewerage, a larger minimum lot size of 2500m<sup>2</sup> is required.

In practice, the availability of reticulated sewerage has resulted in an increasing trend towards infill development in towns such as Te Kuiti where lot sizes tend to be larger than the minimum size for a property connected to sewerage. Conversely, the absence of sewerage at towns such as Mokau and Awakino is inhibiting development at these locations.

At an external level, this Plan is consistent with Waikato Regional Council water quality standards which have a significant impact on levels of service.

At an internal level, future work on Council's growth strategy followed by the preparation of structure plans for its urban communities will help define the drainage area boundaries for current and future waste water services, together with buffer zones for sewage treatment and disposal sites.

## 2.10 PLAN FRAMEWORK

The sections are structured to develop the AMP in a logical manner as follows:

Section Number	Section Title	Description
1	Executive Summary	A succinct overview of the key issues contained in the body of the AMP
2	Introduction	A summary of all the elements of the stormwater activity, the rationale for ownership of the asset components, and the reasons for preparing the AMP
3	The Activity	A description of the assets making up the roads and footpaths activity and the potential significant negative effects.
4	Strategic Environment	A discussion on the planning and statutory framework and the context of where the AMP is situated within it.
5	Levels of Service	An outline of the levels of service that are proposed and the basis for these.

<b>Section Number</b>	<b>Section Title</b>	<b>Description</b>
6	Future Demand	Details of growth forecasts impacting on the management and utilisation of the assets and which form the basis for proposed new works.
7	Risk Management	Identifies the risks associated with the activity and the resilience of critical assets to natural disasters
8	Lifecycle Asset Management	Details of what is planned to manage and operate the water supply activity at the agreed levels of service and optimal lifecycle cost.
9	Asset Management Practices	The information available, the information systems and processes used to make decisions on how the assets will be managed
10	Financial Summary	The financial requirements resulting from all the information in the previous sections
11	Assumptions	The assumptions used and uncertainty in forecasting the expenditure required to achieve the agreed levels of service over the term of the plan
12	Improvement Plan	Details of the plan for monitoring implementation and effectiveness of the AMP and improvements to AM systems to improve confidence in the AMP, particularly over the next three years.
13	References	Details of information sources used to prepare this AMP
14	Appendices	Complementary material referred to in the body of the document

## SECTION 3 - THE ACTIVITY

### 3.1 DESCRIPTION OF WASTEWATER ACTIVITY

This AMP covers the 30 year period from 1 July 2015 to 30 June 2045. It applies to the following four community wastewater schemes;

- a. Te Kuiti
- b. Te Waitere
- c. Benneydale
- d. Piopio

The wastewater asset components include the reticulation network, pumping stations, treatment plants and effluent disposal systems, summarised as follows:

Asset Type	Quantity
Sewage treatment plants	4
Wastewater reticulation	65,017m
No. of manholes	771
Pumping stations	7 (including Te Kuiti main Pump Station)

The combined optimised replacement costs of the four schemes is \$31,872,676 .

Taharoa infrastructure is owned and operated by BHP Steel Mining Ltd. Waitomo Village infrastructure is owned by Tourism Holdings Ltd - neither forms part of this AMP.

Council funding approval is required for all work programmes identified in this plan, and the timing and scope of the works may differ from that shown. Generally the initial three year period provides robust expenditure estimates whilst the remaining seven years are considered to be more indicative due to the absence of detailed design work, price variability over time, and changes in levels of service at both a technical and customer level.

### 3.2 MANAGEMENT STRUCTURE

The WDC Assets Group manages the water supply activity. The organisational structure is illustrated in Appendix J.

### 3.3 PHYSICAL WORKS & PROFESSIONAL SERVICES DELIVERY

WDC contracts out all non-routine maintenance, renewal and new wastewater works. The management of these contracts is undertaken by WDC's in-house resources. Future service delivery arrangements are currently under review

### 3.4 SIGNIFICANT EFFECTS OF PROVIDING THESE ACTIVITIES

Positive Effects	Negative Effects
Maintaining / improving health and wellbeing through the provision of an effective sanitary collection, treatment and disposal system	Malodour from pumping stations and treatment plants can impact on quality of life and amenity.
Robust wastewater planning and design avoids adverse effects on the environment to efficient use of non-renewable energy resources	Sewage overflows from pumping stations or blocked sewers and impacts of the final effluent quality at the point of discharge have the potential for negative impact on the environment
Provides means for the disposal of trade wastes	Cost of compliance with applicable standards. Cost of sewerage rates and fees can be a significant burden for local industry
An effective wastewater system helps to facilitate traditional community gatherings and events	Discharges from sewage treatment plants can have a damaging effect on both the physical and cultural attributes of the receiving environment

### **3.5 SIGNIFICANT CHANGES TO THIS ACTIVITY**

In addition to informing the 2015-25 LTP, this AMP provides the asset management basis for WDC's Infrastructure Strategy in accordance with s.101B of the Local Government Act 2002. The financial projections in Section 14 appendix E of the AMP have therefore been expanded to show a 30-year term in keeping with the statutory term of the Infrastructure Strategy.

## SECTION 4 - STRATEGIC ENVIRONMENT

### 4.1 VISION

Councils Vision for the 2015 – 2025 Long Term Plan is:

***“Creating a better future with vibrant communities and thriving business”***

Council’s Wastewater Activity supports this vision by:

- a. Maintaining and improving the waste water reticulation collection system to maintain a healthy living environment
- b. Operating the treatment plants in accordance with discharge consent requirements to help preserve the natural environment for future generations

### 4.2 COMMUNITY OUTCOMES

The Wastewater Activity contributes to the following community outcomes:

<b>Vibrant Communities</b>
CO5 - A place where we preserve the natural environment for future generations, ensuring that natural resources are used in a sustainable manner
<b>Effective Leadership</b>
CO8 A place where the development of partnership for the delivery of programmes and services is encouraged and pursued.
<b>Sustainable Infrastructure</b>
CO10 - A place that provides safe, reliable and well managed infrastructure which meets the District community needs and supports maintenance of public health, provision of good connectivity and development of the District

### 4.3 STRATEGIC GOALS FOR THE GROUP

- To protect public health
- To protect the environment from the adverse effects of extracting water
- To enable economic development

### 4.4 RATIONALE FOR COUNCIL INVOLVEMENT

This Activity exists to ensure that the natural environment is protected from detrimental effects of sewage, and that the wastewater management needs of the District community are met

The rationale for Council’s involvement stems in part from statutory requirements. The legal authority for Council to be involved in the provision of wastewater services is contained in the Local Government Act 2002 (LGA), specifically Sections 10-11A inclusive regarding the purpose, role and core services of local government, and the Section 101B requirement to prepare an Infrastructure Strategy for its infrastructure assets, including water supply.

The LGA requires local authorities to act in accordance with the principles set out in Section 14, namely prudent stewardship and the efficient and effective use of its resources, including effective planning for the future use of its assets, and to take a sustainable development approach that takes into account the social, economic, and cultural interests of people and communities, the need to maintain and enhance the quality of the environment, in the present and for the future.

WDC's wastewater network in its entirety is defined as a strategic asset in its Significance and Engagement Policy. In accordance with the provisions of the Local Government Act 2002, WDC cannot transfer ownership or control of a strategic asset, or construct, replace or abandon a strategic asset unless it has first consulted with the community and included the proposal in its Long Term Plan.

The Local Government Act 2002 also empowers Council to acquire land for public works:

- ⇒ Section 181 empowers Council to construct work on private land that it considers necessary for (inter alia) water supply
- ⇒ Section 189 (1), "Power to Acquire Land": empowers Council to 'purchase, or take in the manner provided for in the Public Works Act 1981, any land or interest in land, whether within or outside its district, that may be necessary or convenient for the purposes of, or in connection with, any public work that the local authority was empowered to undertake, construct or provide immediately before 1 July 2003'.

Council intends to continue with its present involvement with the wastewater activity, and this AMP has been developed on this basis. The vision that Council is working to achieve is set out in the community outcomes adopted for the District. The wastewater activity is generally regarded as an essential activity associated with protecting public health and the environment.

#### **4.5 JUSTIFICATION FOR OWNERSHIP**

Schedule 10 of the Local Government Act 2002 places requirements on councils to justify their role and the method of funding each of its groups of activities, including the wastewater activity. Political decisions on these strategic issues involve the scope, standard, cost, delivery and funding of services.

WDC's ownership of urban wastewater infrastructure is justified by the following factors relating to the service;

- Core Business - Council accepts responsibility for providing essential services. These services include wastewater
- Natural monopoly - Council is empowered by the LG Act 2002 to provide wastewater services, with the decisions as to the standard of service and allocation of resources being legislative and political rather than market driven.
- Funding - Council has access to more favourable financing options for the level of expenditure required over the long term (next 30 years).
- Community Opinion - the public and Council have expressed preference for key infrastructural assets to remain in public ownership
- Exclusivity - it is impractical to exclude customers from utilising the service
- Public Benefit - the service is generally assessed as providing mainly public benefits associated with economic growth, public health and environmental protection.
- Legislation - the LG Act 2002 makes it mandatory for Council to continue to maintain its community wastewater services except in very special circumstances and subject to formal consultation and agreement processes

Through the provisions of the Health Act 1956, Council is directed to control, monitor and report results of water quality and services to the national water information database (WINZ) Council also works with the District Health Board to undertake projects and maintenance that form part of a national water capital assistance programme. Council has received financial assistance from Ministry of Health under the CAPS scheme towards new construction costs where the work was related to public health protection in the past and will apply for further funding where applicable.

#### **4.6 THE EXTENT OF COUNCIL'S RESPONSIBILITY**

WDC is the primary service provider for the construction, maintenance and repair of the community wastewater systems within Waitomo District and may maintain the District's wastewater systems as it sees fit, subject to government and regional council requirements.

The Activity comprises a number of elements including pipes, pumping stations and treatment plants. Council oversees this responsibility by coordinating and contracting physical works to outside organisations.

#### **4.7 OTHER RELEVANT LEGISLATIVE REQUIREMENTS**

Council is a “Network Utility Operator”, a “Requiring Authority” and a consent holder, as defined in the Resource Management Act 1991. It is legally responsible for the control of its wastewater systems.

The Council also has a separate role as a Consent Authority for the purposes of the Resource Management Act. This will occasionally mean that the Council must apply to itself for a designation or land use consent in respect of its wastewater operations.

#### 4.8 KEY STAKEHOLDERS

In addition to the general public, there are a number of key stakeholders who have an important role in the planning and delivery of service standards for WDC’s wastewater network. These organisations were approached directly during the AMP development process to obtain feedback on the current and desired levels of service. They included:

##### External

- Council’s wastewater maintenance contractor
- Waikato Regional Council
- Ministry of Health
- Ministry for the Environment
- Fish and Game
- Ngati Maniapoto
- Residential, commercial and industrial ratepayers

##### Internal

- Councilors
- Chief Executive
- Asset Group Manager and staff
- Finance Manager
- Corporate Group Manager
- Information Technology Manager
- Customer Services Staff

#### 4.9 LINKS TO PLANNING DOCUMENTS

The key internal planning document influencing this AMP is the Council’s 2015 – 2025 Long term Plan (LTP) which sets out Council’s role in maintaining and promoting community well being in the district. The AMP is a “tactical” plan in support of the Council’s LTP, with linkages to the Council’s District Plan, Structure Plans and Council bylaws pertaining to wastewater related matters.

The following table summarises the linkages between AMP’s and the other key components of the strategic planning and management of Council:

<b>Long Term Plan</b>	The broad strategic direction of Council set in the context of current and future customer requirements, many of which relate to the performance and financial requirements of the assets which are the subject of AM planning. The Activity Management Plan is the means for developing appropriate strategies and policies for the long-term management of Council’s assets, and the basis for analysing the impact of Corporate strategic options on levels of service and long term funding needs.
<b>Annual Plan</b>	The Annual Plan is an annual installment of the LTP. The service level options and associated costs developed in the Activity Management Plan are fed into the Annual Plan consultation process.
<b>District Plan</b>	The District Plan regulates the shape and form of sustainable land use and activities pertinent to achievement of the District’s environmental outcomes. It identifies and protects anticipated growth areas and formalises urban boundaries for utility services. It establishes standards for the construction and protection of the wastewater network and provides the mechanism for mitigating adverse effects on the natural and physical environment.
<b>Financial Strategy:</b>	Financial plans developed in each AMP are consolidated into the financial strategy of Council. AM plans improve financial planning by instigating planned long term maintenance and operating programmes and provide justification for works programmes and levels of funding.



<b>Infrastructure Strategy</b>	The Wastewater AMP informs the content of WDC's Infrastructure Strategy by considering levels of service, life cycle asset management programmes and risk and resilience of the infrastructure
<b>Business Plans</b>	The service levels and budgets defined in an AM plans are incorporated into Business Plans as performance measures for each department and individuals.
<b>Contracts</b>	The service levels, strategies and information requirements contained in the AMP become the basis for performance orientated Contracts let for service delivery
<b>Corporate Information</b>	Quality activity management is dependent on suitable information and data. This requires the availability of sophisticated AM systems which are fully integrated with the wider corporate information systems (e.g. financial, property, GIS, customer service, etc.).
<b>Community Development Plan</b>	Community development relies on essential infrastructure to underpin economic, environmental and social wellbeing.

The Wastewater AMP has synergies with a number of other Council AMPs. For example, the wastewater network is pivotal in collecting, treating and disposing of liquid wastes following human and industrial water consumption. Similarly, the roading network provides the corridor for hosting many underground infrastructural services such as the wastewater reticulation.

At an external level, this AMP is consistent with Waikato Regional Council's Regional Plan – Water Module. This will have an increasing impact on minimum levels of service over time, particularly in relation to discharge standards.

At an internal level, future work on Council's growth strategy followed by the preparation of structure plans for its urban communities will help define the area boundaries for current and future wastewater services.

#### **4.10 ACTIVITY MANAGEMENT STRATEGY & POLICY**

Activity Management practices undertaken through contract procurement is reviewed and made more timely and relevant to the requirements of the Wastewater activity group as time goes.

The Activity Management policies and strategies guide and integrate Activity Management practice for the Wastewater activity within WDC. The Activity Management policy states the overall intention and includes such items of Activity Management as:

- focus on delivering the required level of service to existing and future customers in the most cost-effective way
- legislation, regulatory and statutory requirements will be complied with
- long term stewardship of assets, with planning undertaken for a minimum of 10 years
- commitment to continuous improvement of Activity Management, with consideration to a correlation between the nature and scale of Council assets and Activity Management.
- risk management to support all Activity Management activities
- Activity Management will be directed to the achievement of the Council's Community Outcomes and strategic goals as stated in the Long Term Plan
- Activity Management outputs will be communicated to relevant employees and third parties to ensure they are aware of their Activity Management responsibilities.
- periodic reviews will be carried out to ensure it remains relevant

The District Plan establishes zones for residential (and other) development. The minimum lot size for a residential property connected to a reticulated sewerage scheme is defined by minimum yard separation distances and maximum building site coverage of 35%. Without sewerage, a larger minimum lot size of 2500m<sup>2</sup> is required. With reticulated sewerage, the minimum lot size reduces to 600m<sup>2</sup> in a greenfield development, or 300m<sup>2</sup> in an infill development.

In practice, this has resulted in an increasing trend towards infill development in towns such as Te Kuiti where lot sizes historically tend to be larger than the minimum size for a property connected to sewerage. Although not quantified by survey, it is anticipated that this pattern of development will eventually impose additional demands on the existing wastewater network.

## SECTION 5 - LEVELS OF SERVICE

### 5.1 INTRODUCTION TO LEVELS OF SERVICE (LoS)

The statutory background against which wastewater services are delivered goes beyond simply enabling the Council to provide and maintain these services. Either directly (e.g. the Resource Management Act) or indirectly (e.g. through consultation required with key organisations under the Resource Management Act 2001), statutory processes can impose minimum levels of service beyond those identified by the community. The ensuing cost of compliance with statute and regulation (e.g. Health and Safety in Employment Act requirements) is transferred back to the ratepayer through contract payments at the time of wastewater maintenance and construction.

Levels of service are defined in the NAM's International Infrastructure Management Manual as the identified service quality for a particular activity (e.g. wastewater) or service area (e.g. treatment) against which service performance may be measured. Service levels usually relate to quality, quantity, reliability, responsiveness, environmental, acceptability and cost.

An objective of AM planning is to match the level of service provided by the asset with the expectations of customers. AM planning will enable the relationship between level of service and cost of service (the price/quality relationship) to be determined. This relationship can then be evaluated in consultation with customers to determine the optimum level of service they are prepared to pay for.

Defined levels of service can then be used to:

- Inform customers of the proposed type and level of service to be offered.
- Develop AM strategies to deliver the required level of service.
- Measure performance against these defined levels of service.
- Identify the costs and benefits of the services offered.
- Enable customers to assess suitability, affordability and equity of the services offered.

### 5.2 LEVELS OF SERVICE DRIVERS

The following LoS drivers define the need for, and scope of, all services provided by the activity:

#### Statutory and Regulatory Requirements

Statutory requirements set the minimum standards of service which the water supply activity has to meet and are generally not negotiable. The relevant legal requirements include:

- Local Government Act 2002
- Resource Management Act 1991
- Health Act 1956
- Health and Safety in Employment Act 1992
- Building Act 2004
- Council Bylaws and Policies

#### Local Government Act 2002

The Act empowers Council with a 'general power of competence' which encompasses the power to create, operate and maintain assets for the purpose of (inter alia) wastewater supply. The following sections further specify the powers and responsibilities of Council with respect to wastewater services:

- Section 125 requires that Council undertake an assessment from time to time of water and other sanitary services within its district
- Section 130 establishes the obligation for Council to continue to maintain wastewater services
- Sections 131-135 provide for the closure or transfer of small wastewater services
- Section 136 provides for the contracting out of wastewater services
- Section 137 provides for joint local government arrangements and joint arrangements with other parties for the delivery of wastewater services
- Section 181 empowers Council to construct work on private land that it considers necessary for (inter alia) reticulated sewerage.
- Section 189 (1), "Power to Acquire Land": empowers Council to 'purchase, or take in the manner provided for in the Public Works Act 1981, any land or interest in land, whether within or outside its district, that may be necessary or convenient for the purposes of, or in connection with, any public

work that the local authority was empowered to undertake, construct or provide immediately before 1 July 2003'.

#### Resource Management Act 1991

The Act requires Council to manage the use, development and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic and cultural well-being and for their health and safety while:

- Sustaining the potential of natural and physical resources to meet the reasonable foreseeable needs of future generations.
- Avoiding, remedying or mitigating any adverse effect of activities on the environment.
- Safeguarding the life-supporting capacity of air, water, soil and ecosystems.

In managing the use, development, and protection of natural and physical resources Council must:

- recognise the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu and other taonga and comply with.
- take into account the principles of the Treaty of Waitangi in exercising functions and powers under the Act relating to the use, development, and protection of natural and physical resources.
- comply with planning documents prepared under the Resource Management Act that impact on the management of wastewater assets, which include the Regional Plan prepared by the Waikato Regional Council (refer to Appendices 6,7 and 8) and Council's District Plan and Water Bylaw.
- comply with discharge consents issued by the Waikato Regional Council for disposal of treated effluent, disposal of bio solids and sludges to land, and discharge to air.

#### Health Act 1956

The Act requires:

- Local Authorities to provide 'sanitary works', the definition of which includes waterworks, drainage works, wastewater works, works for collection and disposal of refuse, cemeteries and crematoria and includes all lands, buildings, machinery, reservoirs, dams, tanks, pipes and appliances used in connection with any such works.
- Empowers the Minister to require local authorities to undertake works necessary to protect public health.
- Requires provision in any dwelling house of suitable appliances for the disposal of refuse water and sufficient sanitary conveniences.
- Empowers councils to make bylaws covering conditions to be observed in the construction and approval of drains.

#### Health & Safety in Employment Act 1992

Council must ensure the safety of the public and all workers (including contractors) when carrying out, inter alia, sewerage works.

#### Building Act 2004

Requires Council to ensure all buildings and facilities constructed comply with this Act, including the provision of wastewater services and fittings.

### **Council Policies and By-laws**

#### Policies

Council's current policies applicable to its community wastewater services include:

- Meet resource consent requirements for treatment process discharges
- Protect the environment and public health where existing systems are failing
- Minimise wastewater overflows due to blockages or pump failures
- Cost effectively operate and maintain wastewater and sewerage networks
- Provide wastewater systems to communities of more than two hundred people or where public health is at risk.
- Accept and treat trade waste discharge from industries, subject to discharge consents or bylaw
- Disposal of storm water to Council's wastewater schemes is not permitted
- Trade Waste Bylaw - Connection for discharge of non-hazardous waste water into community wastewater schemes may be permitted but a particular charge may be made in accordance with the provisions of the Council's trade waste by-law.

#### Council Bylaws

WDC operates the Water Services Bylaw (WSB) which was last reviewed in 2014 and adopted on 10 February 2015 following public consultation. The bylaw provides regulations to support the effective management, use and protection of WDC's water supply, stormwater and wastewater activities. The stated scope of the WSB is to:

- Protect public health and the security of community water and wastewater services

- Detail the responsibilities of both the Council and the consumers with respect to wastewater and other water related services;
- Ensure the safe and efficient creation, operation, maintenance and renewal of all public water services, sewerage and stormwater drainage networks;
- Ensure proper hazard management to prevent or minimise flooding and erosion;
- Minimise adverse effects on the local environment particularly freshwater ecological systems and beach water quality, and assists in maintaining receiving water quality;
- Ensure that watercourses are properly maintained;
- Ensure protection of Council's water services, sewerage and stormwater drainage assets and the health and safety of employees;
- Set out acceptable types of connection to public water services, sewerage and stormwater networks.

### **Customer service**

Customers require that agreed levels of road maintenance, management and construction services be delivered reliably, efficiently and economically. The use of AM techniques provides the following benefits in satisfying these demands;

- Focuses on identifying and satisfying customer requirements.
- Provides the basis for customer consultation for determining level of service preferences by identifying the range and cost of service level and service delivery options
- Improves reliability of asset performance and availability of consequent services to the customer
- Enhances customer confidence that funding is being allocated in an equitable and cost effective manner and that assets are being well managed
- Improves understanding of service level options and requirements.
- 

### **Financial Responsibility**

The Local Government Act 2002 places an emphasis on the preparation of long term strategic financial planning. The Act requires Local Authorities to:

- prepare and adopt, every three years, a long term (10 years plus) financial strategy which takes into account asset creation, realisation, and loss of asset service potential
- in determining their long term financial strategy, consider all relevant information and assess the cost/benefit of options
- adopt a financial system consistent with generally accepted accounting practices.

The implementation of the optimised work programmes and resulting long term financial forecasts in this AMP for the management of WDC's sewerage infrastructure is the means of complying with the above requirements.

The AMP provides justification for forward work programmes and provides the ability to even out peak funding demands and account for changes in asset service potential.

### **Environmental Responsibility**

Council is required under the provisions of the Resource Management Act to provide wastewater services in an environmentally responsible manner. This AMP demonstrates how Council is addressing sustainable management of its physical resources and environmental protection issues associated with the maintenance and development of wastewater assets.

### **Safety**

Asset management planning addresses Council's safety obligations through the;

- adoption of appropriate safety standards for the creation of new assets.
- specification of works to maintain assets in a safe condition.
- enforcement of safe operating and work practices.
- compliance with industry standards and codes of practice.

### **Efficiency and Effectiveness**

WDC manages community wastewater infrastructure on behalf of the affected district ratepayers. Delivery of agreed LoS needs to be carried out in a manner that can be shown to be both effective and efficient.

The techniques of asset management support economic efficiency by;

- providing a basis for monitoring asset performance and utilisation
- enabling asset managers to anticipate, plan and prioritise asset maintenance and renewal works
- identifying under funding of asset maintenance and replacement
- quantifying risk, allowing the minimisation of high impact (financial and service level) failures and environmental effects and resulting in savings where asset renovation is less than for replacement
- extending the life of an asset by optimising maintenance and refurbishment.

### Corporate Profile

Council aims to be a customer focused organisation and a good corporate citizen. AM planning reflects this corporate aim.

### 5.3 METHODOLOGY

The first step is to identify the key service criteria for each service area from the customers perspective (the objectives of the services provided) and identify defined levels of performance for key service criteria.

Asset managers must then plan, implement and control both the technical or outcome related dimensions and the functional or process related dimensions of service levels. These technical and functional dimensions are not always independent of each other. In some cases high technical quality may contribute to high functional quality or vice versa.

Recognition of the differences and relationships between the technical and functional levels of service is an important part of understanding levels of service.

Typical Technical Levels of Service	Typical Customer Levels of Service
Process related – measures define how the customer receives the service	Outcome related - measures define what the customer receives in an interaction with WDC
Quality – bacteriological, nutrient levels	Intangibles
Quantity	Responsiveness
Availability	Courtesy
Legislative requirements	Assurance (knowledge, trust, confidence)
Maintainability	Empathy (understanding, individual attention)
Capacity	Cost
Reliability and performance	Safety
Environmental impacts	Comfort
Cost / affordability	Cost/affordability
Comfort	Availability
Safety	Safety
Reliability and performance	Reliability

### 5.4 STATEMENT OF SERVICE PERFORMANCE

The following levels of service, performance measures and targets correspond to the DIA mandatory measures for the water supply activity:

LEVEL OF SERVICE	PERFORMANCE MEASURE	Performance Target
Wastewater schemes are adequate and maintained sufficiently.	Number of complaints received by the Council in a year* about ; (e) sewage odour (f) sewerage system faults (g) sewerage system blockages, and (h) the Council's response to issues with its sewage system.	Total complaints per 1000 connections ≤20

Environmental impacts of Council's sewerage systems are managed effectively.	Compliance with the Council's resource consents for discharge from its wastewater schemes, measured by the number of: (e) abatement notices, and (f) infringement notices; and (g) enforcement orders, and (h) convictions,  received by the Council in a year	Zero
Timely response to sewage overflows	The median response times for attendance, in a year, measured from the time that the Council receives notification to the time that service personnel reach the site	≤3 hours
	The median response times for resolution, in a year, measured from the time that the Council receives notification to the time that service personnel confirm resolution of the blockage or other fault	≤ 9 hours
Provision of effective and reliable sewerage systems and service	Number of dry weather sewage overflows from the Council's sewerage systems in a year.	≤ 5 per 1,000 connections

## 5.5 TARGET LEVELS OF SERVICE

Target levels of service proposed by Council are communicated to the public and key stakeholders via its draft LTP. The formal consultation process ultimately leads to these documents being finalised and adopted, after taking account of public submissions. They are reviewed on a three yearly basis and monitored six-monthly.

The service level targets selected in the tables above are based on Council's statutory obligations, corporate goals, currently accepted industry standards and the customer expectations of levels of service as assessed from survey responses from key users and stakeholders, plus interpretation of verbal and written comments received from customers over time.

Ongoing monitoring of customer expectations will be required to ensure levels of service and the AMP remain valid.

The above performance targets represent the levels of service to be achieved by the end of the 2015-25 planning period.

## 5.6 CUSTOMER RESEARCH AND EXPECTATIONS

The key to excellence in AM planning is to clearly understand customers needs and expectations. The methods of satisfying functional levels of service have been derived and measured using previous customer satisfaction surveys. A first order attempt of identifying the gaps, if any, between desired functional levels of service and current levels of service was completed using a telephone survey of key users and stakeholders in August 2008 with a check in August 2011.

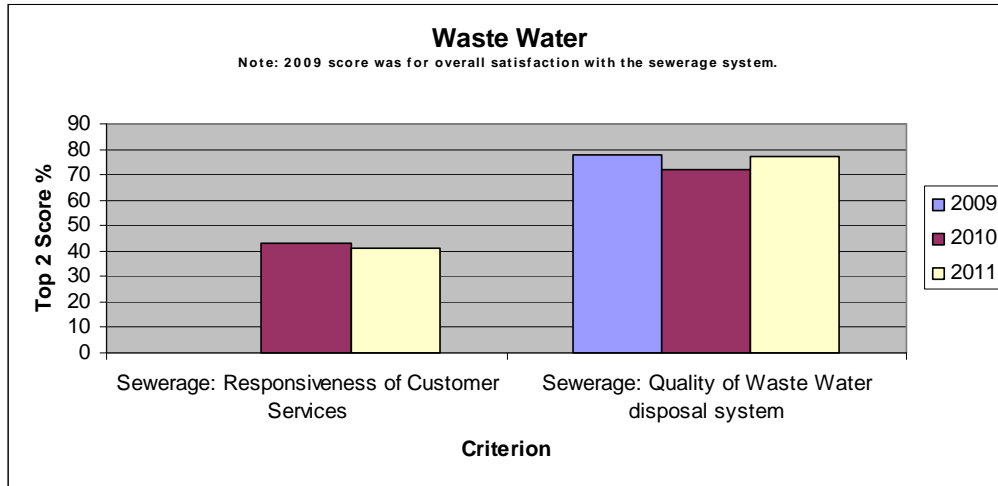
To date customer contact has been limited to:

- occasional public meetings
- newsletters and pamphlets

- answering customer enquiries and complaints
- an annual customer satisfaction survey

### Residents Satisfaction Survey 2009 - 2011

Data for the Residents Satisfaction Surveys for the period 2009 – 2011 shows the following.

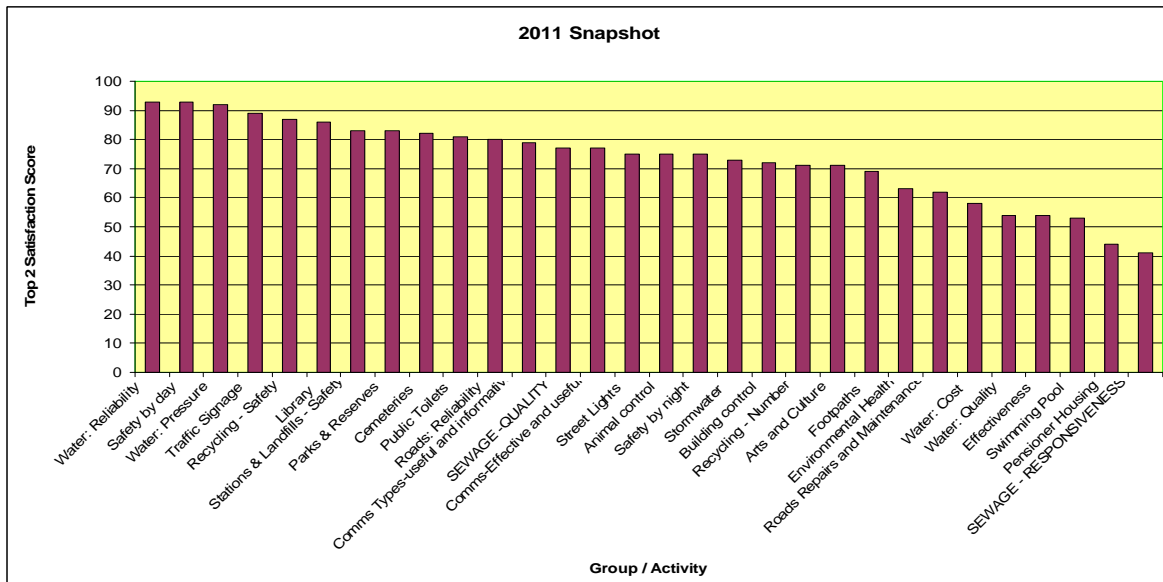


Responsiveness of Customer Services to complaints and issues regarding Wastewater queries or complaints had a low satisfaction score for two consecutive years.

In the 2011 survey, this was the lowest result of all measures across all activities, rivaled only by Elderly Person Housing which is traditionally an activity which performs poorly in terms of resident satisfaction.

However resident satisfaction with the quality of the waste water system was much higher and very consistent across the three years.

In terms of comparison to other measures across WDC for the 2011 survey, the quality of the waste water system measure compares favourably (near middle of graph below).

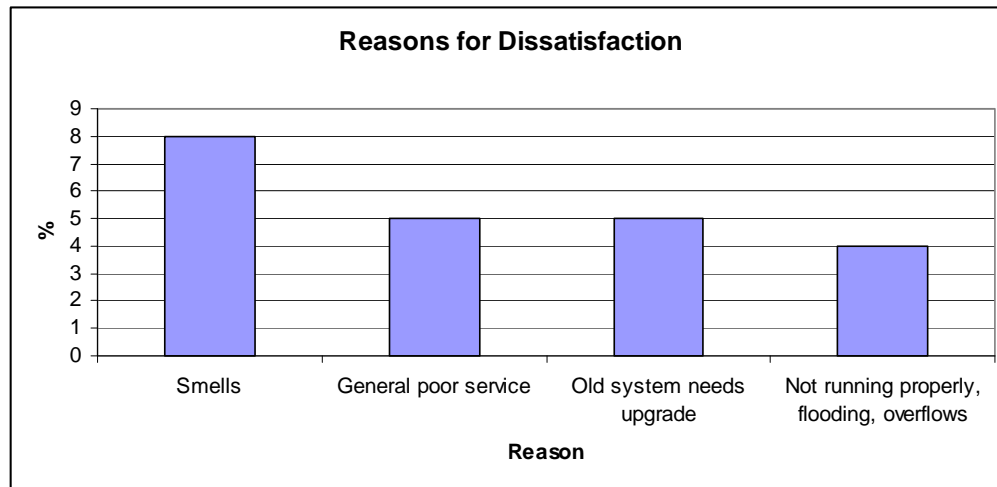


The main reasons given for dissatisfaction in 2011 were:

- Smells (8%)
- General poor service (5%)
- Old system needs an upgrade (5%)



- Not running properly, flooding, overflows (4%)
- Council too slow to respond to issues (2%)
- Treated sewerage effluent is discharged to river (1%)



The overall findings in relation to the wastewater service levels were generally positive with responsiveness, sufficiency of current schemes and impacts on the environment the key areas for improvement, as summarised below:

#### Expectations versus current levels of service

Overall, the user rating of the current wastewater level of service is relatively high, with more than 70% of respondents rating the Council as meeting or exceeding their expectations for wastewater services that is provided.

#### Gaps in levels of service

Looking to the future, the main gaps identified in the current levels of service of the wastewater schemes include the need for improved responsiveness, increased renewals of aging components, with odour control, overflow capacity and concerns about the impacts of trade wastes more distant priorities.

#### Process for addressing gaps

Identified areas for improvement can by and large be dealt with through current programmes. More attention to the way services are provided (i.e. qualitative rather than quantitative improvement) appears to be the major gap in current levels of service. This includes improved responsiveness to complaints and more effective maintenance strategies once the decades of neglect has been caught up with.

It has been found that complaints about WDC's service were more often than not directly related to poor maintenance or outright neglect of the complainant's private waste water disposal system (e.g. septic tank maintenance). Considerable resource goes into identifying these private issues and solutions for them.

The relationship between agreed levels of service and customer expectations and willingness to pay are becoming extremely important to the management of the assets.

A full service delivery review would be desirable in future years across the full range of Council activities to provide a basis for comparing the relative acceptance of different levels of service with cost. It could include:

- The aspects of wastewater services most valued by customers
- The level of service appropriate for these services
- How well customers perceive Council's performance in delivering these services
- How much customers are prepared to pay for enhanced services
- The relative importance of wastewater compared with other Council services.



## SECTION 6 - FUTURE DEMAND

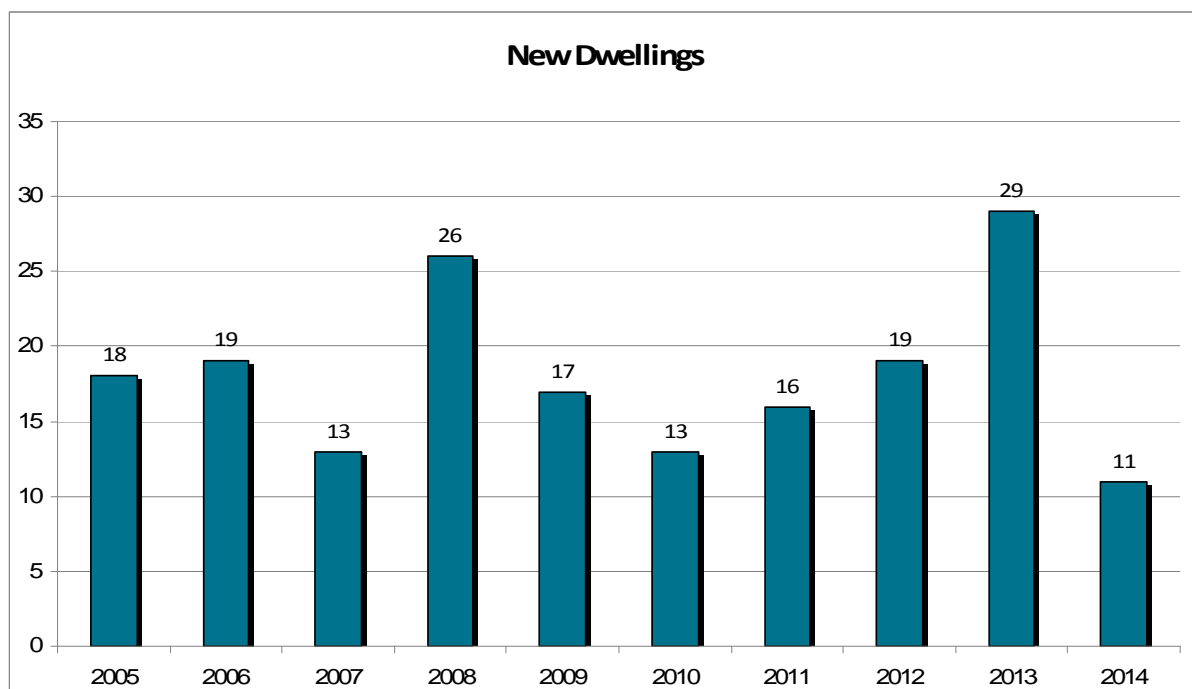
### 6.1 ANTICIPATED CHANGES IN DEMAND FOR WASTEWATER SERVICES

The main drivers of demand for wastewater services are:

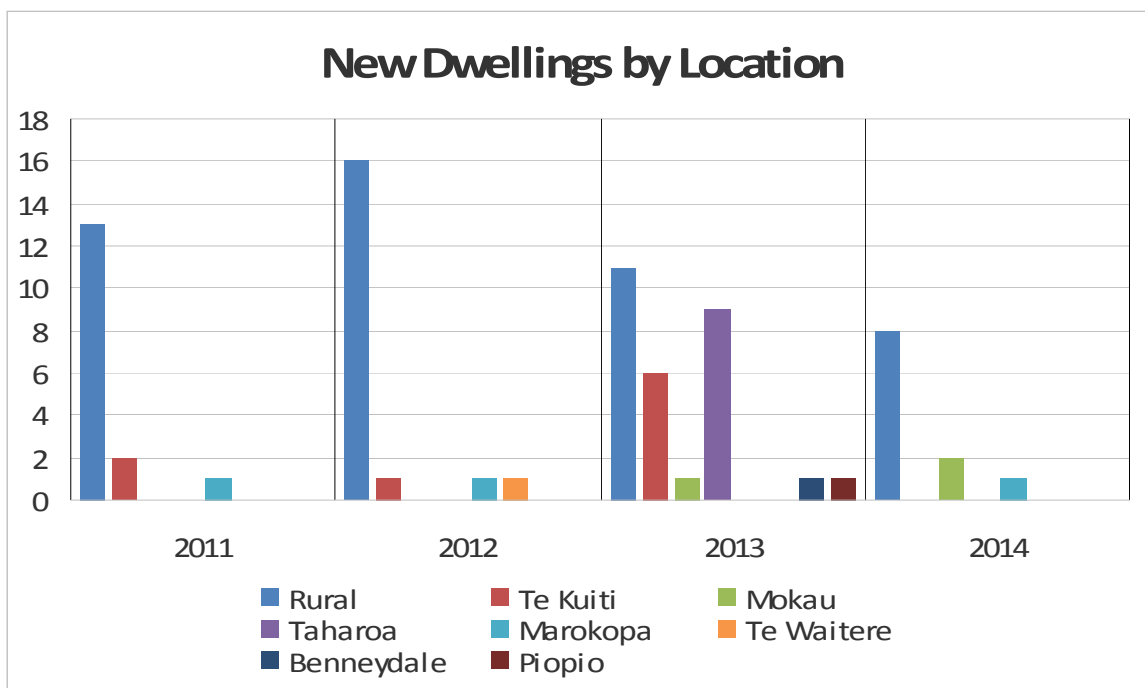
- Land use activities (e.g. industrial development, tourism and coastal settlements)
- Population growth
- Urban infill and expansion
- Global warming
- Community expectations e.g. environmental impacts

### 6.2 LAND USE ACTIVITIES

The number of new dwellings constructed in the district over the past 10 years to 2014 totals 180, distributed on an annual basis as below:



Over the past four years, 75 additional dwellings were established in the district, distributed as follows:

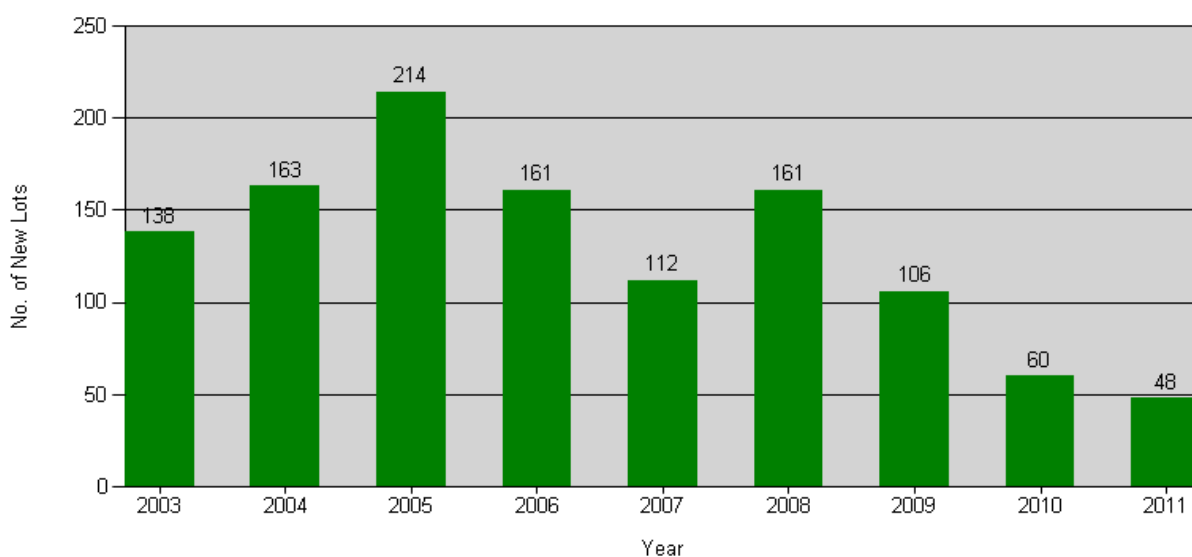


Of interest is the nine new houses at Taharoa during 2013. These were all relocated dwellings for the NZ Steel Mining company, potentially indicating an increased scale of operation at that location.

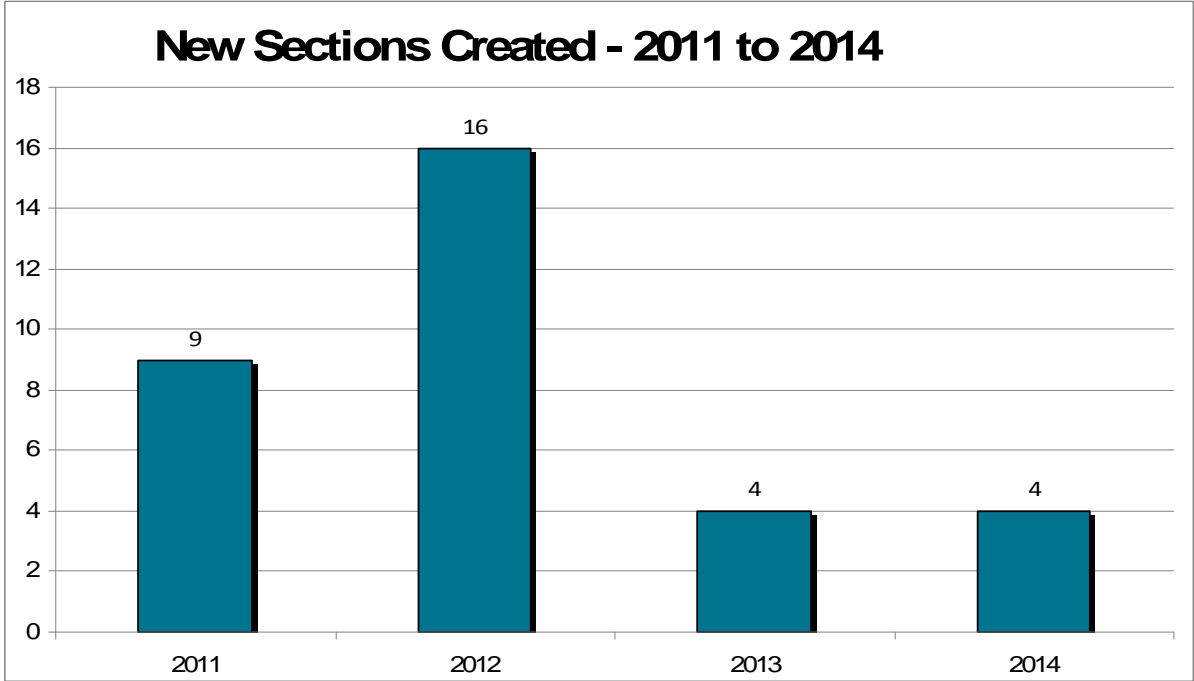
The "rural" entry comprises mostly new dwellings located immediately adjacent to urban areas, reflecting demand for lifestyle sized units. Of these, Te Kuiti and the beach settlement areas remain the preferred locations for new dwellings on rural lifestyle properties.

The growth in the number of new dwellings is underpinned by subdivisional activity. There is often a delay between new lot creation and building consents, partly due to the time involved in processing resource consents, and other external factors such as the economy and the market for new dwellings.

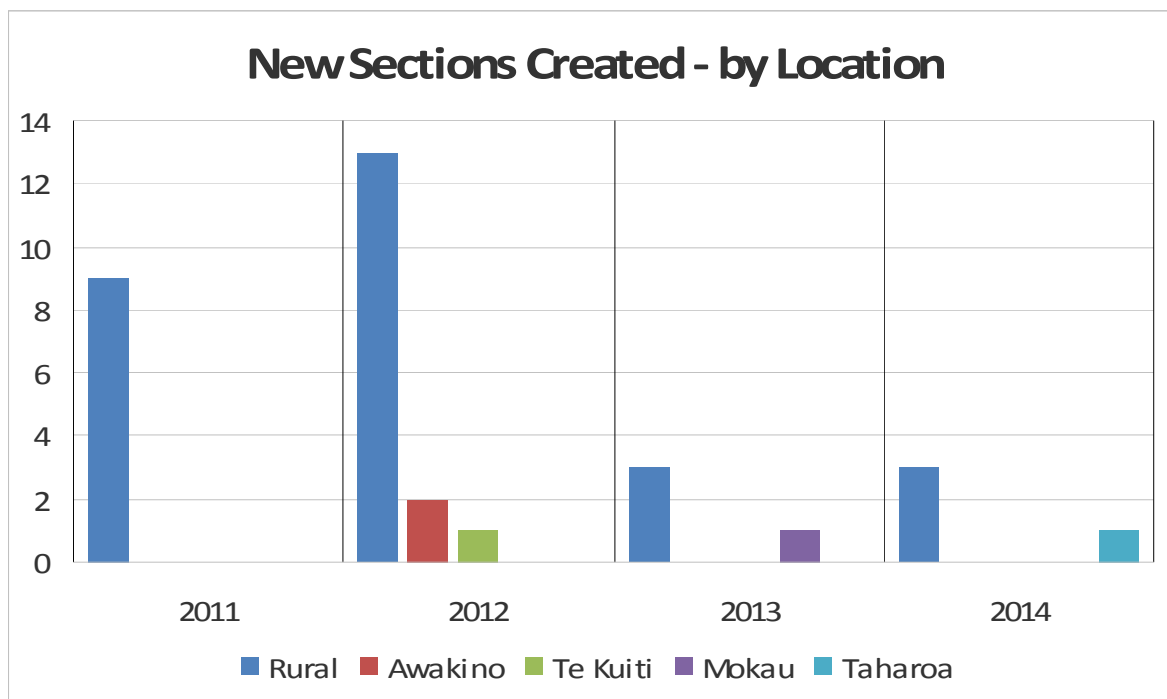
The graph below shows that while there was spike in new lots created during 2006/07, mainly due to a 37 lot subdivision in Te Kuiti and a 24 lot subdivision at Te Waitere, the trend for new lots over the period 2003-2011 was downwards.



Since 2011, there have been a further 33 new lots created over the four year period, 2011 – 2014. The graph below shows that while there was a small spike in new lots created during 2012, the number of new lots per year is very modest and continuing to trend downwards.



The distribution of new lots over the past four years is shown below:



Further land development is to be monitored during the term of the 2015-2025 LTP in conjunction with the staged review of Council's District Plan.

The current pastoral based economy is expected to remain the economic base of the district, with growth very dependent on economic conditions and export opportunities. Industrial growth, which may impact on wastewater demand, is partly dependent on attracting new industries. At this point, there are no known new industrial developments expected to occur in urban areas during the planning period.

Tourism is a major economic activity in the district, with Waitomo Village being a tourism site of national and international repute. Scope exists for developing opportunities for adventure tourism, building on Waitomo Village as the major tourism hub. The infrastructure at the Village is held under private ownership with the water treatment plants and reservoirs on private or leased land.

### 6.3 POPULATION GROWTH

The above pattern of modest land subdivision and new dwellings is reflective of a slight decline in the normally resident population of the district, across both the rural and urban areas, over the past 7 years of the 2006 – 2013 inter-census period. The exceptions are the Taharoa and Waipa Valley (east of Te Kuiti) area units where slight population gains were recorded in 2013 – both consistent with the new dwelling and subdivisional activities identified above.

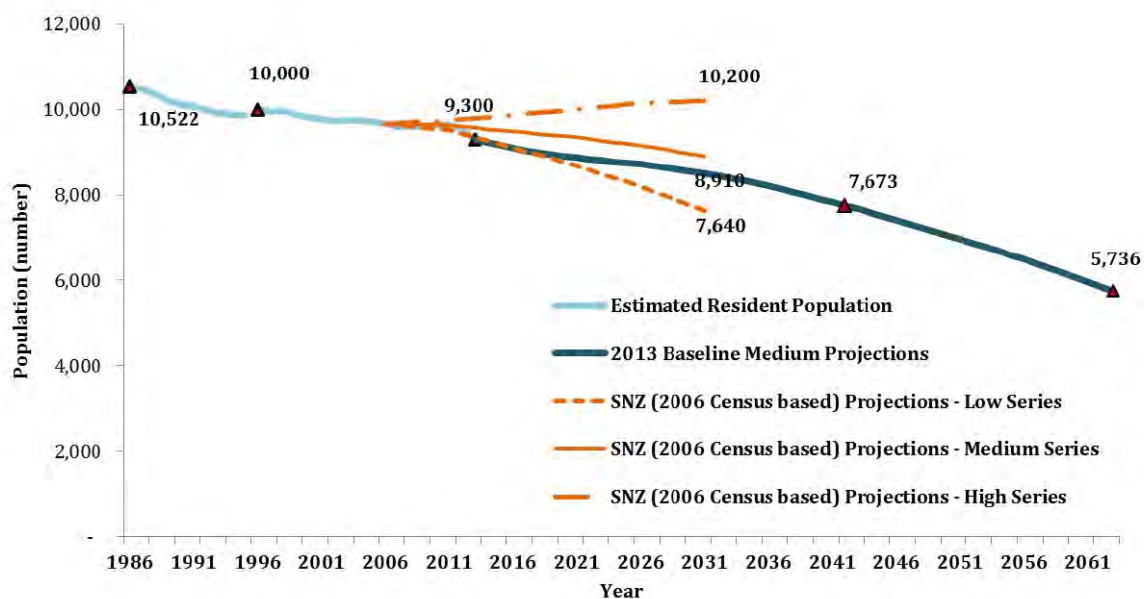
Waitomo District	Census usually resident population count			Population Change		
	2001	2006	2013	2001-2006	2006-2013	2001-2013
<b>Area Units</b>						
531500 Piopio	468	468	393	0	-75	-75
531600 Taharoa	246	216	231	-30	15	-15
531710 Mahoenui	528	480	399	-48	-81	-129
531720 Marokopa	1,569	1,572	1,536	3	-36	-33
531731 Waipa Valley	960	984	1,050	24	66	90
531732 Tiroa	72	81	51	9	-30	-21

531800 Mokauiti	1,218	1,182	1,029	-36	-153	-189
532000 Te Kuiti	4,392	4,455	4,218	63	-237	-174
619201 Inlet-Waitomo District	-	-	-			
<b>Total Waitomo District</b>	<b>9,453</b>	<b>9,438</b>	<b>8,910</b>	<b>-15</b>	<b>-528</b>	<b>-543</b>

The 2013 census, usually resident population of the district is ranked 58<sup>th</sup> out of 67 districts in New Zealand. This compares with Otorohanga District at 56<sup>th</sup> place, Ruapehu District at 52<sup>nd</sup>, and Waipa District at 21<sup>st</sup>.

The future population forecast prepared by the National Institute of Demographic and Economic Analysis (Waikato University) predicts a continuation of this downward trend for the district over the next 50 years. At a micro level, this pattern of population decline is expected to be consistent, more or less, across the district, including the coastal communities that were previously areas experiencing highest growth and demand. Overall, the demographic and development trends show that there is no population based demand for growth related infrastructure at the present time or in the foreseeable future.

The graph below presents the 2013-base medium population projection for Waitomo District to 2063, along with historical population estimates from Statistics New Zealand back to 1991. The 2006-base Statistics New Zealand (SNZ) high, medium and low projections (October 2012 update) are also included for comparison.



**Fig.:** Baseline Medium Population Projections for Waitomo District and Comparison with Statistics NZ (2012) Sub-national Projections

#### 6.4 URBAN INFILL AND EXPANSION

The District Plan allows for smaller lot sizes in the residential zone where sewerage services are available, defined by minimum yard separation distances and maximum building site coverage of 35%, without resource consent. Otherwise, a minimum lot size of 2500m<sup>2</sup> is required.

With reticulated sewerage in place, infill development can occur in residential areas as a permitted activity, with minimum lot sizes reducing to 300m<sup>2</sup>. In a "Greenfield" residential development with reticulated sewerage, the minimum lot size is 600m<sup>2</sup>. No similar restriction applies in the case of stormwater availability.

Further growth, especially in the form of lifestyle blocks around the Te Kuiti/Oparure rural areas is expected to continue but with only minor impact on existing network infrastructure. A development pattern

comprising lifestyle blocks of 1.0 to 5.0ha units is occurring around Te Kuiti, together with a trend towards infill subdivision in Te Kuiti itself. Current lot sizes average 1000m<sup>2</sup>, with infill allowing surplus land to be used for residential property development. This potentially facilitates a more efficient use of existing infrastructure, assuming adequate surplus capacity is available.

## 6.5 GLOBAL WARMING

Current predictions of the effects of global warming on the west coast of New Zealand could mean increasing frequency and duration of high intensity rainfall events, with longer drought periods during summer months more likely to occur on the east coast. These are long run predictions, with localised variations on the overall trend expected to continue at least over the term of the current planning period.

For WDC's wastewater services, increased frequency of heavy rain during winter months could eventually impact on the amount of inflow and infiltration entering the respective sewerage networks and overloading pump stations and treatment plants. This is an existing problem in Te Kuiti, with CCTV inspection and replacement and /or rehabilitation work continued to be provided for in the 2015 – 25 LTP.

## 6.6 COMMUNITY EXPECTATIONS

The following trends are expected to impact on the cost and quality of Waste water services provided;

- Increasing public awareness of environmental issues and intolerance of pollution.
- Increasingly stringent discharge consents imposed for the quality of effluent from the wastewater system
- Very high cost of health and safety legislative compliance.
- Increased expectation for access to a reticulated wastewater scheme at the beach areas in particular, and other townships
- Increased consultation required for adoption of levels of service (time and cost thereof)
- The implications of these trends on existing Waste water services over the next 20 years will be:
- Modest increased demands on the capacity of utility networks can be accommodated without substantial upgrading.
- Future maintenance and upgrades associated with the growth of the networks will be minor within the planning period.
- Most of the wastewater schemes are small with small ratepayer bases though the base requirements and therefore cost are the same which make any of the water services very expensive. Even the largest of the schemes, at Te Kuiti, is of average size in a national context.
- possible Changes to LoS could have substantial impacts on costs to consumers (e.g. resource consent conditions)
- Demand for installation of public water systems at Mokau - Awakino and possibly Marokopa and Te Waitere
- Potential acquisition of the Waitomo wastewater system

## 6.7 IMPACT ON CURRENT CAPACITY

The following tables provide a preliminary, indicative analysis of the impact of the above development pattern on wastewater scheme capacity at Te Kuiti, Piopio, Benneydale and Te Waitere:

WASTEWATER	Te Kuiti	Piopio (Design parameters)	Benneydale	Te Waitere
Current population served	4,218 plus wet industry	500	240	30-40
Current discharge volume	Annual average 3360m <sup>3</sup> /d	Design discharge volume = 135m <sup>3</sup> /d)	Average 53m <sup>3</sup> /day	Average 1.6 m <sup>3</sup> /d
Treatment plant capacity	6,900 m <sup>3</sup> /d	135 m <sup>3</sup> /d	85 m <sup>3</sup> /d	NIL
Consented effluent discharge volume	7,000 m <sup>3</sup> /d	135 m <sup>3</sup> /d	85 m <sup>3</sup> /d	5.2 m <sup>3</sup> /d

WASTEWATER	Te Kuiti	Piopio (Design parameters)	Benneydale	Te Waitere
Projected additional houses 2015-2025 based on average building activity trend, last four years.	20	3	3 (Number of vacant lots and unoccupied houses. There are people moving in)	2
Equivalent additional population	50	5	5	5
Additional daily discharge requirements.	10m <sup>3</sup> /d	1.5m <sup>3</sup> /d	1.5m <sup>3</sup> /d	1.5m <sup>3</sup> /d

## 6.8 DEMAND MANAGEMENT STRATEGY

Council is desirous of managing this growth to avoid the current ad-hoc pattern of development continuing with its cumulative impact on the local natural landscape and an inevitable liability in years to come, requiring replacement of the existing privately owned water supply and wastewater disposal arrangements with public services at the expense of Council's ratepayers.

Development, especially residential style development around the beach communities and at Waitomo Village needs to be managed to avoid over-subscription of the existing scheme capacities. Structure plans, which will feed into a future review or change to the District Plan, are needed to provide guidance for developers and to inform the design capacity of the respective sewerage schemes in existence at present. The strategy is to avoid ad-hoc connection that may lead to exceedance of downstream scheme capacity with the attendant risk of additional expense for the ratepayers who funded the original capital cost of the sewerage schemes. Planning and quantifying all future development, consistent with a development strategy that facilitates implementation of the future vision and form of the district, is necessary.

### Mokau

A preliminary high level development strategy (December 2008) was prepared for the possible growth areas identified above. Preliminary planning maps have been prepared identifying where officers believe or understand development is most likely to occur, starting with the coastal strip bordered by the Awakino River to the north and the Mokau River to the south and including the land affected by the above subdivisional consent applications. Reticulated waste water services may be required in future in place of private soakage fields. Introduction of reticulated sewerage to service the combined area would open the door for infill subdivision to occur down to a minimum lot size of 300m<sup>2</sup>, or 600m<sup>2</sup> for a greenfield development. Without reticulated sewerage, the minimum lot size is 2500m<sup>2</sup>. A project to investigate wastewater services for this settlement may be considered post 2025. A high level concept design identified 386 existing sections, based on a small bore system and land disposal the indicative cost is \$17 million. Funding of additional network capacity associated could possibly be met from development contributions at the time of building consent application in the case of the approved subdivisional consent applications, and at the time of subdivisional consent application for future development or a targeted waste water development rate.

### Te Waitere

At Te Waitere, a similar high level development strategy has been considered involving provision of water and upgraded sewerage services. A staged sewerage scheme with initial capacity for an additional 50 dwellings in the future at the apex end of the peninsular, would facilitate infill development as for Mokau – Awakino. The investigation and design is however on hold until a full geotechnical investigation of the area had been completed and included in the future structure or district plan. There is no provision in the 2015-25 LTP for any geotechnical work or investigation and design.

### Te Kuiti

In Te Kuiti, a (2007/08) 37 lot residential subdivision at the north-west end of Te Kuiti will help fill the gap in the housing market created by a predominantly ageing housing stock. Unfortunately, the timing of these new residential sections coincided with a tightening of the economy at a national level. The rate of take – up of these new sections is not likely to impact on the existing waste water scheme within the planning period. The current rate of residential growth in and around Te Kuiti is not expected to impact on the existing waste water scheme capacity.

## **6.9 ADDITIONAL ASSET CAPACITY REQUIRED (New assets and asset improvements due to growth)**

No additional asset capacity is expected in the next 30 years and there is no plan for additional capacity in this AMP.

If any additional wastewater capacity becomes necessary, it is expected that improved operations will cope with the extra capacity.

Overall, while the predicted demand for additional sewerage capacity is relatively low, there remains a need to manage the existing asset capacity effectively.

## **6.10 OTHER SCHEME PROPOSALS**

Other areas currently not serviced with a public waste water service but which may demand a service in the future, are summarised below:

### **Waitomo Village**

The expected growth at Waitomo Village has also been investigated. However, the water and wastewater infrastructure is held in private ownership and is therefore not currently part of Council's asset management responsibilities. Discussions with the owners and community is ongoing. There is no provision for any work on the water infrastructure of Waitomo Village in this AMP for the 2015-25 LTP.

### **Taharoa**

The Taharoa scheme is privately owned and operated by BHP Steel Mining Ltd. There is no provision in this plan for Council assuming responsibility for this scheme

### **Marokopa**

The Marokopa community relies on private septic tanks. There is a risk of contamination between private water supply bores and septic tank contamination of groundwater. It is unlikely that Council will initiate a community scheme in the short term, although this may be introduced in the next planning period. There is no provision for this in the 2015 – 2025 LTP.

### **Aria**

The Aria community relies on private septic tanks, perceived to have minimal risk. There is a risk of contamination between private water supply bores and septic tank contamination of groundwater. It is unlikely that Council will initiate a community scheme in the short term, although this may be introduced in the next planning period. There is no provision for in the 2015 – 2025 LTP.

## **6.11 HOW ADDITIONAL ASSET CAPACITY WILL BE PROVIDED**

Local infrastructure as result of new subdivisional development, such as new sewerage pipes, is put in place by developers at the time of subdivision development and then vested in Council for ongoing management and maintenance.

Council has a financial contributions policy that rarely been applied. The growth related component of the capital cost of providing additional assets or increasing the capacity of existing council infrastructure is expected to be low for a long time and the benefits of growth are regarded to outweigh financial or development contributions at this time.

Waste water reticulation maintenance is undertaken by contractors, with contracts being awarded in accordance with Council's procurement policy.



**SECTION 7 - RISK MANAGEMENT**

**7.1 RISK MANAGEMENT CONTEXT**

Risk identification and management for the Wastewater Activity has been modelled on AS/NZS 4360. A pragmatic approach has been taken to risk management. In identifying risk events they have been grouped into:

- Natural events, where there is no real control over the timing or extent of the event, although probabilities may be understood, e.g. floods, lightning strikes, earthquakes.
- External interdependencies, where other service providers are not providing services which impact on the organisation or individuals, e.g. power supply failures, material supply failures.
- Physical failure risks, where condition or performance of the asset could lead to failure.
- Operational risks, where management of the asset or asset management activities may impact adversely on the asset. This includes unsustainable, funding deficiencies

As well as direct impacts on assets, the events will usually pose a risk by impacting directly or indirectly on customers and possibly others.

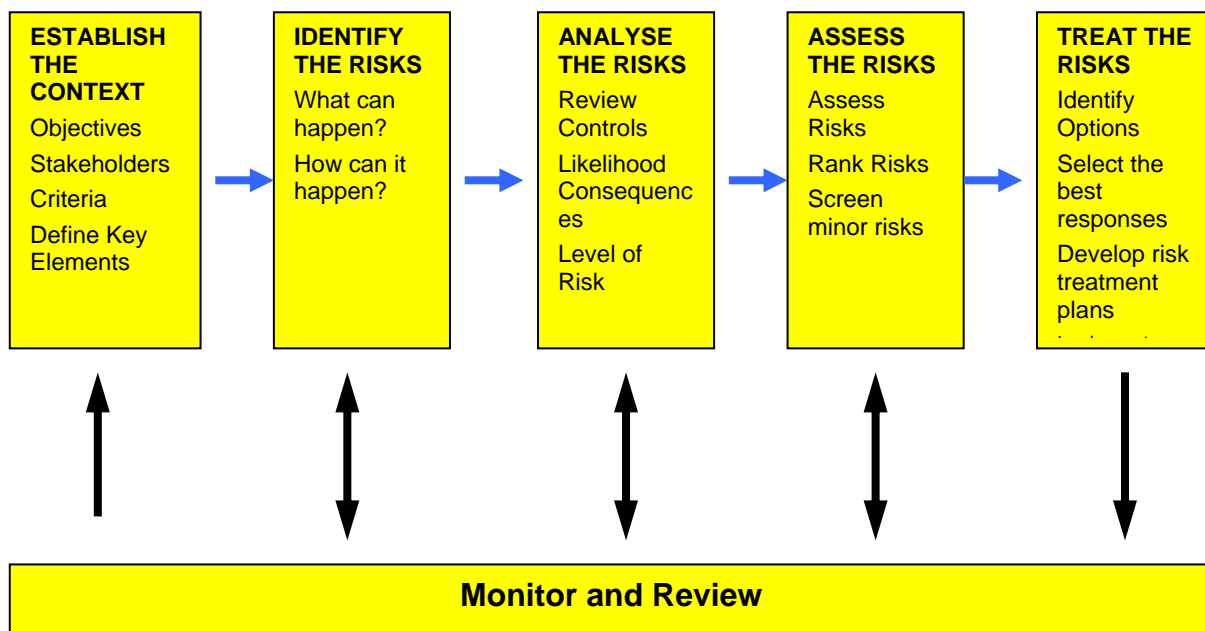
The legal liability for nuisance, negligence and third party damage needs to be recognised. Consequences of failure are linked to the asset types and include:

- Repair costs
- Loss of income
- Loss of service
- Loss of life, or injury
- Health impacts
- Environmental impacts
- Damage to property
- Failure to meet statutory requirements
- Third party loss
- Loss of image

The probability of physical failure of an asset is related directly to the current condition of the asset, hence the importance of realistic and accurate condition assessment.

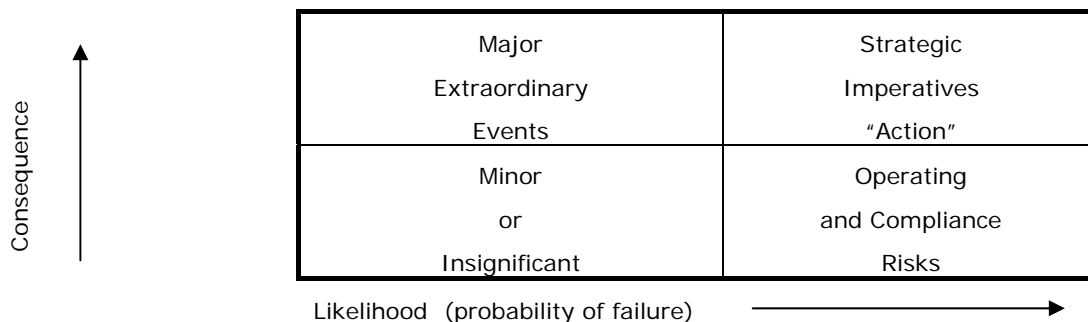
The effort put into assessing and managing risk needs to be proportional to the risk exposure.

**Risk management flow chart (Refer AS / NZS 4360)**



**7.2 RISKS TABULATION**

The following table lists the risks rating matrix:



Risks are aligned to: Public Health; Environment; Security of Service; Quality; Asset Protection and Capacity.

The following table explains the risk rating matrix used to assess the risks tabulated below for the water supply activity assets. Risk is assessed as the product of Consequence and Probability, thus a high likelihood of the event occurring with a major consequence leads to an extreme risk that requires immediate action.

EVENT Likelihood Rating	Consequence				
	E Negligible	D Minor	C Moderate	B Major	A Catastrophic
9 - 10 Almost Certain	Moderate	High	High	Extreme	Extreme
7 - 8 Likely	Moderate	Moderate	High	Extreme	Extreme
5 - 6 Moderate	Low	Moderate	Moderate	High	Extreme
3 - 4 Unlikely	Low	Low	Moderate	High	Extreme
0 - 2 Rare	Low	Low	Moderate	High	High

Table: Risk Rating

Measures of likelihood or probability are explained in the table below:

Likelihood	Descriptor	Description	100% Probability of Failure	Probability
9 – 10	Almost Certain	The event is expected to occur in most circumstances	Within 1 year	0.9
7 – 8	Likely	The event will probably occur in most circumstances	Within 2 years	0.5
5 – 6	Possible	The event should occur at some time	Within 3 – 10 years	0.15
3 – 4	Unlikely	The event could occur at some times	Within 11 – 20 years	0.07
1 – 2	Rare	The event may occur but only in exceptional circumstances	After more than 20 years	0.02

Table: Probability Table

Measures of consequence or impact are explained in the table below:

Consequence	Descriptor	Financial	Technical	Personnel Incident or Accident	Social	Political	Commercial
1	Negligible	< \$10,000	Minimal impact to production	First Aid Treatment. Limited lost time	Minimal impact or disruption	Minimal Interest	Minimal Impact
2	Minor	> \$10,000 < \$50,000	Limited disruption & some loss of production	Medical treatment required. Lost time injury	Some disruption to normal access or community systems	Minor Impact or interest. Questions raised in local Forums. Local media reports	Claims from business or repairs to other services. Customers inconvenienced.
3	Moderate	> \$50,000 < \$500,000	Significant impact, production reduced or stopped for up to two weeks	Serious injury. Extended medical treatment required	Disruption to public access and other systems. Increased potential for incidents.	Community discussion. Broad media cover. Questions raised in parliament.	Significant claims. Customers forced to other options. Questions from regulator.
4	Major	> \$500,000	Disruption and damage to system or incident involving other structure	Serious Injury or loss of life	Extensive disruption. Incidents / accidents involving the public	Loss of confidence in facility management. Corporate credibility affected.	Loss of substantial business opportunity. Rebuke or threat from regulator
5	Catastrophic	Very high. Extensive losses within & beyond the system	Extensive disruption and damage with broad impact on other infrastructure	Loss of more than one life and or extensive injuries	Broad impact on community health or the environment	Public furore and investigations. Management changes demanded	Loss of substantial part of business. Loss of licence for large area or region

**Table: Measures of Consequence or Impact**

### 7.3 MITIGATION MEASURES

Mitigation measures typically include design and engineering measures to strengthen the ability of the asset to withstand the hazard event and or prevent public access.

When an asset has failed or is expected to fail in the future, strategies are developed to avoid or react to the failure. If the failure mode of an asset is critical to the organisation, failure avoidance is likely to be more effective than reactive activities.

Depending on the failure mode, the strategies may include: changed maintenance activities, rehabilitation works, replacement works, back-up systems or abandonment of the asset.

These Strategies can provide a list of works, which may be further broken down into:

'Should Do' – Complete within 5 years

'Could Do' – Works which may possibly be deferred for 5 years

'Defer' – Works which can be deferred for 5 years based on the risk rating matrix above. The table below gives guidance on mitigation measures:

Risk Category	Action
Extreme	Immediate Action Required to reduce risk
High Risk	Treatment options must be reviewed and action taken to manage risk
Significant Risk	Treatment options reviewed and action taken dependent on treatment cost
Low Risk	Manage by routine procedures

**Table: Risk vs Action**

### 7.4 CRITICAL ASSETS

The critical urban wastewater assets have been defined as those which would have the greatest consequences, including major impact on minimum environmental and public health service levels, in the event of failure. Critical assets for the Wastewater Activity are those assets in the Risk Assessment table below rated as having high criticality.

Operational risk associated with the critical wastewater assets is defined as those with potential for a major impact on environmental and public health service levels in the event in of failure. These include the sewer trunk mains, terminal pump stations, rising main to the Te Kuiti treatment plant and other effluent transfer systems.

Failure of other components of individual wastewater schemes would result in localised adverse effects, but are not of the same scale or intensity as the critical asset components. System failure could include capacity overload due to high inflow/infiltration of sewers, leading to upstream overflow of raw sewage at manholes and low lying residential gully traps.

Financial risk is associated with the high cost of treatment plant upgrades to meet environmental standards, the rehabilitation of reticulation to reduce inflow/infiltration and the required renewal programme to bring LoS to a reasonable standard and maintain it.

Asset criticality within the wastewater network is summarised as follows:

Criticality	Asset Type
1 (Most Critical)	<ul style="list-style-type: none"> <li>• Terminal and other pump stations located on trunk main</li> <li>• All trunk main sewers to treatment plants</li> <li>• Effluent transfer pump and pipelines</li> </ul>
2	<ul style="list-style-type: none"> <li>• Treatment plant screens</li> <li>• Pump stations other than those located on trunk main</li> <li>• Any pipe with diameter &gt; 250mm diameter other than trunk mains</li> <li>• Sludge dewatering and handling systems</li> </ul>
3 (Least Critical)	<ul style="list-style-type: none"> <li>• Treatment aeration systems</li> <li>• Anaerobic digesters</li> <li>• Activated sludge processes</li> <li>• All other pipes with diameter &lt;= 250mm diameter</li> </ul>

The rationale behind the selection of critical assets is that at the most critical level, the service could not continue to operate to an acceptable level of service without damage to community well being if any one of the key components listed was to fail

All pumping stations sewers located on the trunk main are in this category because if these assets become unavailable due to structural failure they usually cannot be replaced within a timeframe of not less than several days if not weeks.

All assets in the Risk Assessment shown with a high risk or above should also be also be considered – refer to Appendix D.

## 7.5 NATURAL HAZARDS

The natural hazard events considered relevant to this AMP are those most likely to impact on lifelines as defined in the Civil Defence and Emergency Management Act 2002.

### Climate change

Climate change is expected to cause sea-level rise and increased frequency and intensity of rain-storm events. WDC recognises it is prudent to consider climate change impacts in the design and planning of all major long-life infrastructures such as urban water supply systems, over the assets' working life.

WDC's current approach is to focus on structures with an assessed remaining life of 25 years or longer and where condition indicates the need for renewal or replacement. The approach encourages consideration of existing natural hazards likely to be exacerbated by climate change, in particular the risk to infrastructure with the longest life. During the design phase, it is recommended that consideration be given to future-proofing the design so that later retrofits are both feasible and cost-effective. When looking at construction and maintenance it is important to consider infrastructure that is at risk from the cumulative effects of multiple climate change impacts.

Climate change impacts to wastewater and stormwater design will initially be monitored through the NIWA's High Intensity Rainfall Design System (HIRDS). HIRDS is designed to estimate rainfall depths for hydrological design purposes and to assess the rarity of observed storm events

The Ministry for the Environment provides a series of guidance manuals to help local government assess and manage the impacts of climate change in their planning and decision-making processes, as well as infrastructure and Activity Management. The most recent MfE guidance on climate change for New Zealand has been referenced in the Council's assessment of the potential impacts of climate change.

Climate change is expected to influence:

- the frequency and intensity of extreme rainfall. The intensity of extreme rainfall may increase by up to 8 per cent by 2040 and up to 16 per cent by 2090.
- average annual rainfall. In the Waitomo District average annual rainfall is expected to increase by up to 2.5% by 2040. Seasonally the district could expect increases in winter rainfall and decreases in spring rainfall.

Extreme rainfall events are likely to impact on treatment plant capacity at most wastewater schemes due to the age and condition of parts of the reticulation, and the absence of fully reticulated urban stormwater systems, resulting in elevated plant inflow from infiltration and inflow. This is an issue to be addressed in the context of the pipe renewal planning.

There is some uncertainty about the extent and impact of climate change on social, economic and environmental change. That makes it necessary to consider a range of possible futures when assessing climate impacts, and whether adaptive responses are needed. A precautionary approach requires action based on our current understanding of the effect of climate change on water supply security. An overestimation of the impacts of climate change may result in unnecessary expenditure. However an underestimation could impact on the Council through the need for emergency project works. Either scenario would affect ratepayers.

Decisions will need to be informed by a combination of advice from the best expertise and information available at the time, balanced with WDC funding and planning processes and priorities. Measures should be flexible enough to take into account further improvements in recognition of the potential impacts of climate change and not lock in options that minimise the ability to adapt at a later date.

This AMP has considered the longer term consequences of climate change, especially in consideration of new capital works in areas with potential to be affected. While limited population growth and land use change is expected in the period of this AMP, the activity should consider the longer term consequences of climate change as part of future demand management strategies resource management processes.

Given the initiatives already in progress to address the potential effects of climate change, it is considered there will be minimal impact over the period of this AMP. However, a distinguishing feature of climate change-related risks is that the underlying risks themselves change over time. In addition, ongoing research will continue to add to the understanding of the potential impacts of climate change. This means that from time to time WDC may need to reconfirm that its infrastructure and services will continue to perform in future climate affected operating conditions

#### **Seismic event**

A major earthquake with a shaking intensity of MM9 (return period of 1,000 years) would pose a major threat to WDC's wastewater assets. Replacement of water supply pipes with flexible joints and pipe material at the time of renewal, and seismic resistant water storage structures, are means of mitigating the impacts of a major seismic event.

#### **Volcanic eruption**

An eruption of Mount Ruapehu with a 12km high ash column could block water supply surface intakes and contaminate open topped water storage facilities (eg Mokau), with resulting impact on continuity and security of supply to the affected communities.

#### **Resilience to natural hazards**

The main risks to the critical wastewater assets resulting from natural hazards relates to a significant earthquake, or flooding.

### **7.6 IMPACT OF RISKS ON PROGRAMME FUNDING**

The funding of measures to protect water supply assets from high risks would impact on current budget provisions. That in itself introduces a further risk; that asset condition may decline in the short term because of the diversion of funding away from core maintenance and renewal programmes in the absence of additional funding.

Further analysis of risk criticality and mitigation measures will be carried out over the next three years as part of the AMP Improvement Plan to quantify and prioritise priorities within available budgets.

### **7.7 RISKS AND RESILIENCE IMPROVEMENT PLAN**

Aspects that require further development include:

- Further investigation and better information about the impact of natural hazards.
- Further assessment of risk and programmes to mitigate risk in the light of the above investigations
- Development a more advanced approach to identifying critical assets that incorporates rating and other dimensions of criticality.
- Further assessment of current levels of resilience
- Develop a more comprehensive method of assessing resilience using risk based evaluation and optimised decision making tools to assist decision making around the desired level of resilience
- On-going review of the risk register

## SECTION 8 - LIFECYCLE MANAGEMENT

### 8.1 INTRODUCTION

This Section outlines the management strategies for operating and developing wastewater assets to provide the agreed levels of service (defined in section 3) while optimising lifecycle costs.

The strategies cover all asset life cycle work activity:

- Operation
- Maintenance
- Renewal
- Development/augmentation
- Disposal

The strategies are translated into detailed work programmes and budget projections for each wastewater scheme summarised in the Financial Summary (Section 7).

### 8.2 ASSET OPERATIONS

#### Background

Asset operational activity is work or expenditure which has no effect on asset condition but which is necessary to keep the asset functioning, such as the provision of staff, consumable materials, resource consent applications and compliance, monitoring, and investigations. Asset operational activities exclude maintenance work.

Operational requirements, procedures and activities are documented and supplemented by local knowledge and judgement of experienced staff.

#### Operational Strategies

- Prepare quality AMP based on a sound knowledge of infrastructure, customer needs and preferences,
- Optimise asset management practices and decision-making;
  - Review computer based asset management systems
  - Document existing, and develop new business processes
  - Continue to collect asset management data (physical attributes, asset performance/ condition, and costs) and use data to inform optimised decision making on maintenance, renewal or development options.
- Determine the condition and decay rates of the networks by analysing condition reports provided by Contractors and/or works staff during the day to day operation of wastewater assets and, as necessary, carrying out material testing.
- Operate wastewater assets in accordance with current resource consents.
- Minimise asset ownership costs by:
  - considering all life cycle costs, including operational costs, when evaluating asset renewal/ acquisition decisions
  - identify, evaluate and introduce new technologies that may improve operational and management efficiency and modify standards as appropriate
  - continue to observe competitive tendering procedures for asset maintenance, renewal, and construction works.
- Resource Consents:
  - Discharge consent applications will propose standards for effluent quality, disposal method and operation, which reflect community wishes with respect to environmental protection, public nuisance and affordability.

#### Operational Standards and Specifications

Operate assets in compliance with:

- this AMP
- defined processes, procedures and recognised trade practice
- resource consents
- statutory requirements.

### 8.3 ASSET MAINTENANCE

## Background

Maintenance can be defined as the regular work and immediate repairs necessary to preserve an asset in a condition, which allows it to perform its required function. The ongoing efficiency of routine maintenance is critical to achieve optimum asset life cycle costs that best suit the desired levels of service.

Maintenance falls into two categories, planned and unplanned, each having quite different triggering mechanisms and objectives

- Unplanned maintenance:**
  - Corrective work carried out in response to reported problems or defects with the wastewater system (e.g., collapsed or blocked pipes, etc.).
- Planned maintenance:**
  - Preventative maintenance carried out to a predetermined schedule with the aim of ensuring continuity of service, preserving asset design life and, if economic, extending asset life (e.g. annual pump servicing programmes)
  - On-condition maintenance carried out as a result of condition or performance evaluations of assets and asset components (e.g., sewer mains flushing, manhole cleaning etc).

### Deferred Maintenance

Deferred maintenance refers to maintenance works that have not been completed on a timely basis and are overdue for attention, potentially leading to a decline in levels of service. Future maintenance budgets may need to be increased to catch-up with accumulated deferred maintenance items.

### Funding of Operating and Maintenance Costs

The funding of operating and maintenance Costs is from rates.

### Mode of Service Delivery

Reticulation maintenance works are undertaken by external contractors in accordance with Council procurement procedures. The contract specifies the standards of materials, workmanship and response times, to be met.

Treatment plant operations are currently undertaken by WDC staff.

### O and M Expenditure Projections

The Financial Summary in Section 10 below details anticipated O and M work needs and costs over the next ten years for:

- operational activity (monitoring, inspections, testing, meter reading, etc.)
- expected maintenance work requirements

The operating and maintenance costs have been calculated by the relevant asset manager but exclude adjustments for inflation. The introduction of new processes (see Section 12 - AM Improvement Plan) to record work tasks and costs will improve knowledge of operations and maintenance needs and enhance the quality of decision-making. These estimates will be revised annually.

## 8.4 ASSET RENEWALS OR REPLACEMENTS

### Background

Asset renewal is capital work, which does not increase the assets design capacity but restores, rehabilitates, replaces or renews an existing asset to extend its economic life and/or restores the service potential. Work that increases the design capacity of assets is defined as upgrading/development work.

### Renewal Strategies

The general renewal tactic is to rehabilitate or replace assets when justified by:

Asset performance: Renewal of an asset where it fails to meet the required level of service. Non-performing assets are identified by the monitoring of asset reliability, capacity, and efficiency during planned maintenance inspections and operational activity. Indicators of non-performing assets include:

- structural failure
- repeated asset failure (sewer blockages, surcharging etc), repeated sewer overflows
- ineffective wastewater treatment

Economics: Renewals are programmed with the objective of achieving;



- the lowest life cycle cost for the asset (the point at which it is uneconomic to continue repairing the asset), and
- a sustainable long term cash flow by smoothing spikes and troughs in renewals programmes based on the estimated economic lives of asset groups, and
- savings by coordinating renewal works with other planned works in the area.

**Risk:** The risk of failure and associated financial and social impact justifies action (e.g. probable extent of property damage, safety risk).

Renewal works are assessed and prioritised in accordance with the following priority ranking table, the cost/ benefit of each project, Council's objectives and strategies, and available funds.

Priority	Renewal Criteria
<b>1 (High)</b>	<ul style="list-style-type: none"> <li>▪ Asset failure has occurred and renewal is the most cost effective option.</li> <li>▪ Asset failure is imminent and failure is likely to have major impact on the environment, public safety or property</li> <li>▪ Condition and performance ratings of asset is 4 - 5 (poor or very poor)</li> <li>▪ Asset performance is non-compliant with resource consent requirements</li> <li>▪ The asset has a criticality rating of 1</li> </ul>
<b>2</b>	<ul style="list-style-type: none"> <li>▪ Asset failure is imminent, but failure is likely to have only a moderate impact on the environment, public safety or property.</li> <li>▪ Asset failure is imminent and proactive renovation is justified economically</li> <li>▪ Condition and performance ratings of asset is 3 (moderate/average)</li> <li>▪ System upgrading scheduled within five financial years as asset is nearing end of economic life.</li> <li>▪ Asset renewal is justified on the basis of benefit cost ratio and deferment would result in significant additional costs</li> <li>▪ The asset has a criticality rating of 2</li> </ul>
<b>3</b>	<ul style="list-style-type: none"> <li>▪ Asset failure is imminent, but failure is likely to have a minor impact on the environment, public safety or property</li> <li>▪ Condition and performance ratings of asset is 4 - 5 (poor or very poor)</li> <li>▪ Condition and performance ratings of asset is 2 (good)</li> <li>▪ Asset renewal is justified on the basis of life cycle costs, but deferment would result in minimal additional cost</li> <li>▪ The asset has a criticality rating of 3</li> </ul>
<b>4</b>	<ul style="list-style-type: none"> <li>▪ Existing assets have a low level of flexibility and efficiency compared with replacement alternative</li> <li>▪ Condition and performance ratings of asset is 1 - 2 (good to excellent)</li> </ul>
<b>5 (Low)</b>	<ul style="list-style-type: none"> <li>▪ Existing asset materials or types are such that known problems will develop in time.</li> <li>▪ Condition and performance ratings of asset is 1 (excellent)</li> </ul>

**Table: Selection Criteria for Asset Renewal**

The renewal strategy will be reviewed at least annually and any deferred work will be re-prioritised, based on the best available information of asset condition and performance, life cycle costs and benefits, with all replacement work and a revised programme established. Integral with the replacement strategy will be a funding strategy. Essentially, cash flow smoothing will be applied to balance income with expenditure through either raising loans, reprioritising work based on monitoring of actual asset condition and performance.

### Renewal Standards and Specifications

The standards and specifications for renewal works are generally the same as for new works. Material selection is made based on operating conditions, levels of service, capacity requirements and cost evaluation. Materials are installed in accordance with the relevant standard specification and manufacturers instructions and to recognised good trade practice.

### Deferred Renewals

Renewal works identified in terms of the renewal strategies may be deferred if the cost is beyond the community's immediate ability to fund it and the priority for the work is not high. This could occur when higher priority works are required on other infrastructural assets (e.g. water supply), or there are short term peaks in expenditure.

When renewal work is deferred the impact of the deferral on economic inefficiencies and the system's ability to achieve the required service standards will be assessed. Although the deferral of some renewal

works may not impact significantly on the operation of assets, repeated deferral will create a liability in the longer term. A register of all deferred works will be maintained, the total value of which will be recognised in the financial reporting.

### Funding of, Renewal or Replacements

The funding of renewals/replacements is from the depreciation fund.

### Mode of Service Delivery

Replacement and renewal works are undertaken by external contractors in accordance with Council procurement procedures.

## 8.5 ASSET DEVELOPMENT/AUGMENTATION

### Background

Development/augmentation works are those works that create a new asset that did not exist in any shape or form or works which upgrade or improve an existing asset beyond its existing design capacity.

Assets are acquired as a result of:

- taking over new infrastructure constructed as part of subdivisional development (constructed at the developer's expense and to Council specifications).
- extensions constructed by Council to service new areas
  - asset upgrading constructed by Council to provide;
    - additional system capacity to overcome inadequacies or provide for growth or solve problem areas (e.g. larger sewer mains, increased pump capacity, additional treatment plant capacity )
    - improved levels of service e.g. treatment plant upgrades necessary for compliance with new resource consent standards

### Development/Augmentation Strategies

Wastewater schemes will be developed to meet community expectations and growth projections over the next 30 years, and technical and environmental standards.

A 30 year programme is essential to obtain the long term vision for the network and to confirm compliance with regional policy statements and the strategic goals for growth and development of the district. This programme can be debated and amended to accommodate changing needs of the community.

New works are identified on the following basis

- Growth - ability to meet the most likely demand projections
- Regulatory - anticipated expenditure needed to meet resource consents required under the Resource Management Act
- Operational efficiency - to reduce costs and improve efficiency

The selection criteria for the prioritising and programming of asset development projects is a function of Council preference, consideration of risk, costs and benefits, affordability and ranking with other projects

Priority	Selection Criteria for New Capital Works
1 (High)	<ul style="list-style-type: none"> <li>▪ Proposed work is consistent with relevant community outcomes and is driven by sustainable demand or required to augment existing capacity</li> <li>▪ Work will provide long term environmental and public health benefits to community</li> <li>▪ Work is required for compliance with statutory obligations</li> <li>▪ Work involves completion of an earlier stage of the project</li> <li>▪ Environmental safety represents a high proportion of work benefits</li> </ul>
2	<ul style="list-style-type: none"> <li>▪ Proposed work is consistent with relevant community outcomes</li> <li>▪ Work required for medium term environmental benefits</li> <li>▪ Safety considerations represent a high proportion of work benefits</li> <li>▪ Upgrading of infrastructure scheduled within five financial years as asset is nearing end of economic life.</li> <li>▪ Work is strongly supported by community at large through a process of public consultation or involves work funded by a targeted rate</li> </ul>
3	<ul style="list-style-type: none"> <li>▪ Proposed work is consistent with relevant community outcomes</li> </ul>

	<ul style="list-style-type: none"> <li>▪ Work is strongly supported by local sector of community through a process of public consultation</li> <li>▪ Capital work is justified on the basis of economic evaluation, but deferment would result in minimal loss of opportunity or additional cost.</li> </ul>
4	<ul style="list-style-type: none"> <li>▪ Work is supported by interest group or small part of local community through a process of public consultation</li> </ul>
5 (Low)	Project is discretionary and can be deferred with minimal loss of benefit to the community

**Table: Selection criteria for new wastewater works**

Project approvals will be supported by an economic appraisal technique which takes into account:

- capital costs
- any change in net annual operating costs
- any change in annual maintenance requirements
- any salvage value of existing assets or components.

All options are examined when evaluating upgrading options, including:

- repair
- renovation techniques
- replacement
- augmentation.

The risk, cost and benefits of accepting new privately funded assets constructed in association with property development or as a result of an agreed ownership transfer (e.g. Waitomo Village infrastructure) will be reviewed and a decision to approve made on a case by case basis following evaluation by Council staff. Such assets will be accepted into public ownership by Council when satisfactorily completed in accordance with approvals given. Council will not contribute to the cost of such works unless there are exceptional levels of service or equity issues.

**New Works Standards and Specifications**

Material selection is made based on operating conditions, required levels of service, capacity requirements and cost evaluation. Materials are installed in accordance with the relevant standard specification and manufacturers instructions and to recognised good trade practice.

**Funding of Additional Capacity**

Growth-related work will be funded initially from loan finance with Council maximising the use of external subsidies and financial or development contributions where possible. Other works will be funded from loans and rates. Refer to Council’s Revenue and Financing Policy in its Long Term Plan (LTP) for further details.

### **Mode of Service Delivery**

Development/augmentation works involving the construction of new assets will be undertaken by external, arms length contracts, on a case by case basis in accordance with Council's procurement policy.

## **8.6 ASSET DISPOSAL**

### **Background**

Assets may become surplus to requirements for any of the following reasons:

- under utilisation
- obsolescence
- provision exceeds required level of service
- uneconomic to upgrade or operate
- policy change
- service provided by other means (e.g. private sector involvement)
- potential risk to continued ownership (financial, environmental, legal, social, vandalism).

Disposal activity for wastewater assets relates to the sale of surplus land and, and the demolition of obsolete structures and abandonment of replaced reticulation.

### **Asset Disposal Strategies**

- Develop AM systems and asset condition / performance data to allow better planning for the disposal of assets through rationalisation of the asset stock or when assets become uneconomic to own and operate.
- When considering disposal options all relevant costs of disposal will be considered, including:
  - evaluation of options
  - consultation/ advertising
  - obtaining Resource Consents
  - professional services, including engineering, planning, legal, survey
  - demolition / make safe
  - site clearing, decontamination, and beautification.

The use of revenue arising from the sale of any assets shall be decided by Council at the time of its consideration of the asset's disposal.

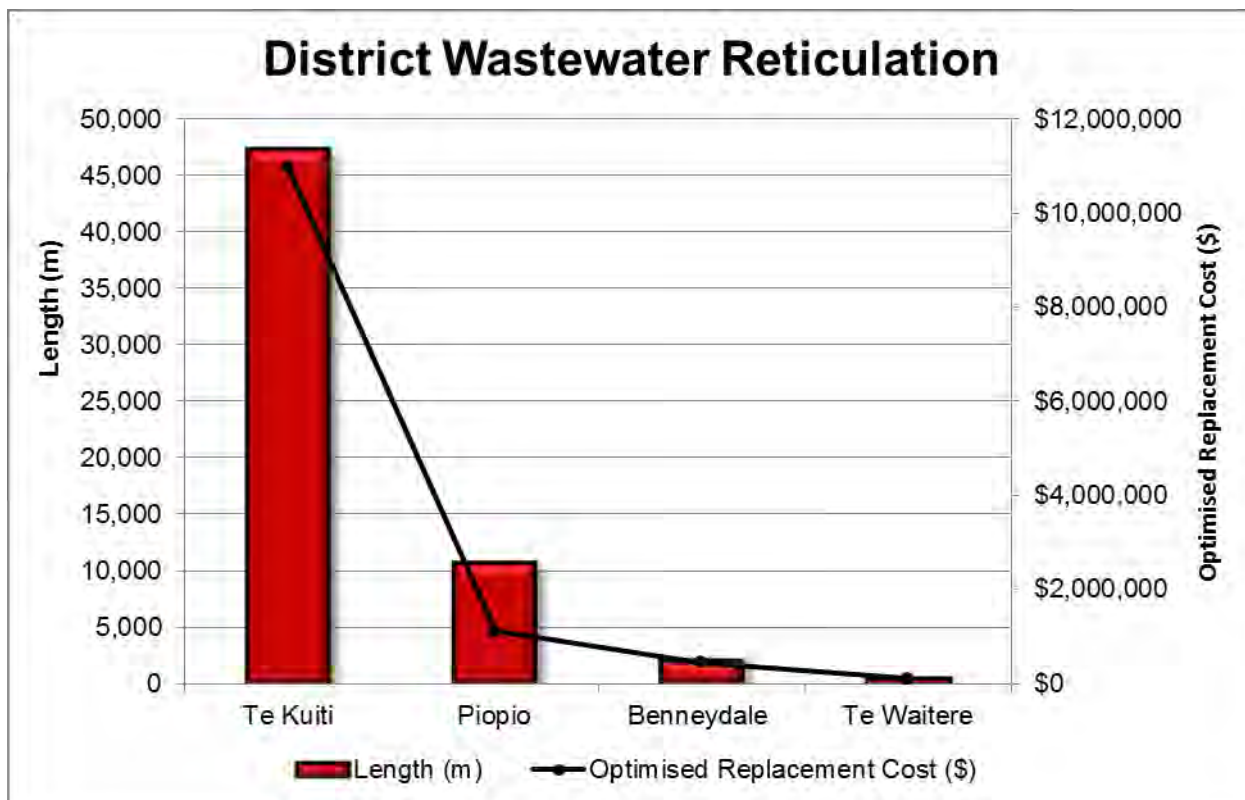
There are presently no Council wastewater assets listed or planned for disposal.

## **8.7 SCHEME SPECIFIC LIFECYCLE MANAGEMENT PLANS**

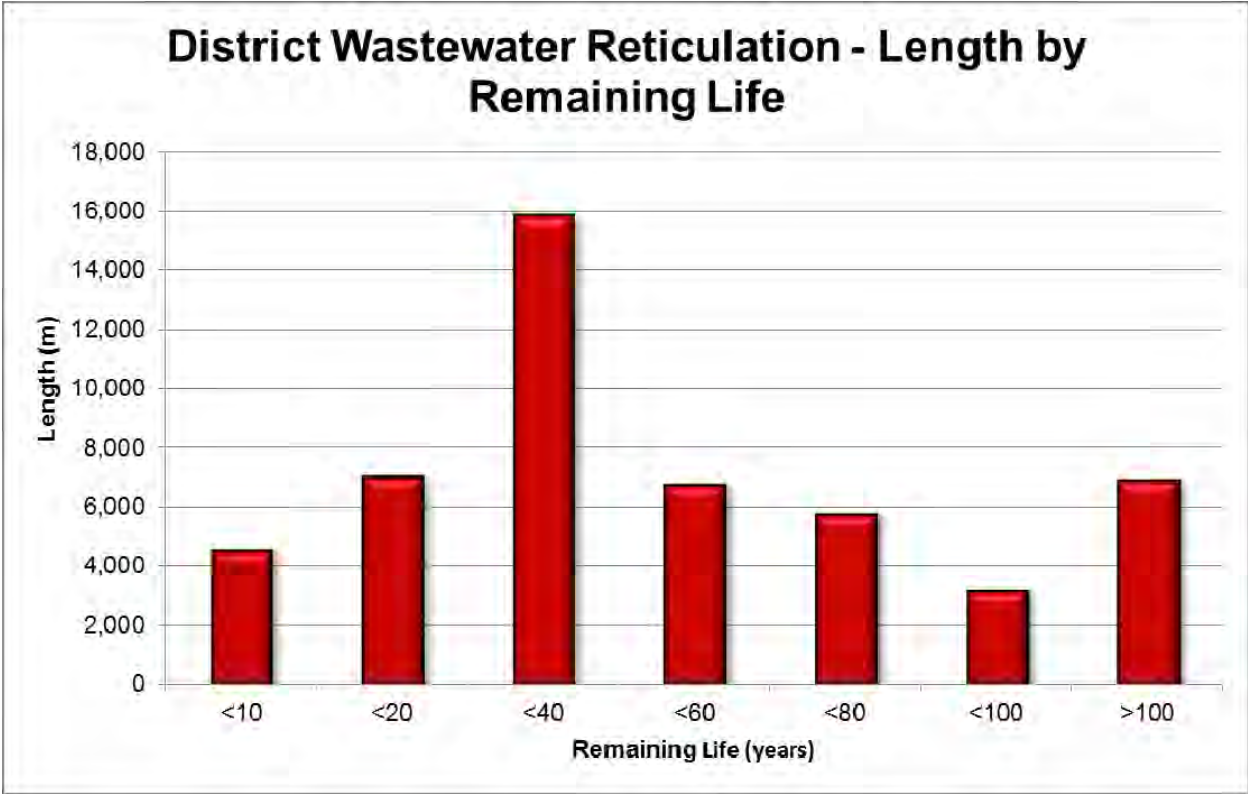
This Section contains the management philosophy for each sewerage scheme, describing:

- The scope and nature of the assets.
- The current condition of assets.
- The current capacity and performance of asset relative to the levels of service defined in Section 3 and demand projections of Section 4.
- The needs, timing and costs of operational, maintenance, renewal, acquisition and disposal works required to action the life cycle asset management strategies developed in Section 5.

Detailed financial forecasts are shown for the planning (10 year) period in the Financial Summary (Section 10). Financial estimates beyond the first three years are of modest accuracy at this stage because of the lack of detailed condition data and the rate of asset decay.



District Wastewater Reticulation Summary		
Remaining Life	Length	ORC
≤ 10	4,545	\$ 1,258,211
10 ≤ 20	7,026	\$ 1,412,348
20 ≤ 40	15,869	\$ 3,506,623
40 ≤ 60	6,763	\$ 1,516,908
60 ≤ 80	5,783	\$ 1,263,287
80 ≤ 100	3,189	\$ 649,671
≥ 100	6,909	\$ 1,921,330
<b>TOTALS</b>	<b>50,084</b>	<b>\$ 11,528,378</b>



**8.8 TE KUITI WASTEWATER SCHEME**

## Asset Information

The original Te Kuiti wastewater scheme was installed between 1910 - 1916. The discharges led to a septic tank. In 1960, following the installation of the water treatment plant (1957), a drainage improvement programme and installation of a septic tank near the Te Kuiti Primary school was carried out. A pump station at Tawhana Street was constructed prior to 1967 along with extensions to the reticulation. During the late 1960's a further eight kilometres of reticulation was installed along with major drainage works at the north end of town. During 1968 investigation of an oxidation pond was carried out, and further mains were installed at Hill, Lawlor, Queen, King, and Hetet Streets. In 1972 construction of an oxidation pond, treatment plant at its present site and main pumping station at Te Kuiti Primary School took place. A 12" AC pipe connected the pump station to the oxidation pond. During the 1970's most of the sewer reticulation extensions on the west side of the railway line were carried out. During 1985 – 97 the oxidation pond was upgraded, and in 2002 the treatment plant was significantly altered and modernised to a modified activated sludge treatment plant.

Upgrade and reconfiguration of the treatment plant, including the addition of filtration and UV disinfection, were completed at end of 2012.

Asset	Asset Component	Condition Grading	Performance Grading	Condition Data Confidence	Year Installed /Refurbished	Estimated Age (years)	Expected Economic Life
Pump Station Main	Building	2	1	A (Refurbished)	1984	30	50
	Valve Chamber	1	1	A	2009	5	50
	Ventilation	1	1	A	2003	11	15
	Lighting	1	1	A	2009	5	25
	MCC	3	2	A	2009	5	25
	Pump Control	1	1	A	2009	5	15
	Flygt	1	2	A	2009	5	15
	Submersible Pumps 4 x 22 kW	1	1	A	2009	5	25
	Lifting Equipment	1	1	A	2008	6	25
	Grit Chamber	2	2	A	1984	30	40
			1	1	A	2009	5
	Valve Chamber	1	1	A	2009	5	50
	Access Lids	1	1	A	2009	5	30
	Discharge Pipes	1	1	A	2009	5	35
	Valves	1	2	A	2009	5	35
			2	3	B	1989	25
Pump Station Tammadge St	Valve Chamber	2	3	B	1989	25	50
	Wet Well	2	3	A	1989	25	50
	Access Lids	2	3	A	1989	25	25
	MCC	3	3	A	1989	25	25
	Pump Control	2	3	A	1989	25	25
	Flygt	2	3	A	1989	25	30
	Submersible Pumps 2 x 2.4 kW	2	3	A	1989	25	50
	Discharge Pipes	4	3	A	1989	25	50
	Guide Rails	2	3	A	1989	25	35
	Lifting Equipment	3	3	A	1989	25	35
	Valves	2	3	B	1989	25	50
Pump Station Waitete Road	Valve Chamber	2	2	B	1984	30	50
	Wet Well	2	3	A	1984	30	50
	Access Lids	1	1	A	2010	4	30

Asset	Asset Component	Condition Grading	Performance Grading	Condition Data Confidence	Year Installed /Refurbished	Estimated Age (years)	Expected Economic Life
	MCC	1	1	A	2010	4	25
	Pump	1	1	A	2010	4	25
	Control Flygt	1	1	A	2013	1	30
	Submersible Pumps 2 x 3.1 kW						
	Discharge Pipes	4	3	A	1984	30	50
	Guide Rails	2	3	A	1994	20	35
Pump Station Esplanade	Valve Chamber	1	1	A	1979	35	50
	Wet Well	2	2	A	1979	35	50
	Access Lids	1	1	A	2010	4	30
	MCC	1	1	A	2010	4	25
	Pump	1	1	A	2009	5	15
	Control Flygt	1	1	A	2013	1	30
	Submersible Pumps 2 x 3.1 kW						
	Discharge Pipes	2	3	A	1979	35	50
	Guide Rails	4	4	A	1979	35	45
	Lifting Equipment	3	3	A	1979	35	45
	Valves	1	1	A	2003	11	50
Pump Station Tawhana Street	Valve Chamber	3	3	B	1974	40	55
	Wet Well	3	3	A	1974	40	55
	Access Lids	1	1	A	1999	15	20
	MCC	3	3	A	1999	15	20
	Pump	3	3	A	1999	15	10
	Control Flygt	3	3	B	1989	25	25
	Submersible Pumps 2 x 22 kW						
	Discharge Pipes	2	3	B	1974	40	50
	Guide Rails	3	3	A	1974	40	45
	Lifting Equipment	3	3	A	1974	40	45
	Valves	3	3	B	1974	40	50
Treatment	Oxidation Ponds	1	1	A	2012	41	100
	Aeration Pond Aerators	1	1	A	2012	41	100
	- Slasher (2 off)	1	1	A	2012	2	15
	- Other (11 off)	1	1	A	2012	2	15
	- Paddle (3 off)	1	1	A	2002	2	15
	Step Screen	1	1	A	2012	2	15
	Clarifier	1	1	A	2002	12	50
	Treatment structures	2	2	A	2002	12	50
	Filters	1	1	A	2012	2	30
	Ultra Violet	1	1	A	2012	2	25



Asset	Asset Component	Condition Grading	Performance Grading	Condition Data Confidence	Year Installed /Refurbished	Estimated Age (years)	Expected Economic Life
	Sludge Management	1	1	A	2012	2	25

**Table: Asset Performance and Condition Grading – Te Kuiti**

**Note:** Gradings 1 = Excellent, 2 = Good, 3 = Fair, 4 = Poor, 5 = Very Poor.

Confidence Gradings: A = Highly Reliable, B = Reliable, C = Uncertain, D = Very uncertain

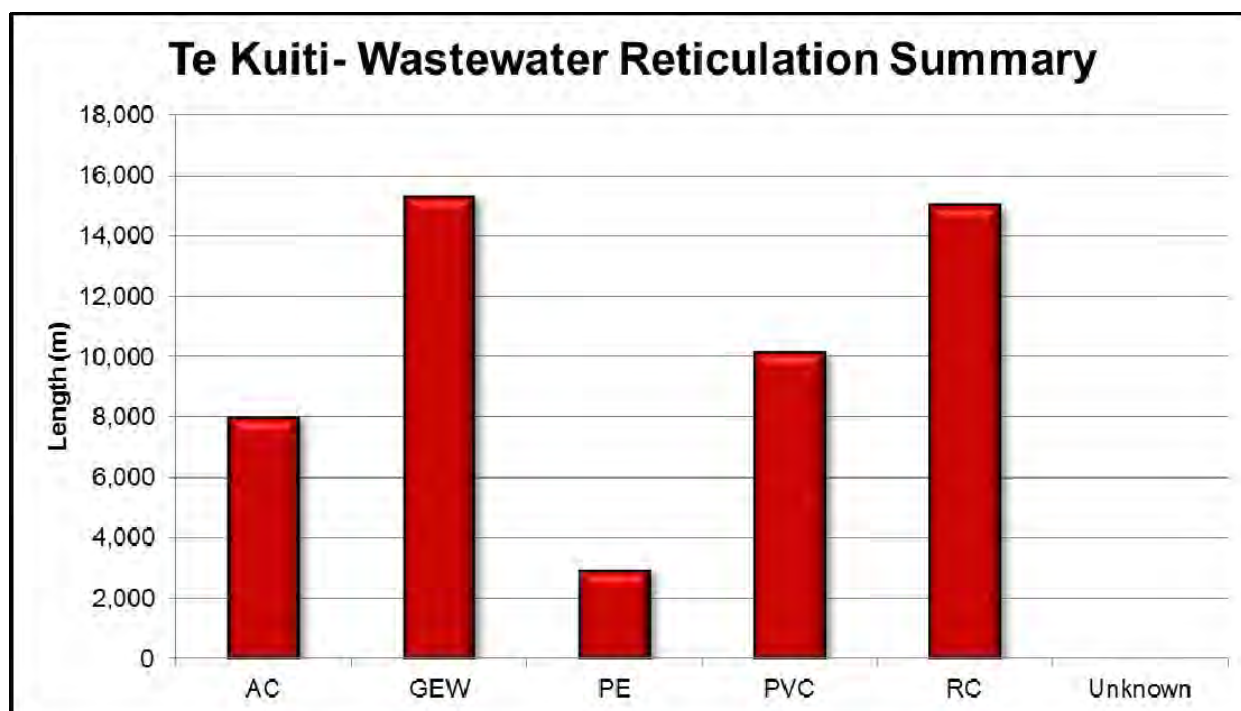
23 = indicative replacement due within next 10 year planning period

23 = indicative replacement date overdue

### Reticulation

Records available on the scheme reticulation are sketchy, with quantities and details taken compiled from existing plans, local knowledge and investigation to arrive at lengths and sizes of sewer pipes. The bulk of the reticulation was installed between 1916 and 1970. This age data is considered reasonably accurate and from this it has been estimated that 95% of today's reticulation was constructed during that period. The reticulation inventory data has been estimated as shown in the table below:

TE KUITI Waste Water Reticulation Summary		
Material	Length	ORC (2014)
Asbestos cement (AC)	7,998	\$ 1,911,687
Glazed Earthenware (GEW)	15,301	\$ 3,153,973
Polyethylene (PE)	2,960	\$ 1,066,237
Poly Vinyl Chloride (PVC)	10,151	\$ 1,968,830
Reinforced Concrete (RC)	15,002	\$ 3,310,658
Unknown	146	\$ 15,121
<b>TOTALS</b>	<b>51,458</b>	<b>\$11,426,506</b>



There are 735 sewer manholes in the Te Kuiti sewer reticulation and 51,457 km of pipe work

Inflow/infiltration enter the reticulation system. A CCTV programme has been initiated beginning in 2009 and provision of funding to continue over the next 10 years is in this AMP. Work done to date showed that inflow of surface water directed into the sewer is the biggest problem significant remedial work is required and a lot has been done. Inflow and infiltration reduced markedly during the 2012 -2015 years. Investigation will continue from which decisions will be made regarding the appropriate mix of a rolling rehabilitation/replacement programme.

It is not known if there are any undersized assets within the reticulation and none are apparent however this will not be known with certainty until the asset register is fully developed and hydraulically assessed.

### **Pump Stations**

The system contains four secondary pump stations and a terminal pump station.

Two of the pump stations have overflow pipes that can discharge into the Mangaokewa Stream during extreme rainfall events.

#### Terminal wastewater pump station

The main wastewater pump station is located beside the Mangaokewa Stream and immediately to the east of Te Kuiti Primary School grounds. The pump station is accessed off Hinerangi Street.

The pump station pumps from the buffer tanks at the end of the main gravity sewer into a PE rising main to the wastewater treatment plant. The current rising main crosses under the Mangaokewa Stream. The pump station was constructed in the 1970's and consists of reinforced concrete and masonry block construction building. The below ground, floor slab and roof slabs are reinforced concrete whilst the above ground walls are masonry block construction.

The lower section of the pump station was a rectangular reinforced concrete wet well with 3 submersible Flygt pumps and a valve chamber. In 2008-2009 this pump station was refurbished and the wet well turned into drywell pump station buffer storage was raised from about 20m<sup>3</sup> to 90 m<sup>3</sup>. The same pumps were used but two old ones had been refurbished. A temporary pump station was installed ahead of the main station for the construction period, constructed such that it becomes the grit removal chamber after end of construction. Pipe work was installed such that it can be used as the main pump station for short period (weeks) should an event disable the main pump station. The drywell is accessed from an internal stairwell within the pump station building. The ground floor level has steel chequer plate lids for access to each pump. A 2 tonne capacity electric hoist and overhead monorail were installed when pump replacement of refurbishment is needed.

The motor control unit (MCC) and the electrical controls have been replaced and are compatible with a control system monitored through SCADA and telemetry. All pumps are on VSD's to provide a continuous flow of effluent to the treatment plant instead of the previous stop start operation. This has the added advantage that it maintain the level in the buffer tanks at a 30% which removed the cause of a number of upstream overflow events that occurred in earlier times when the sewage backed up in the reticulation and spilled out at low points.

The biofilter which was in poor repair was removed and subsequent to completion of the pumps station there had been no odour complaints from the school.

#### Te Kumi Road wastewater pump station

The pump station is located on the western bank of the Mangaokewa Stream of the northern approach to Te Kuiti. The pump station is accessed via a grassed access track off Te Kumi Road (SH3). Access into the pump station is by way of stairs & steps.

The pump station comprises a circular pre-cast wet well equipped with two Flygt submersible pumps. The top of the pump station has 1.4m raised reinforced concrete parapet walls to prevent high stream water levels entering the pump station.

The valve chamber is located adjacent to the wet well; the pre-cast wet well lid has been removed and replaced with a temporary mesh screen. The chamber fills with water during periods of high stream levels and consequently the valve chamber pipe work is subject to corrosion and the chamber fills with silt and debris.

The MCC is located in a weatherproof cabinet located at the top of the stream bank and accessed via steel steps.

#### Tammadge Street wastewater pump station

The pump station is located on the eastern side of the Mangaokewa Stream in the road berm between the railway line and Tammadge Street. The pump station is accessed directly from Tammadge Street.

The pump station has a circular pre-cast wet well and a separate valve chamber with pre-cast concrete slabs.

Hot dipped galvanised chequer plate lids give access to the two Flygt submersible pumps. The MCC is in a weatherproof cabinet beside the wet well, and as with the Te Kumi Road pump station the electrical controls require periodic inspection as it is not connected to the SCADA and telemetry system as yet. A timber barrier fence surrounds the pump station and a steel post and lifting arm are fitted for removal of the pumps.

#### Waitete Road wastewater pump station

The pump station is located on the western side of the Mangaokewa Stream at the southern approach to Te Kuiti. The pump station is accessed from Waitete Road.

The pump station is within the predominantly industrial area to the south of Te Kuiti and handles the effluent from the UBP Meat processing plant.

As with Tammadge Street pump station, this pump station consists of a circular pre-cast wet well and adjoining valve chamber with pre-cast concrete slabs. The weight of these prevented removal.

The MCC is adjacent to the wet well and is contained within a weather proof enclosure on a raised concrete plinth. The electrical equipment has been upgraded and is in good condition and has been connected to the SCADA and telemetry system.

#### Redwood Gardens (Esplanade) wastewater pump station

The pump station is located on the eastern side of the Mangaokewa Stream and is accessed off the southern end of the Esplanade.

The pump station consists of a circular pre-cast wet well with two Flygt pumps and an adjoining valve chamber.

The top discharge bends have been replaced with fabricated stainless steel bends. The wet-well chequer plate lids are in good condition apart from a rectangular section that has been cut out. The valve chamber has a chequer plate lid and the pipe work has been replaced with fabricated stainless steel and check valves installed.

Electrical cabinet and switches as well as the pumps has been replaced in 2010

#### Tawhana Street wastewater pump station

The pump station is located in the berm of Tawhana Street and is accessed directly from the road.

This pump station differs from the other wastewater pump stations in Te Kuiti in that it is a much older station that has been renovated. The wet well appears to be circular and constructed of in-situ reinforced concrete.

There is a reinforced concrete housing over the top of the wet well with powder coated aluminium doors. The wet well access lids are newly constructed aluminium chequer plates and the wet well cover is a 6mm steel plate. The pumps are two Flygt submersible pumps mounted on guide rails. A monorail is attached to the concrete roof above the wet well. The valve chamber is not visible and is either under the footpath or the check valves are located in an inaccessible section of the wet well.

The MCC is located on the side of the building in a weatherproof cabinet. This is fitted with modern electrical equipment. It is not connected to the SCADA and telemetry system as yet

#### **Rising Main**

The Te Kuiti 300mm diameter AC rising main, having reached the end of its useful life, was replaced in 2005/06 with a 350mm diameter PE pipe.

#### **Treatment Plant**

Upgrade, including improvements to operating systems, a high rainfall inflow bypass pipeline and treatment/storage, plus reconfiguration of the reactor and provision for tertiary treatment in the form of sand filtration and Ultra violet disinfection as well as a sludge management at a cost of \$9.4 million was completed in 2013.



**Fig. New Reactor April 2013**

## **Asset Performance**

### Environmental Standards

The final effluent consistently meets the quality and volume standards proposed in the new discharge consent. The new consent is expected to be issued in late January 2015 with a 25 year term.

Flow monitoring at the ponds indicates high infiltration/inflow during winter months. This has reduced significantly over the period 2012 -2015 as neglected reticulation maintenance is addressed.

The cleaning and rehabilitation of the reticulation continue and with it the inflow and infiltration reduction programme.

Low areas of the reticulation used to overflow periodically during high rainfall events due to surcharge of the system. This has been resolved for all but very high rainfall events by cleaning the reticulation of grit and other heavy rubbish which accumulated over years of poor maintenance and the refurbishment of the main pump station through controlled pumping of the inflow instead of the earlier stop start operation which caused backup in the reticulation resulting in overflows.

### Reliability

The trunk rising main theoretical capacity had been checked and it was tested empirically and found to be able to deal with all but extreme rainfall events estimated around 1:50 + year events .

Three of the six pump stations have overflow pipes which divert to the river avoiding surface health hazards. To mitigate this, an alarm system has been installed to alert operators of a high level position in any one of the three stations which is then attended and where possible the issue is rectified to prevent an overflow. Following various upgrades and improvements this occurs very seldom.

### Treatment Capacity

The clarifier was modified and with coagulation assistance its operating capacity was increased from the 4,000m<sup>3</sup>/day design capacity to 6,900m<sup>3</sup>/day operating capacity to take care of peak flows. The average annual daily discharge volume is 3,360m<sup>3</sup>/day including significant trade waste discharge volume from two meat works plants.



The treatment plant use to operate outside its design capacity during high rainfall events due to inflow/infiltration into the reticulation system. Bypass facility and buffer capacity had been constructed to deal with the highly variable sewage generated in Te Kuiti. The refurbished and where applicable enhanced reactor configuration, aeration and sterilisation equipment mean it now consistently meet the final discharge quality set down in the proposed discharge consent.

#### Safety

There are no safety concerns with the scheme other than those addressed during routine maintenance.

#### **Operational & Maintenance Programme**

See Financial Summary below.

#### **Renewal Programme**

The reticulation repair and renewal programme is preceded by a significant CCTV investigation programme to establish actual condition and at the same time to target the areas of highest inflow/infiltration (I/I). For 2015-25 AMP purposes, it has been assumed that 33% of the network will need detailed investigation over the next ten years.

Following consideration of affordability, and because of the lack of information, this was set at \$60,000 per year for investigation and \$68,000 for rehabilitation which is inflation adjusted.

Using local contractors, approximately two and a half catchments have been investigated and rehabilitation of one is nearly completed. Tender documents are being prepared to construct the work identified so far.

The investigation process has also shown that maintenance had been very poor over a long time and merely cleaning of the reticulation removing silt, grit and rubble has already removed several overflow issues that has been around for more that 15 years.

The inflow and infiltration work will continue on this low key on a more or less sub-catchment by sub-catchment basis as originally envisaged. Other issues that arise quite often mean that work action has to be diverted and therefore actual programming is rather difficult because issues are resolve as they are found and often solving one problem can soak up the budget for the whole year.

#### **SS Inflow & Infiltration Catchment Areas in Te Kuiti**

Catchment	Total length of pipe (m)	Total length of pipe (m)	Pipe to be rehabilitated estimate in (m)	Comments
1	8,685	4,342	2,655	Partially cleaned and CCTV
2	2,495		832	Cleaned and CCTV done rehabilitation work nearly complete
3	3,630	3,630	1,210	
4	9,257		3,085	
4A		3,085		
4B		3,085		
5		5,599	1,866	Mostly cleaned and CCTV
6		4,453	1,484	
7		4,285	1,428	
8		7,428	2,476	

**Table: Te Kuiti Wastewater Reticulation –CCTV Investigation and Rehabilitation Progress 2012**

The estimated cost of the required reticulation renewals for the Te Kuiti scheme over the next ten years (2012 – 2022) as determined from the available asset data available is \$1.252 million, on top of the rehabilitation work estimated at \$1.28 million for the same period. Sewers due for renewal during the next 10 years have been programmed to smooth expenditure. Also an amount of \$150,000 over the 10 years of the LTP is estimated for minor reticulation renewal work that are required as asset investigation progresses. Mostly manhole replacement and or new manholes on sharp bends that are buried.

Two of the small pump stations had been renewed. The other three is schedule for renewal during the life of this LTP.

#### **Deferred Maintenance**

There are no specific works that are deferred but programmes had been slowed for affordability reasons like the Inflow and Infiltration project.

### Development Programme

There are no new development work planned for the duration of this LTP

### Disposal Programme

In the Te Kuiti reticulation the disposal cost from the asset data base for the 10 year period is \$71,000

## 8.8 BENNEYDALE WASTEWATER SCHEME

### Asset Information

The Benneydale wastewater scheme was installed in 1942 by State Coal Mining. The wastewater treatment plant was constructed during the 1940's and at the time comprised a two stage treatment process consisting of a septic tank primary treatment followed by a trickling filter tower as secondary treatment and discharged to a unnamed tributary of the Mangapehi Stream. This had been upgraded and now discharges to the Mangapehi Stream via a small wetland. A new discharge consent was obtained in 2010 subject to a summer land disposal to protect the water quality of the Mangapehi Stream for recreational purposes. The latter had been constructed and will be in full use in the summer of 2011.

The septic tank is a three compartment reinforced concrete structure which is partially buried. It has several cast iron access covers for removing settled sludge as required.

Wastewater is pumped from the septic tank to the top of the trickling filter. The trickling filter is a 5m high by 3m diameter reinforced concrete tower filled with rounded stone media. The effluent is distributed over the media by a rotating distribution head. The treated effluent discharges via a number of holes at the base of the trickling filter from where it flows through a small wetland to the Mangapehi Stream during the winter or in the summer discharge into a pump station that pumps it to a soakage field.

Following an extension of the reticulation in first half of 2011 about 90% of the community is serviced including a small business area, that is all the properties that could be reticulated on a reasonably economic basis.

The old scheme mainly consists of asbestos cement pipes of 150mm diameter, the extension is all PVC There are 37 manholes on the old reticulation and three cast iron pipe bridges. The as builts for the new reticulation is still being prepared.

The scheme has the following operational characteristics:

a.	Population served	240
b.	peak daily flow	70 m <sup>3</sup> /day
c.	average daily flow	53 m <sup>3</sup> /day
d.	peak instantaneous flow	4.5 l/s
e.	average CBOD <sub>5</sub>	6 g/m <sup>3</sup>
f.	suspended solids average	10 g/m <sup>3</sup>
g.	Enterococci count	300 /100ml
h.	dissolved reactive phosphorus	5.5 g/m <sup>3</sup>

The Table below schedules the component assets of the Benneydale wastewater scheme.

Benneydale Wastewater Scheme	
Asset Type	Asset Parameters
Reticulation	Old system
	Pipelines: 2.2 km of predominantly AC pipes.
	Manholes: 37 concrete.
	New system
Pipelines: 1.3 km of PVC pipes	
Manholes: 21 Manholes	

### Pump Stations

One pump station.

This station is made up of the following components:

- Electrical/control equipment
- Structure
- Pipe work/fittings
- Dry well Pump

Benneydale Wastewater Scheme	
Asset Type	Asset Parameters
	Soakage field wet well pump station This station is made up of the following components: <ul style="list-style-type: none"> <li>• Electrical/control equipment</li> <li>• Structure</li> <li>• Pipe work/fittings</li> <li>• Pump</li> </ul>
Treatment	Concrete Imhoff Tank (3) 22m <sup>3</sup> each Trickling Filter 5m high x 3m diameter filled with rounded stone media Treatment Structures (Rotating Distribution head) 85m <sup>2</sup> artificial wetlands
Ancillary	Flow meter on discharge structure
Soakage Field	4 – 20 x 30 m beds with feeder pump station
Discharge Consent Expiry Date	1 May 2025



**Benneydale Wastewater Treatment Plant**

#### Asset Condition and Performance

The table below contains an assessment of the current condition and performance of the Benneydale wastewater assets using the grading standards adopted by the NZ Water Managers Group.

Asset	Asset Component	Condition Grading	Performance Grading	Condition Data Confidence	Year Installed	Estimated Age (years)	Expected Economic Life
Reticulation	Pipelines AC	4	3	D	1944	70	80
	Pipelines PVC	1	1	A	2011	3	120
	Old Service connections	3	3	D		Varies	80
	New Service Connections	1	1	A	2011	3	120
Pump	Electrical/control	2	3	A	2011	3	15

Asset	Asset Component	Condition Grading	Performance Grading	Condition Data Confidence	Year Installed	Estimated Age (years)	Expected Economic Life
Station	Structure	3	3	A	1944	70	80
	- Ventilation	4	3	A	1944	70	80
	- Access	4	3	A	1994	20	80
	- Lighting	1	1	A	2008	6	20
	Pipe work/fittings	2	2	A	1944	70	80
	Pump	1	1	A	2008	6	20
	Pump	1	1	A	2011	3	20
Treatment	Imhoff Tank	3	1	D	1944	70	80
	Rotating Effluent Channel	3	3	A	2009	5	30
	Renewed Drive mechanism renewed	1	2	A	2009	5	15
	Treatment structures	3	2	A	1944	70	100

**Table: Asset Performance and Condition Grading - Benneydale**

**Note:** Gradings 1 = Excellent, 2 = Good, 3 = Fair, 4 = Poor, 5 = Very Poor.

Confidence Gradings: A = Highly Reliable, B = Reliable, C = Uncertain, D = Very uncertain

23 = indicative replacement due within the next 10-year planning period

### Reticulation

Inflow and infiltration is modest but needs to be addressed. The risk of pollution due to reticulation overflow is low although it does occur for short periods during very high rainfall events. If such overflow occurs it is directed through the wetland first.

Remaining Life	AC	CLS	PVC	TOTAL
0-10yrs	2157	0	0	2157
10-20yrs	0	94	0	94
>100 yrs	0	0	1290	1290
Total	1,905	94		3,289

**Table: Benneydale sewerage reticulation – age and material**

### Treatment

The Imhoff Tank and low rate biological (rock) filter are in reasonable condition for their age.

The plant has been restored to its original design with a small wetland added as agreed with local Iwi.

A soakage field had been added as required by new consent

The plant operation is monitored using SCADA and telemetry since early October 2008.

### Asset Performance

#### Environmental Standards

The risk of pollution events due to reticulation overflow is minimal.

Pipe bridges need attention due to deferred maintenance to avoid the risk of rupture and spillage into water courses and contamination a nearby stream.

#### Reliability

Pipe bridges need maintenance and some may need renewal.

CCTV inspection showed some repairs are needed which will maintain economic life for at least the 23 years remaining as shown in the asset data.

#### Treatment Capacity

The plant was originally designed for a flow of 165m<sup>3</sup>/day for the then mining town.

The estimated discharge volume for the present town, if it was fully reticulated, is 85m<sup>3</sup>/day.



With the decline in population of Benneydale the treatment plant is presently considered to be oversized for the community and this provides an extra level of security for possible growth. At the present time (2011) it is considered that there are no undersized assets in this scheme.

A small part of the Benneydale drainage area is not serviced by the current wastewater scheme because it is not economical. Those houses will remain on septic tanks. The sections are large and no issues are foreseen with grey water disposal.

#### Safety

The treatment plant is routinely assessed by the operations contractor for Health & Safety compliance.

#### Operations & Maintenance Programme

See Financial Summary (Section 10).

#### Deferred Maintenance

Nil

#### Renewal Programme

CCTV inspection of old reticulation showed some repairs are needed which will maintain economic life for at least the 23 years remaining as shown in the asset data. On completion there will be no renewal requirement before 2035.

#### Development Programme

The waste water system of Benneydale is in good condition and there is no development programme required for the next 10 years.

The next trigger for possible development, if any, will be the at the renewal of the discharge consent in 2025

#### Disposal Programme

There are currently no assets targeted for disposal in the Benneydale scheme.

### 8.9 TE WAITERE SEWERAGE SCHEME

#### Asset Information

The Te Waitere wastewater scheme was installed in 1976. This scheme primarily consists of a sewerage network to a limited number of properties, with the reticulation collecting pre-treated wastewater from individual septic tanks taking it to a pump station from where it is pumped to a 20 x 28m soakage field.

The operative resource consent expires in 2017.

The operational parameters of the scheme are:

Te Waitere Wastewater Scheme		Asset Parameters
<b>Asset Type</b>	<b>Asset Parameters</b>	
<b>Reticulation</b>	Pipelines: Total length: 0.535km of 50 mm uPVC pipes.	
<b>Pump Station</b>	One main pump station and an auxiliary pump station	
<b>Treatment</b>	Individual septic tanks and community Soakage field 20 x 28m	
<b>Discharge Consent Expiry Date</b>	30 September 2017	

Table: Asset Parameters - Te Waitere Wastewater Scheme

#### Asset Condition

The Table below contains an assessment of the current condition and performance of the Te Waitere wastewater assets using the grading standards adopted by the NZ Water Managers Group (Appendix B).

Asset Type	Asset Component	Condition Grading	Performance Grading	Condition Data Confidence	Date installed	Estimated Age (years)	Expected Economic Life
Reticulation	Pipelines (uPVC)	3	3	C	1979	35	80
	Pipelines (Steel)	4	3	C	1979	35	80
	Service connections	3	3	C	1979	35	80
Pump Station	Wet-well	2	3	A	1994	17	50
	Access Lid	4	4	A	1994	17	50

	MCC	3	3	B	1994	17	25
	Pump Control	2	2	B	1994	17	15
	Pump	2	3	A	1994	17	25
	Discharge Pipe	4	3	A	1994	17	25
	Guide Rails	2	3	A	1994	17	25
	Valve	4	3	A	1994	17	25
Treatment	Soakage field	5	5	B	1979	35	50

**Table: Asset Performance and Condition Grading – Te Waitere**

*Note: Condition & Performance Gradings: 1 = Excellent, 2 = Good, 3 = Fair, 4 = Poor, 5 = Very Poor.*

*Confidence Gradings: A = Highly reliable; B = Reliable; C = Uncertain; D = Very uncertain*

23 = indicative replacement due within the next 10-year planning period

23 = indicative replacement date overdue

Provide for under Pump station renewals in indicative funding

#### Reticulation

The condition of the reticulation is assumed to be good due to the pipe material used. This assumption is based on the level of problems encountered in Te Waitere and the information below.

The reticulation is of predominantly 50 mm uPVC pipes, with some 50 mm steel pipe. Further work is needed to update the age and condition data of the wastewater reticulation.

#### Treatment

The grey-water pump station tank is in satisfactory condition.

#### **Asset Performance**

There have been no recorded pollution events at this facility, though anecdotally overflows into the harbour do occur, due to power failure.

There are no records of reticulation failures, excluding the rising main.

Records show that the pump line to the soakage field has failed 4 times, twice in the 2007-2008 period due to ground movement. The worst affected section (about 100Lm) had been replaced in 2009.

During the 2008/09 Annual Plan consultation process, members of the Te Waitere community raised various issues with regard to the sewer system in place. Council indicated that a strategic review would be scheduled as part of the review of Asset Management Plans. It is intended that the review will consider future growth and demand, treatment options, environmental and associated resource consent issues as well as future development and operational costs of the sewerage scheme. The review was due to be reported to Council in January 2009. The initial review showed potential wide spread land surface instability and a geotechnical investigation is needed before further capital is deployed.

#### Environmental Standards

Discharge is to land. The Consent for 5.2m<sup>3</sup>/day expires in 2017. Discharge in average 1.6m<sup>3</sup>/day. However, the soakage field is perceived to be under stress and a detailed investigation is needed. It is expected that it will have to be reconstructed to work effectively and additional land will probably be required. This will require additional treatment and a new/modified discharge consent.

#### Reliability

There have been no recorded reticulation failures in the last 2 years since records have been kept. The septic tank has only caused problems when sludge levels have been allowed to build. This can be prevented by regular cleaning by the owners.

#### Capacity

The system has no room for increased demand without expanding the treatment plant.

#### Safety

There are no safety concerns with this scheme other than what is identified and addressed during routine inspections.

#### **Operations & Maintenance Programme**

See Financial Summary (Section 10).

The introduction of new processes (see Section 9 - AM Improvement Programme) to record work tasks and costs will improve knowledge of operations and maintenance needs and enhance the quality of decision-making.

#### Deferred Maintenance

Nil

#### Renewal Programme

Expenditure for the Te Waitere wastewater scheme renewals over the next ten years is subject to the outcome of the investigation into potential land surface instability through a geotechnical investigation.

#### Deferred Renewals

Replacement of pump line and rehabilitation of soakage field has been programmed over the next three years in preparation for the consent renewal process in 2017

#### Development Programme

Te Waitere has been identified as a potential growth area in the district, sensitive to effective wastewater treatment and disposal. A number of subdivisions have taken place in recent years which will eventually impose increased pressure on the existing system.

Council discussed in December 2008 a proposal to introduce a managed development plan for the Te Waitere area involving expansion of the existing scheme in two stages. The first stage would provide treatment and discharge capacity for an additional 50 dwellings, or equivalent, at the head of the peninsula. The second stage would provide for development of the inland portion of the peninsula. This proposal has not been included in the 2012–22 planning period for reasons mentioned above.

Reticulation is currently only available to a limited number of properties. Extending the scheme to connect with just the currently unserved properties will require additional land and a higher level of treatment, additional land to extending the treatment bed area. New and/or modified discharge consents will be required for the discharge and land use activities. The capacity of the grey-water collection tank may need to be expanded in line with the above development programme. It is expected that at least the pump unit and possibly its electrical supply will have to be upgraded. Funding has not been allowed for this. If needed it can be addressed in the next review of the 2015-25 LTP.

#### Disposal Programme

There are currently no assets targeted for disposal in the Te Waitere scheme.

### 8.10 PIOPIO WASTEWATER SCHEME

#### Asset Information

A reticulated wastewater scheme is under construction for Piopio following resolution of the necessary resource consent application to discharge treated effluent to a nearby stream. Full commissioning targeted December 2012. This system replaces the privately owned and operated septic tanks within the community which were causing pollution problems due to high ground water levels especially in winter. The reticulated sewerage system comprising treatment plant, pump stations and reticulation will address this problem. Although construction is still underway the asset components of the planned scheme are summarised below:

Piopio Wastewater Scheme	
Asset Type	Asset Parameters
Reticulation	Various lengths of 25, 40, 50 90, 1D MDPE
Pump Stations	207 domestic 1 community
Treatment	Packed bed reactor
Capacity	250 residential units
Discharge volume	135m <sup>3</sup> per day
Discharge Consent Expiry Date	Consent obtained December 2010. Expires in 2028

Table: Asset Parameters- Piopio Wastewater Scheme



### **Piopio Outfall**

#### **Operations & Maintenance Programme**

The system has very little maintenance requirements the pumping systems are automated. General maintenance for first year after completion is the responsibility of the main contractor. At this stage that is expected to go to December 2013. A 6 monthly inspection programme and annual maintenance programme will be arranged once the construction maintenance period is over. A separate contract may be arranged with a local contractor for call outs in case of pump failure or similar events.

#### **Deferred Maintenance**

Not applicable.

#### **Renewal Programme**

Not applicable.

#### **Deferred Renewals**

Not applicable.

#### **Development Programme**

No planned development programme

Below is a scenario that may develop and provides a guideline for future action in the event it does.

The wastewater system is designed for 250 residential unit's equivalent. There are an immediate 202 units to be connected, leaving spare capacity of 48 houses. There are 16 properties that contributed for several years to the original investigations and design but fell outside of the service area that was finally developed to reduce project cost. Assuming that in time these properties are also connected, that will leave a spare capacity of 32 residential or equivalent connections.

Future development in excess of the 32 equivalent units will necessitate expansion of the whole system at Piopio. The options include extending the capacity of the existing site by adding the maximum number of treatment modules to give capacity for 50 more dwellings. A rough order of cost of this option is \$1,942,000 - \$2,442,000 plus GST. It includes provision for a consent variation to increase the discharge volume, and allowance for possible land disposal, given the small but determined level of opposition to the current water based discharge consent application.

An alternative and perhaps more feasible option might be to construct an additional new plant on a separate or adjacent site to a design capacity of 180 additional residential equivalent units. The land and treatment plant would be sized for a combined capacity of 500 residential equivalent units (persons). The estimated cost of this option, including land disposal (\$2M), is \$4.46m plus GST.

Given the newness of the scheme, future costs within the planning period are confined to operating and maintenance activities, as summarised in the Financial Summary (Section 10).

## **8.11 OTHER AREAS**

### **Mokau- Awakino**

#### Asset Information

The community of Mokau - Awakino currently has no community owned wastewater scheme and it is known that the existing septic tanks within the community are causing pollution problems in some areas due to inadequate soakage available for septic tank effluent due to property density.

Properties adjacent to coastal waterways require an on-site treatment system.

Mokau – Awakino has been identified as a growth area in the District with a managed development plan concept to be developed. A reticulated wastewater (and upgraded water supply) scheme should form part of this concept.

There is no provision for any work on the above during the term of this LTP

### **Kiritehere wastewater**

#### Asset Information

The community of Kiritehere currently has no community owned wastewater scheme. Properties adjacent to coastal waterways require an on site treatment system.

Minor growth has occurred at Kiritehere but is not sufficient to warrant investigation of wastewater infrastructure during the term of this LTP.

## **8.12 MAROKOPA WASTEWATER**

#### Asset Information

The community of Marokopa currently has no community owned wastewater scheme and it is probable that the existing septic tanks within the community may be causing pollution problems due to inadequate soakage available for septic tank effluent during the holiday season.

Properties adjacent to coastal waterways require on site treatment system.

Marokopa has been identified as a growth area in the District with a managed development plan concept to be developed. A reticulated wastewater (and upgraded water supply) scheme should form part of this concept.

There is no provision for any work on the above during the term of this LTP

## **8.13 ARIA COMMUNITY**

#### Asset Information

The Aria community is serviced by individual property septic tanks, and some risk is present due to poor effluent soakage that may be affecting the environment. Discharge quantity varies and is of the order of 10m<sup>3</sup> per day. It is not intended to install a community scheme within the planning period.

## **8.14 TAHAROA COMMUNITY**

#### Asset Information

The Taharoa community is serviced by individual property septic tanks, and some risk is present due to poor effluent soakage that may be affecting the environment. The combined discharge quantity varies and is estimated to be in the order of 15m<sup>3</sup> per day. It is not intended to install or assume responsibility for a community scheme within the planning period.



## SECTION 9 - ASSET MANAGEMENT PRACTICES

This section outlines the decision making systems that Council currently use to determine long term maintenance, renewal and capital expenditure requirements for wastewater assets.

This section looks at four broad areas of activity:

- **Processes:** The necessary processes, analysis and evaluation techniques needed for life cycle asset management.
- **Information systems:** The information support systems used to store and manipulate the data
- **Data:** Data available for manipulation by information systems to produce the required outputs.
- **Risk management:** The processes to identify and evaluate the likelihood and impact of wastewater asset failure

### 9.1 CURRENT ASSET MANAGEMENT PROCESSES

Activity	Strategy
Service Delivery	Contracts are let for the delivery of minor repair work, major repair, rehabilitation, renewal, upgrading and development work. The day to day system operation and inspection is undertaken by maintenance contractors and monitored by WDC staff.
Safety Management	A formal safety management system is an integral component of effective service delivery, with the WDC Safety Management System (SMS) adopted by the Council on 31 January 2007 (Resolution No. 01/07). The resolution records an agreement between WDC and NZTA for work carried out on the road that the SMS is endorsed by both parties as being in accordance with the NZTA <i>Guideline for Developing and Implementing a SMS for Road Controlling Authorities</i> . Copy of the SMS can be found on the Council's Intranet under the page headed Operations.
Financial Control Procurement	<p>The NCS (Napier Computer Systems) financial management system is used to record the cost of each work activity for comparison with budget and financial control. Payments made to Contractors relate to each contract.</p> <p>Council's procurement policy for waste water capital works shadows the NZTA Competitive Pricing Procedures, linked with Council's delegations manual. Physical works having a value greater than \$20,000 are tendered using a range of competitive pricing options. Works valued at under \$20,000 are market priced using an expedited procedure requiring a minimum of three invited quotations. Where experience over the previous 13 months indicates that 3 or more quotes cannot be obtained, quotations may be obtained from contractors able to do the work that have been identified by the advertising in the last 13 months.</p> <p>Waste water works having a value less than \$20,000 may be let using any procedure (including negotiation) that assures a satisfactory and competitive price.</p> <p>Expedited procedures may be applied to emergency works within set criteria.</p> <p>Professional services contracts for waste water works may follow the same tendering process as for physical works. Contracts valued less than \$20,000 may follow a simplified evaluation method. Any tender procedure (including negotiation) may be followed for contracts having a value less than \$10,000.</p> <p>The procurement policy for waste water works is guided by a comprehensive contract management policy posted on the Intranet.</p> <p>Decisions on budgeted capital works can be decided by a Tenders Committee made up of senior management. Projects above the value of \$100,000 are specifically reported to Council.</p>
Performance Monitoring	Records are kept of audited activities, forward and completed maintenance programmes.
Condition Monitoring	<p>Preventative maintenance inspections are routinely undertaken by Council contractors and staff to monitor the condition of wastewater assets. In addition the condition of the pipe networks is measured by CCTV surveys on a programmed basis.</p> <p>Site inspections are undertaken to assess the condition of infrastructure where performance is outside the targeted level of service.</p>
Quality Assurance	Audit procedures are defined for controlling the quality of data received from external contractors for condition assessments. Data from maintenance contractors is received for work activity, cost, and attribute and spatial data for physical works.
Maintenance/	Data from maintenance contractors is received for work activity, cost, attribute and spatial

Activity	Strategy
operations	data relating to physical works for loading into Bizeasset.
Optimised life cycle strategy	Asset maintenance and renewal decisions are based on an assessment of asset age, asset condition and performance information. Decisions are currently optimised by considering life cycle costs, latest technologies and professional judgment. Decisions are outcome focused to allow for advances in technology in design and material selection.
Risk Management	Risk management is practiced both formally and informally. Judgments are made based on the knowledge of experienced staff and AS/NZS 4360 guidelines.
Staff Development	Council is a member of SOLGM, the NZ Water and Wastes Association, Ingenium and other sector groups. Industry specific training courses are occasionally attended by relevant staff to maintain continuous education.

## 9.2 CURRENT ASSET MANAGEMENT DATA

### Asset Attributes

Moderate records of the networks exist; significant service areas are identified and recorded by location and type with spatial attributes. Attribute data for wastewater assets is stored in the inventory database. The information available is known to be incomplete and of variable accuracy. A comprehensive programme to address this is not affordable, asset data improvement happens as part of everyday operations and maintenance activities.

Council operates a hybrid asset management tool known as 'BizeAsset' Asset Management System. 'BizeAsset' was designed for small to medium sized councils to meet the asset management requirements of local government. 'BizeAsset' uses a GIS platform with a web-front end to maximise efficiency and simplicity. The system is easy to maintain with powerful outputs such as asset valuations, maintenance history, map production, etc. Council currently uses 'BizeAsset' modules for Wastewater (Sewerage), Water, and Storm water. The 'BizeAsset' functionality currently utilized within these modules is asset register, accounting (asset valuation), maintenance history ('maintenance event' not 'maintenance cost') with predictive analysis mooted for the future.

The efficient operation of waste water assets is supplemented by the knowledge and judgment of experienced staff.

### Condition Data

Condition information available on wastewater assets is evolving with renewal decisions based on age, condition and performance assessments and the renewal selection criteria included in the lifecycle management section above.

## 9.3 INFRASTRUCTURE ASSETS - DATA CONFIDENCE ASSESSMENT

ASSET CLASS	DATA CONFIDENCE RATING	FORECAST CONFIDENCE RATING	METHOD OF COMPLETING THE RATING ASSESSMENT
<b>Wastewater</b>			Internal knowledge and assessment of data collection procedures, completeness, accuracy and documentation
Reticulation:			
Te Kuiti (79%)	2	B	
Benneydale (3%)	2	B	
Piopio (17%)	1	A	
Te Waitere (1%)	1	B	
Pump stations - All	2	B	
Treatment plants - All	2	B	

Discharge structures - All	2	B	
<b>Water Supply</b>			Internal knowledge and assessment of data collection procedures, completeness, accuracy and documentation
Headworks - All	2	B	
Treatment plants - All	2	B	
Storage reservoirs - All	2	B	
Reticulation:			
Te Kuiti (68%)	2	B	
Benneydale (8%)	2	B	
Piopio (9%)	2	B	
Mokau (15%)	2	B	
<b>Stormwater</b>			Internal knowledge and assessment of data collection procedures, completeness, accuracy and documentation
Reticulation	3	C	
Outlet structures	1	A	
<b>Roads and Footpaths</b>			Internal knowledge and assessment of data collection procedures, completeness, accuracy and documentation
Bridges	1	A	
Surfacing	1	B	
Pavement	3	C	
Culverts	2	C	
Kerb and channel	1	A	
Retaining structures	2	B	
Streetlights	1	A	
Road signage	2	B	
Footpaths	2	B	

#### 9.4 MONITORING AND CONTROL

Following the DIA (Department of Internal Affairs) investigation in 2006 it became apparent that there had been no consent reporting and very basic WINZ (Water Information NZ) data reporting and what



was done for WINZ did not meet the compliance criteria most of the time. Main reasons were the data was not available or it was inaccurate.

The first step was to install flow meters at the various plants (waste water and water) to get meaning full operational data (extraction, discharge etc) that required a reliable SCADA and telemetry system

Telemetry is a [technology](#) that allows remote measurement and transparent conveyance of remote information and the storage and collation to be in a format that can be used for reporting purposes to meet the various regulatory criteria.

SCADA (supervisory control and data acquisition) generally refers to [industrial control systems](#) (ICS): computer systems that monitor and control industrial, infrastructure, or facility-based processes. WDC needed such system to monitor and control the Council [Infrastructure](#) processes [water treatment](#) and distribution, wastewater collection and [treatment](#).

A programme to collect flow data was needed but it was recognised that it need to be much more than just that. A system that could provide the information that is needed and allows the control that allowed remote intervention in case of emergency on a district wide basis was scoped.

For such a system to work all the parts and their functions as it is developed at the various plants pump stations over time needs to be fully integrated. If not it will simply not work.

Experience with various systems and contractors in this field were pooled and considered and the main criteria determined were;

- Real practical understanding and experience with the control and data acquisition and transfer in the broad water industry
- Reliability of both contractor and the systems offered
- Flexibility that allows for development as infrastructure gets upgraded to meet regulatory requirement and changes in requirements over time
- Honesty and integrity in all dealings
- Support at all times

Considering all of the above a proposal from Alf Downs was considered and accepted in early 2008.

The proposal is based on estimated cost as scoped, with a ceiling and has been in force since then. The roll out of this SCADA and Telemetry scheme has proved itself and is used in some form at all the treatment plants, pump stations and reservoirs as well as collecting trade waste flow data. In the waste water system at its most basic is the management of secondary pump stations.

Typical controls and data collection at a secondary pump station;

- Start and stop pumps and increase or decrease pump rate based on inflow or demand
- Send out alarms when pumps fail or tanks get too low of too full (overflow prevention)
- Collect and record all of this data and store for operational and asset management and reporting

The new waste water treatment plant at Te Kuiti is a sophisticated plant of necessity because of the composition and high variability of the incoming waste. The management of the treatment processes in this plant can only be done with accurate reliable data that is continuously collected and interpreted to manage the next process in the process train. Which in turn is totally dependent on reliable equipment, programming and reliable support.

As an example;

The first set of controls and data collection at the Te Kuiti WWTP manage the inflow to the plant. The Te Kuiti WWTP requires smoothed inflow to operate most effectively it also can not process more than 4,000m<sup>3</sup> per day. Therefore the main pump station must pump continuously but at the same time the flow meters on the pumps calculate in advance how much the electronic control gate at the inlet to the plant (1 kilometre away) allows through so that at the end of 24 hours no more than 4,000m<sup>3</sup> has gone into the plant for processing. Any excess (due to high rainfall) is bypassed which then is pumped back to the inlet of the plant when the flow into the plant is calculated to drop below 4,000m<sup>3</sup> for the day to create storage for the next rainfall event. This may sound simple but is in effect a highly sophisticated subsystem in the total SCADA and Telemetry system and probably the least complicated compared to controlling the actual treatment processes.

## SECTION 10 - FINANCIAL SUMMARY

### 10.1 VALUATION OF WASTEWATER ASSETS

The key components of Waitomo's wastewater infrastructure and their attendant values, as held in BizeAsset at 1 July 2014 are summarised in the tables below.

<b>District Waste Water Schemes by Community</b>		
<b>Community</b>	<b>Type</b>	<b>ORC (2014)</b>
Te Kuiti	Reticulation	\$ 11,426,505
	Points	\$ 2,714,822
	Treatment & PS	\$ 11,466,070
	<b>TOTAL</b>	<b>\$ 25,607,397</b>
Benneydale	Reticulation	\$ 417,847
	Points	\$ 109,996
	Treatment & PS	\$ 968,789
	<b>TOTAL</b>	<b>\$ 1,496,632</b>
Te Waitere	Reticulation	\$ 80,059
	Points	\$ 4,066
	Treatment & PS	\$ 247,800
	<b>TOTAL</b>	<b>\$ 205,304</b>
Piopio	Reticulation	\$ 1,118,737
	Points	\$ 643,465
	Treatment & PS	\$ 2,801,141
	<b>TOTAL</b>	<b>\$4,563,343</b>
<b>GRAND TOTAL</b>		<b>\$ 31,872,676</b>

<b>District Waste Water Reticulation Summary by Community</b>		
<b>Community</b>	<b>Length (m)</b>	<b>ORC (2014)</b>
Te Kuiti	51,458	\$11,426,506
Benneydale	2,170	\$ 417,848
Te Waitere	806	\$ 80,058
Piopio	10,762	\$ 1,118,737
<b>TOTALS</b>	<b>65,196</b>	<b>\$13,043,149</b>

The assets were valued using the Depreciated Replacement Cost methodology as described in the NZ Infrastructure Asset Valuation and Depreciation Guidelines. Assets were depreciated on a straight line basis to determine the Optimised Depreciated Replacement Cost - see schedule of the effective lives used, in the appendices.

The confidence ratings for each of the significant asset components of the wastewater valuation as detailed in the valuation report are:

<b>Valuation Element</b>	<b>Confidence Grade</b>
Fixed asset register downloads	Good confidence
Attribute details	Good confidence
Asset categorisation	Good confidence
Economic lives information	Good confidence
Unit replacement rates	Good confidence
<b>Overall rating</b>	<b>Good confidence</b>

The following table shows the financial projections for the wastewater activity over the next ten years. The following definitions apply to the respective activity classes shown:

Activity Class	Definition
Maintenance and Operations	All actions necessary to retain an asset as near as practicable to its original condition, but excluding renewals and rehabilitation. Includes costs such as insurances, rates, energy and consumables associated with owning and using the asset
Renewals	Works to upgrade, refurbish or replace existing assets with assets of equivalent capacity or performance capability
Improvements	Expenditure used to create new assets or to increase the capacity of existing assets beyond their original design capacity or service potential. Improvements increase the value of asset stock

**Table: Sewerage operational, renewal and capital costs for the 10 years commencing 2012/13**

(Note: No allowance for inflation)

Sewerage	EAP 2014/15	LTP 2016	LTP 2017	LTP 2018	LTP 2019	LTP 2020	LTP 2021	LTP 2022	LTP 2023	LTP 2024	LTP 2025
<b>Operating Income</b>											
Te Kuiti	825	826	862	891	922	955	992	1,032	1,075	1,120	1,171
Te Waitere	0	0	0	0	0	0	0	0	0	0	0
Benneydale	2	1	1	1	1	1	1	1	1	1	1
Piopio	1	1	1	1	1	1	1	1	1	1	1
<b>Total Operating Income</b>	<b>828</b>	<b>828</b>	<b>864</b>	<b>893</b>	<b>924</b>	<b>957</b>	<b>994</b>	<b>1,034</b>	<b>1,077</b>	<b>1,122</b>	<b>1,173</b>
<b>Operating Expenditure</b>											
Te Kuiti	2,926	2,769	2,798	2,896	2,985	3,047	3,080	3,126	3,132	3,176	3,267
Te Waitere	49	43	43	47	47	55	54	58	58	62	61
Benneydale	159	162	168	171	176	181	185	191	199	206	214
Piopio	265	269	278	287	291	293	298	302	305	308	312
<b>Total Operating Expenditure</b>	<b>3,399</b>	<b>3,243</b>	<b>3,287</b>	<b>3,401</b>	<b>3,499</b>	<b>3,576</b>	<b>3,617</b>	<b>3,677</b>	<b>3,694</b>	<b>3,752</b>	<b>3,854</b>
<b>Net Operating Cost/(Surplus)</b>	<b>2,571</b>	<b>2,415</b>	<b>2,423</b>	<b>2,508</b>	<b>2,575</b>	<b>2,619</b>	<b>2,623</b>	<b>2,643</b>	<b>2,617</b>	<b>2,630</b>	<b>2,681</b>
<b>Capital Expenditure</b>											
Te Kuiti	515	428	537	423	381	505	394	401	426	428	502
Te Waitere	5	14	16	0	56	0	0	0	0	0	0
Benneydale	65	35	38	40	42	42	44	49	47	51	49
Piopio	0	53	3	3	3	3	4	4	4	4	4
<b>Total Capital Expenditure</b>	<b>585</b>	<b>530</b>	<b>594</b>	<b>466</b>	<b>482</b>	<b>550</b>	<b>442</b>	<b>454</b>	<b>477</b>	<b>483</b>	<b>555</b>
<b>Net Expenditure</b>	<b>3,156</b>	<b>2,945</b>	<b>3,017</b>	<b>2,974</b>	<b>3,057</b>	<b>3,169</b>	<b>3,065</b>	<b>3,097</b>	<b>3,094</b>	<b>3,113</b>	<b>3,236</b>
<b>Funded By</b>											
Internal Loans	515	14	16	0	56	0	0	49	47	51	49
Reserves	456	702	723	611	522	579	413	374	397	398	470
TK Sewerage Service Charge	1,614	1,644	1,661	1,696	1,793	1,879	1,903	1,907	1,868	1,865	1,900
TK Sewerage Targeted Rate - Trade Waste Contribution	176	166	168	174	179	183	185	188	188	191	196
TW Sewerage Service Charge	42	43	43	47	47	56	55	57	58	63	61
BD Sewerage Service Charge	139	149	166	195	201	207	214	221	230	240	250
PP Sewerage Service Charge	215	226	239	253	260	267	296	301	304	306	309
<b>Total Funding</b>	<b>3,157</b>	<b>2,944</b>	<b>3,016</b>	<b>2,976</b>	<b>3,058</b>	<b>3,171</b>	<b>3,066</b>	<b>3,097</b>	<b>3,092</b>	<b>3,114</b>	<b>3,235</b>

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In summary, the overall wastewater forecast for the next 10 years proposes:

- Operational and maintenance costs increase steadily across all schemes inline with inflation adjustments.
- Renewal costs fluctuate between schemes with non-operational expenditure smoothing applied in all cases to avoid major spikes in overall expenditure for each scheme from one year to the next. Major renewals expenditure in Te Kuiti due to poor pipe condition leading to high inflow/infiltration may be required. The work planned for detailed surveys of the reticulation will confirm the scope and cost estimate of the work required.
- Capital works expenditure occurs early in the programme for Te Kuiti, mostly due to upgrades required to increase treatment plant performance to achieve discharge consent compliance. The most significant projects are the upgrade of the Te Kuiti WWTP and construction of the new Piopio sewerage reticulation and treatment plant, both with Ministry of Health SWSS subsidy funding.

## 10.2 FUNDING SOURCES

Current funding sources available for the wastewater activity include rates and trade waste charges:

### **Rates:**

Rates are charge to all properties that can connect to council waste water systems.

Trade waste charges are charge in line with council Trade waste Bylaw and trade waste agreements.

### Assistance for smaller communities

Council's Revenue and Funding policy also makes provision for assistance for smaller communities where wastewater services are an imperative because of public health, environmental or economic factors, but the costs of providing the service is not financially viable due to the small size of the community. The 2011 trigger level is determined by Council from time to time.

The assistance is in form of a Targeted Uniform Annual Charge over every rating unit within the District.

### **Trade waste charges:**

Trade waste charges are charged in line with Council's Trade waste Bylaw and trade waste discharge consents.

### **Financial/development contributions:**

Council has two different policy tools available to it under the LGA 2002 that can be used to fund the capital cost of new assets or additional asset capacity included in the Long Term Plan as a result of growth. A financial contributions policy prepared in accordance with the Resource Management Act 1991 allows Council to charge developers financial contributions while the LGA 2002 prescribes the process under which Council may establish a policy to charge development contributions. One or other, or a combination of both, can be used as a source of funding for growth related capital expenditure. However, "double dipping" of contributions is not permitted.

Council has a financial contributions policy, as included in its operative district plan but not a development contributions policy.

Financial contributions can be applied as an appealable condition on a resource consent, corresponding to work required to mitigate an adverse effect of a development on existing infrastructure or the environment. The financial contributions policy contained in Council's operative District Plan allows contributions to be charged where necessary, but remains untested. This stance reflects an unwritten policy of supporting economic development by not applying financial contributions policy to new developments. Although any need for growth related expenditure with or without a formal development/financial contributions policy will be at the expense of existing ratepayers.

Council will review the need for a development contributions policy when it reviews its District Plan in this LTP planning period.

## SECTION 11 - ASSUMPTIONS

The following basic assumptions have been made in preparing 30 year funding requirement forecasts:

- All expenditure is stated in dollar values as estimated it will be at 30 June 2014 with no allowance made for inflation over each subsequent year of the 10 year planning period.
- No significant increase in overhead costs will occur during the 2015-2025 planning period.
- Operational cost will increase with upgrades at plants required to meet higher levels of final effluent quality required
- It is anticipated that there will be a gradual but continual increase in operation and maintenance expenditure in real terms over the planned period due to ever more stringent compliance requirements leading to higher compliance costs and the continued ageing of the asset. A small part may be offset by improved asset management decision making made possible by enhanced information used in asset management systems
- Improved asset renewal decision is expected to reduce maintenance needs made possible by enhanced information used in the asset management system which should help to slow the rise in operating cost. As this reduction is difficult to quantify, it has been assumed that the net effect will be neutral and has not been provided for in the financial forecast.
- There will be no additional assets vested in Council from subdivisional development over the term of the AMP. This assumption will be reviewed in the next 3 year planning cycle
- Programmed renewal works are expected to result in delaying increase in cost of maintenance over time. As this possible reduction is difficult to quantify it has not been allowed for in the financial forecasts.
- Maintenance allocations are based on maintaining current levels of service including compliance with current resource consents.
- Significant increases in the renewal funding may result from more detailed evaluation of assets.
- Growth in the size of existing wastewater schemes will be minor over the term of the plan
- Changes in the district population will not impact on the expenditure forecasts for any of the wastewater schemes over the 2015-25 period
- Resource consents required for any planned wastewater project will not result in any material delay or additional expenditure
- Significant increases in the funding requirement may result from more detailed evaluation of asset renewal requirements and the need to meet higher resource consent standards
- There will be no change to the current ownership/management regime for the Waitomo Village wastewater scheme. Therefore, no allowance has been made for any costs associated with the Waitomo Village wastewater scheme in this AMP.

These assumptions and the AMP will be reviewed in 2017 in light of improved asset information that will be collected and recorded over the next 3 years ahead of the 2018-28 LTP.

## SECTION 12 – PLAN IMPROVEMENT AND MONITORING

### 12.1 INTRODUCTION

Activity management planning involves a process of constant improvement. The following table summarises the proposed actions and timetables for improving accuracy and confidence in the Water Supply AMP. It identifies and prioritises what needs to be done, who is going to do it and when it is to be completed by. Many of the steps will entail additional resourcing.

### 12.2 IMPROVEMENT PLAN

Ref	Description	Relative Priority				Target Completion Date	Additional Resources Required	Additional Resources Approved	Actual Completion Date	Comment
		1	2	3	4					
1	Consultation to ascertain the community's service needs and preferences and to ensure their views is considered when selecting the best level of service scenario.			x		Next review due June 2015	Survey consultant		On going	LOS survey completed in August 2011 confirmed wastewater services meet or exceed the majority of users expectations
2	Ensure the right level of funding is being allocated to maintain the asset service potential.		x			Next review February 2017	Nil			Review frequency consistent with annual and long term planning cycle
3	Formalise asset data collection procedures.	x				On going	Dedicated staff			
4	Investigate a design concept for a wastewater scheme to service planned development at Mokau - Awakino				x	After 2025	District Plan Update			Require District Plan update Outside planning period
5	Investigate extension of the Te Waitere scheme to further development of the area.				X	After 2025				Require District Plan update Outside planning period
6	Develop accurate and complete asset inventory registers for each scheme.		x			On-going	Dedicated staff			
7	Updating of asset inventory data and input to database.	x				On-going	Dedicated staff			

Ref	Description	Relative Priority				Target Completion Date	Additional Resources Required	Additional Resources Approved	Actual Completion Date	Comment
		1	2	3	4					
8	Complete external audit and review process for data integrity		x			After completion of 6 and 7	Dedicated staff			Require accurate asset inventory
9	Develop a greater focus on risk identification and management, obtaining more detailed information on critical assets.		x				Dedicated staff			
10	Prioritise the works developed from risk assessment exercises.		x				Dedicated staff			
11	Develop strategies to meet the community's desire for higher environmental standards and anticipated more stringent resource consent requirements.		x				Dedicated staff			
12	Arrange a routine forum of adjacent council's wastewater officers to discuss trends, concerns, future developments that may affect neighbouring authorities, cost sharing of consultants or specialist providers, spare survey or design capacity in larger councils shared by others.				x	Ongoing	Nil			Informal networking already occurs on a regular basis

**Key:**

- 1 = High importance/high urgency
- 2 = High importance/low urgency
- 3 = Low importance/high urgency
- 4 = Low importance/low urgency



## SECTION 13 - REFERENCES AND ACKNOWLEDGEMENTS

Material from the following documents has been used in the preparation of this Wastewater Asset Management Plan:

- Water Services Assessment – Opus International Consultants 2014
- Waikato Regional Plan (Part)
- Miscellaneous consultant reports
- Customer Satisfaction Surveys 2009 - 2011

**SECTION 14 - APPENDICES**

<b>Appendix</b>	<b>Title</b>
A	Glossary
B	Extract from Schedule 10, Local Government Act 2002 – Information to be included in long term plans
C	Extract from LGA 2002 – s.101B Infrastructure Strategy
D	Wastewater Risk Assessment
E	Indicative Wastewater AMP Expenditure Programmes 2015 – 2045
F	Effective Lives of Wastewater Assets
G	Extract from Environment Waikato Regional Plan - Discharge of biosolids and sludges or liquids from activated sludge treatment processes to land
H	Extract from Environment Waikato Regional Plan Rule 6.1 – Air discharges from solid or liquid waste management processes
I	Extract from Environment Waikato Regional Plan – Discharges to Water
J	Organisational Management Structure

## APPENDIX A: GLOSSARY

The following terms and acronyms (in brackets) are used in this AM plan:

<b>Activity</b>	An activity is the work undertaken on an asset or group of assets to achieve a desired outcome.
<b>Advanced Activity Management (AAM)</b>	Activity Management practice that has evolved to a state that matches business needs. AAM employs predictive modeling, risk management and optimised renewal decision making techniques to establish asset lifecycle treatment options and related long term cash flow predictions. (See Core Activity Management).
<b>Annual plan</b>	The Annual Plan provides a statement of the direction of Council and ensures consistency and coordination in both making policies and decisions concerning the use of Council resources. It is a reference document for monitoring and measuring performance for the community as well as the Council itself.
<b>Asset</b>	A physical component of a facility which has value, enables services to be provided and has an economic life of greater than 12months.
<b>Activity Management (AM)</b>	The combination of management, financial, economic, engineering and other practices applied to physical assets with the objective of providing the required level of service in the most cost effective manner.
<b>Activity Management system (AMS)</b>	A system (usually computerised) for collecting analysing and reporting data on the utilisation, performance, lifecycle management and funding of existing assets.
<b>Activity Management Plan</b>	A plan developed for the management of one or more infrastructure assets that combines multidisciplinary management techniques (including technical and financial) over the lifecycle of the asset in the most cost effective manner to provide a specified level of service. A significant component of the plan is a long term cash flow projection for the activities.
<b>Activity Management strategy</b>	A strategy for Activity Management covering, the development and implementation of plans and programmes for asset creation, operation, maintenance, renewal, disposal and performance monitoring to ensure that the desired levels of service and other operational objectives are achieved at optimum cost.
<b>Asset register</b>	A record of asset information considered worthy of separate identification including inventory, historical, financial, condition, construction, technical and financial information about each.
<b>Benefit cost ratio (B/C)</b>	The sum of the present values of all benefits (including residual value, if any) over a specified period, or the life cycle of the asset or facility, divided by the sum of the present value of all costs.
<b>Berm</b>	The area of a road reserve between the kerb or surface water channel and property boundary exclusive of footpath.
<b>Capital expenditure (CAPEX)</b>	Expenditure used to create new assets or to increase the capacity of existing assets beyond their original design capacity or service potential. CAPEX increases the value of an asset.
<b>Cash flow</b>	The stream of costs and/or benefits over time resulting from a project investment or ownership of an asset.
<b>Components</b>	Specific parts of an asset having independent physical or functional identity and having specific attributes such as different life expectancy, maintenance regimes, risk or criticality.
<b>Condition monitoring</b>	Continuous or periodic inspection, assessment, measurement and interpretation of resulting data, to indicate the condition of a specific component so as to determine the need for some preventive or remedial action
<b>Core Activity Management</b>	Activity Management which relies primarily on the use of an asset register, maintenance history, condition assessment,

	defined levels of service, and simple risk and benefit/ cost assessments in order to establish work priorities and long term cash flow predictions.
<b>Critical assets</b>	Assets for which the financial, business or service level consequences of failure are sufficiently severe to justify proactive inspection and rehabilitation. Critical assets have a lower threshold for action than non-critical assets.
<b>Current replacement cost</b>	The cost of replacing the service potential of an existing asset, by reference to some measure of capacity, with an appropriate modern equivalent asset.
<b>Deferred maintenance</b>	The shortfall in rehabilitation work required to maintain the service potential of an asset.
<b>Demand management</b>	The active intervention in the market to influence demand for services and assets with forecast consequences, usually to avoid or defer CAPEX expenditure. Demand management is based on the notion that as needs are satisfied expectations rise automatically and almost every action taken to satisfy demand will stimulate further demand.
<b>Depreciated replacement cost (DRC)</b>	The replacement cost of an existing asset after deducting an allowance for wear or consumption to reflect the remaining economic life of the existing asset.
<b>Depreciation</b>	The wearing out, consumption or other loss of value of an asset whether arising from use, passing of time or obsolescence through technological and market changes. It is accounted for by the allocation of the historical cost (or revalued amount) of the asset less its residual value over its useful life.
<b>Disposal</b>	Activities necessary to dispose of decommissioned assets.
<b>Economic life</b>	The period from the acquisition of the asset to the time when the asset, while physically able to provide a service, ceases to be the lowest cost alternative to satisfy a particular level of service. The economic life is at the maximum when equal to the physical life however obsolescence will often ensure that the economic life is less than the physical life.
<b>Geographic information system (GIS)</b>	Software which provides a means of spatially viewing, searching, manipulating, and analysing an electronic data-base.
<b>Infrastructure assets</b>	Stationary systems forming a network and serving whole communities, where the system as a whole is intended to be maintained indefinitely at a particular level of service potential by the continuing replacement and refurbishment of its components. The network may include normally recognised 'ordinary' assets as components.
<b>Level of service</b>	The defined service quality for a particular activity (i.e. roading) or service area (i.e. street-lighting) against which service performance may be measured. Service levels usually relate to quality, quantity, reliability, responsiveness, environmental acceptability and cost.
<b>Life</b>	A measure of the anticipated life of an asset or component; such as time, number of cycles, distance intervals etc.
<b>Life cycle</b>	Life cycle has two meanings: (a) The cycle of activities that an asset (or facility) goes through while it retains an identity as a particular asset i.e. from planning and design to decommissioning or disposal. (b) The period of time between a selected date and the last year over which the criteria (e.g. costs) relating to a decision or alternative under study will be assessed.
<b>Life cycle cost</b>	The total cost of an asset throughout its life including planning, design, construction, acquisition, operation, maintenance, rehabilitation and disposal costs.

<b>Maintenance</b>	All actions necessary for retaining an asset as near as practicable to its original condition, but excluding rehabilitation or renewal.
<b>Maintenance plan</b>	Collated information, policies and procedures for the optimum maintenance of an asset, or group of assets.
<b>Maintenance standards</b>	The standards set for the maintenance service, usually contained in preventive maintenance schedules, operation and maintenance manuals, codes of practice, estimating criteria, statutory regulations and mandatory requirements, in accordance with maintenance quality objectives.
<b>Net present value (NPV)</b>	The value of an asset to the organisation, derived from the continued use and subsequent disposal in present monetary values. It is the net amount of discounted total cash inflows arising from the continued use and subsequent disposal of the asset after deducting the value of the discounted total cash outflows.
<b>NIMT</b>	North Island Main Trunk rail line
<b>Objective</b>	An objective is a general statement of intention relating to a specific output or activity. They are longer term aims and are not necessarily outcomes that managers can control.
<b>Operation</b>	The active process of utilising an asset which will consume resources such as manpower, energy, chemicals and materials. Operation costs are part of an assets life cycle costs..
<b>Optimised renewal decision making (ORDM)</b>	An optimisation process for considering and prioritising all options to rectify performance failures of assets. The process encompasses NPV analysis and risk assessment.
<b>Performance indicator (PI)</b>	A qualitative or quantitative measure of a service or activity used to compare actual performance against a standard or other target. Performance indicators commonly relate to statutory limits, safety, responsiveness, cost, comfort, asset performance, reliability, efficiency, environmental protection and customer satisfaction.
<b>Performance monitoring</b>	Continuous or periodic quantitative and qualitative assessments of the actual performance compared with specific objectives, targets or standards.
<b>Planned maintenance</b>	Planned maintenance activities fall into 3 categories : (a) Periodic - necessary to ensure the reliability or sustain the design life of an asset. (b) Predictive – condition monitoring activities used to predict failure.
	(c) Preventive - maintenance that can be initiated without routine or continuous checking (e.g. using information contained in maintenance manuals or manufacturers' recommendations) and is not condition-based.
<b>Rehabilitation</b>	Works to rebuild or replace parts or components of an asset, to restore it to a required functional condition and extend its life, which may incorporate some modification. Generally involves repairing the asset using available techniques and standards to deliver its original level of service (i.e. heavy patching of roads, slip-lining of stormwater mains, etc.) without resorting to significant upgrading or replacement.
<b>Renewal</b>	Works to upgrade, refurbish, rehabilitate or replace existing facilities with facilities of equivalent capacity or performance capability.
<b>Repair</b>	Action to restore an item to its previous condition after failure or damage.
<b>Replacement</b>	The complete replacement of an asset that has reached the end of its life, so as to provide a similar or agreed alternative, level of service.

<b>Remaining economic life</b>	The time remaining until an asset ceases to provide service level or economic usefulness.
<b>Risk cost</b>	The assessed annual cost or benefit relating to the consequence of an event. Risk cost equals the costs relating to the event multiplied by the probability of the event occurring.
<b>Risk management</b>	The application of a formal process to the range of possible values relating to key factors associated with a risk in order to determine the resultant ranges of outcomes and their probability of occurrence.
<b>Routine maintenance</b>	Day to day operational activities to keep the asset operating (replacement of light bulbs, cleaning of drains, repairing leaks, etc.) and which form part of the annual operating budget, including preventative maintenance.
<b>Service potential</b>	The total future service capacity of an asset. It is normally determined by reference to the operating capacity and economic life of an asset.
<b>Strategic plan</b>	Strategic planning involves making decisions about the long term goals and strategies of an organisation. Strategic plans have a strong external focus, cover major portions of the organization and identify major targets, actions and resource allocations relating to the long term survival, value and growth of the organisation.
<b>Unplanned maintenance</b>	Corrective work required in the short term to restore an asset to working condition so it can continue to deliver the required service or to maintain its level of security and integrity.
<b>Traffic volume</b>	The number of vehicles flowing in both directions past a particular part in a given time (for example, vehicles per hour or vehicles per day).
<b>Upgrading</b>	The replacement of an asset or addition/ replacement of an asset component which materially improves the original service potential of the asset.
<b>Valuation</b>	Estimated asset value which may depend on the purpose for which the valuation is required, i.e. replacement value for determining maintenance and replacement levels, or market value for life cycle costing.

**APPENDIX B: EXTRACT – SCHEDULE 10, LOCAL GOVERNMENT ACT 2002 – INFORMATION TO BE INCLUDED IN LONG TERM PLANS**

**1. Community outcomes**

- A long-term plan must, to the extent determined appropriate by the local authority, describe the community outcomes for the local authority's district or region.

**2. Groups of activities**

- (1) A long-term plan must, in relation to each group of activities of the local authority,—
  - (a) identify the activities within the group of activities;
  - (b) identify the rationale for delivery of the group of activities (including the community outcomes to which the group of activities primarily contributes);
  - (c) outline any significant negative effects that any activity within the group of activities may have on the local community;
  - (d) include the information specified in [clauses 4](#) and [5](#)—
    - (i) in detail in relation to each of the first 3 financial years covered by the plan; and
    - (ii) in outline in relation to each of the subsequent financial years covered by the plan.
- (2) In this schedule, each of the following activities is a group of activities:
  - (a) water supply;
  - (b) sewerage and the treatment and disposal of sewage;
  - (c) stormwater drainage;
  - (d) flood protection and control works;
  - (e) the provision of roads and footpaths.
- (3) Despite subclause (2), a local authority may treat any other activities as a group of activities

**3. Capital expenditure for groups of activities**

- (1) A long-term plan must, in relation to each group of activities of the local authority and for each financial year covered by the plan, include a statement of the amount of capital expenditure that the authority has budgeted to—
  - (a) meet additional demand for an activity; and
  - (b) improve the level of service; and
  - (c) replace existing assets.
- (2) For the purpose of this clause, capital expenditure budgeted for 2 or all of the purposes in subclause (1) may be treated as if it were made solely in relation to the primary purpose of the expenditure.

**4. Statement of service provision**

- A long-term plan must, in relation to each group of activities of the local authority, include a statement of the intended levels of service provision that specifies—
  - (a) any performance measures specified in a rule made under [section 261B](#) for a group of activities described in [clause 2\(2\)](#); and
  - (b) the performance measures that the local authority considers will enable the public to assess the level of service for major aspects of groups of

activities for which performance measures have not been specified under paragraph (a); and

- (c) the performance target or targets set by the local authority for each performance measure; and
- (d) any intended changes to the level of service that was provided in the year before the first year covered by the plan and the reasons for the changes; and
- (e) the reason for any material change to the cost of a service.

#### **5. Funding impact statement for groups of activities**

- (1) A long-term plan must, in relation to each year covered by the plan, include a funding impact statement in relation to each group of activities of the local authority.
- (2) The funding impact statement must be in the prescribed form and must identify—
  - (a) the sources of funding to be used by the local authority; and
  - (b) the amount of funds expected to be produced from each source; and
  - (c) how the funds are to be applied.

#### **6. Variation between territorial authority's long-term plan and assessment of water and sanitary services and waste management plans**

- A long-term plan for a territorial authority must identify and explain any significant variation between the proposals outlined in the long-term plan and the territorial authority's—
  - (a) assessment of water and other sanitary services under [section 125](#);
  - (b) waste management and minimisation plans adopted under [section 43](#) of the Waste Minimisation Act 2008

#### **7. Council-controlled organisations**

- A long-term plan must, in relation to each council-controlled organisation,—
  - (a) name the council-controlled organisation and any subsidiary of the council-controlled organisation; and
  - (b) identify—
    - (i) the local authority's significant policies and objectives in relation to ownership and control of the organisation; and
    - (ii) the nature and scope of the activities to be provided by the council-controlled organisation; and
    - (iii) the key performance targets and other measures by which performance is to be judged.

#### **8. Development of Māori capacity to contribute to decision-making processes**

- A long-term plan must set out any steps that the local authority intends to take, having undertaken the consideration required by [section 81\(1\)\(b\)](#), to foster the development of Māori capacity to contribute to the decision-making processes of the local authority over the period covered by that plan.

#### **9. Financial strategy and infrastructure strategy**

- A long-term plan must include a local authority's financial strategy described under [section 101A](#) and infrastructure strategy described under [section 101B](#).

#### **10. Revenue and financing policy**



- A long-term plan must include a local authority's revenue and financing policy already adopted under [section 102\(1\)](#).

#### **11. Significance and engagement policy**

- A long-term plan must contain—
  - (a) a summary (or other description) of the local authority's significance and engagement policy under [section 76AA](#); and
  - (b) a reference to where the full policy can be found, which may be done by providing a link to the relevant document on an Internet site maintained by or on behalf of the local authority.

#### **12. Forecast financial statements**

- (1) A long-term plan must include, for each of the financial years covered by the plan, forecast financial statements for the local authority.
- (2) A long-term plan may include, for each of the financial years covered by the plan, or for any of those years, forecast financial statements for any council-controlled organisation or any other entity under the local authority's control.

#### **13. Financial statements for previous year**

- (1) A long-term plan must include the numerical information from the forecast financial statements referred to in [clause 12\(1\)](#) that were prepared for the financial year that is the year before the first year covered by the plan.
- (2) The numerical information must be presented in a way that allows the public to compare the information with the numerical information contained in the forecast financial statements for each of the financial years covered by the plan.

#### **14. Statement concerning balancing of budget**

- If the local authority has resolved, under [section 100\(2\)](#), not to balance its operating budget in any year covered by the long-term plan, the plan must include—
  - (a) a statement of the reasons for the resolution and any other matters taken into account; and
  - (b) a statement of the implications of the decision.

#### **15. Funding impact statement**

- (1) A long-term plan must include a funding impact statement in relation to each year covered by the plan.
- (2) The funding impact statement must be in the prescribed form and must identify—
  - (a) the sources of funding to be used by the local authority; and
  - (b) the amount of funds expected to be produced from each source; and
  - (c) how the funds are to be applied.
- (3) If the sources of funding include a general rate, the funding impact statement must—
  - (a) include particulars of the valuation system on which the general rate is to be assessed; and
  - (b) state whether a uniform annual general charge is to be included and, if so,—
    - (i) how the charge is to be calculated; and
    - (ii) the local authority's definition of a separately used or inhabited part of a rating unit, if the charge is to be calculated on that basis; and

- (c) state whether the general rate is to be set differentially and, if so,—
    - (i) the categories of rateable land, within the meaning of [section 14](#) of the Local Government (Rating) Act 2002, to be used; and
    - (ii) the objectives of the differential rate, in terms of the total revenue sought from each category of rateable land or the relationship between the rates set on rateable land in each category.
- (4) If the sources of funding include a targeted rate, the funding impact statement must—
- (a) specify the activities or groups of activities for which the targeted rate is to be set; and
  - (b) include particulars of the category, or categories, of rateable land, within the meaning of [section 17](#) of the Local Government (Rating) Act 2002, to be used; and
  - (c) for each category, state—
    - (i) how liability for the targeted rate is to be calculated; and
    - (ii) the local authority's definition of a separately used or inhabited part of a rating unit, if the rate is to be calculated on that basis; and
  - (d) if the targeted rate is set differentially, state the total revenue sought from each category of rateable land or the relationship between the rates set on rateable land in each category; and
  - (e) state whether lump sum contributions will be invited in respect of the targeted rate.
- (5) If the sources of funding include a general rate or a targeted rate, the funding impact statement must, for the first year covered by the long-term plan, include examples of the impact of the rating proposals in subclauses (3) and (4) on the rates assessed on different categories of rateable land with a range of property values.
- (6) If the same source of funding is to be used in more than 1 of the years covered by the long-term plan, in order to comply with subclauses (2)(a), (3), and (4) with respect to that source, it is sufficient—
- (a) to comply with those subclauses in relation to 1 of those years; and
  - (b) for the funding impact statement to specify the other years in respect of which that source is to be used.

## 16. Rating base information

- A long-term plan must state, for each year covered by the plan, the projected number of rating units within the district or region of the local authority at the end of the preceding financial year.

## 17. Reserve funds

- A long-term plan must identify each reserve fund set aside by the local authority and, in relation to each fund, specify—
  - (a) the purpose of the fund; and
  - (b) the activities to which the fund relates; and
  - (c) the amount expected to be in the fund at—
    - (i) the commencement of the first year to which the long-term plan relates; and
    - (ii) the end of the last year to which the long-term plan relates; and
  - (d) the amount expected to be deposited in the fund in the period to which the long-term plan relates; and

- (e) the amount expected to be withdrawn from the fund in the period to which the long-term plan relates.

#### **18. Significant forecasting assumptions**

- A long-term plan must clearly identify—
  - (a) all the significant forecasting assumptions and risks underlying the financial estimates:
  - (b) without limiting the generality of paragraph (a), the following assumptions on which the financial estimates are based:
    - (i) the assumptions of the local authority concerning the life cycle of significant assets; and
    - (ii) the assumptions of the local authority concerning sources of funds for the future replacement of significant assets:
  - (c) in any case where significant forecasting assumptions involve a high level of uncertainty,—
    - (i) the fact of that uncertainty; and
    - (ii) an estimate of the potential effects of that uncertainty on the financial estimates provided.

#### **19. Additional information to be included in long-term plan for unitary authority with local boards**

- In the case of a unitary authority for a district that includes 1 or more local board areas, a long-term plan must also—
  - (a) identify the non-regulatory activities of the unitary authority for which decision-making responsibility is allocated to 1 or more local boards under [section 48L](#) or under [section 17](#) of the Local Government (Auckland Council) Act 2009:
  - (b) group the activities to which paragraph (a) relates separately from any other activity or group of activities of the unitary authority (there may be 1 or more groups, but each group of activities specified in [clause 2\(2\)](#) must be separately identified):
  - (c) include the estimated local board funding allocation for each local board for each year to which the long-term plan relates:
  - (d) include the local board agreement for each local board area for the first year to which the long-term plan relates.

**APPENDIX C: EXTRACT – SCHEDULE 10, LOCAL GOVERNMENT ACT 2002 – S.101B  
INFRASTRUCTURE STRATEGY**

- A local authority must, as part of its long-term plan, prepare and adopt an infrastructure strategy for a period of at least 30 consecutive financial years.
  - (2) The purpose of the infrastructure strategy is to—
    - (a) identify significant infrastructure issues for the local authority over the period covered by the strategy; and
    - (b) identify the principal options for managing those issues and the implications of those options.
  - (3) The infrastructure strategy must outline how the local authority intends to manage its infrastructure assets, taking into account the need to—
    - (a) renew or replace existing assets; and
    - (b) respond to growth or decline in the demand for services reliant on those assets; and
    - (c) allow for planned increases or decreases in levels of service provided through those assets; and
    - (d) maintain or improve public health and environmental outcomes or mitigate adverse effects on them; and
    - (e) provide for the resilience of infrastructure assets by identifying and managing risks relating to natural hazards and by making appropriate financial provision for those risks.
  - (4) The infrastructure strategy must outline the most likely scenario for the management of the local authority's infrastructure assets over the period of the strategy and, in that context, must—
    - (a) show indicative estimates of the projected capital and operating expenditure associated with the management of those assets—
      - (i) in each of the first 10 years covered by the strategy; and
      - (ii) in each subsequent period of 5 years covered by the strategy; and
    - (b) identify—
      - (i) the significant decisions about capital expenditure the local authority expects it will be required to make; and
      - (ii) when the local authority expects those decisions will be required; and
      - (iii) for each decision, the principal options the local authority expects to have to consider; and
      - (iv) the approximate scale or extent of the costs associated with each decision; and
    - (c) include the following assumptions on which the scenario is based:
      - (i) the assumptions of the local authority about the life cycle of significant infrastructure assets;
      - (ii) the assumptions of the local authority about growth or decline in the demand for relevant services;
      - (iii) the assumptions of the local authority about increases or decreases in relevant levels of service; and
    - (d) if assumptions referred to in paragraph (c) involve a high level of uncertainty,—
      - (i) identify the nature of that uncertainty; and
      - (ii) include an outline of the potential effects of that uncertainty.

(5) A local authority may meet the requirements of [section 101A](#) and this section by adopting a single financial and infrastructure strategy document as part of its long-term plan.

(6) In this section, **infrastructure assets** includes—

- (a) existing or proposed assets to be used to provide services by or on behalf of the local authority in relation to the following groups of activities:
  - (i) water supply:
  - (ii) sewerage and the treatment and disposal of sewage:
  - (iii) stormwater drainage:
  - (iv) flood protection and control works:
  - (v) the provision of roads and footpaths; and
- (b) any other assets that the local authority, in its discretion, wishes to include in the strategy.

Section 101B: inserted, on 8 August 2014, by [section 36](#) of the Local Government Act 2002 Amendment Act 2014 (2014 No 55).

**APPENDIX D - WASTEWATER RISK ASSESSMENT**

**Wastewater Risk - Reticulation**

Risk Description	Consequence		Likelihood	Risk Rating	Best Management Option	Consequence when managed		Likelihood	Managed Risk Rating	Action Plan
Partial blockage of flat grade sewers	Surcharge of sewers and overflows	3	8	High	Prepare and carry out programme for routine flushing	Much reduced risk of overflows	2	4	Low	B
Infiltration and Inflow to sewers from residential sewer connections	Surcharge of sewers and overflows	3	10	High	Initiate a long term I/I investigation and reduction programme	long term reduction in overflows	2	5	Moderate	B
Blockage of river crossing siphon	Overflow to Mangaokewa River	4	4	High	Prepare and carry out programme for routine flushing	Much reduced risk of overflows	4	1	High	B
Failure of AC sewers from meat works plant effluent	Structural failure of specific sewers	4	5	High	Routine inspection of specific sewers and possible dedicated effluent pipeline	Much reduced risk of failure	4	1	High	B
Failure of main PS rising main	Overflow to Mangaokewa River	5	7	Extreme	Renew rising main	No reduced level of service	2	2	Low	A
Insufficient capacity of trunk sewers from meat works	Surcharge of sewers and overflows	3	6	Moderate	Investigate flow capacity and upgrade where required or construct dedicated effluent pipeline	Much reduced risk of overflows	2	2	Low	C
Collapse of Benneydale pipe bridge	Discharge to stream and WRC action	3	7	High	Investigate pipe bridge structure and implement a repair programme	Much reduced risk of discharge	3	2	Moderate	B
Collapse of Te Kuiti bridge pipe crossings	Discharge to river and WRC action	3	5	Moderate	Investigate bridge pipe supports and pipe condition structure and implement a repair programme	Much reduced risk of discharge	3	2	Moderate	C
Enforced restriction on meat companies discharge due to WRC abatement notice	Compensation to companies and /or reduction in company investment	4	5	High	Discussion with meat companies and WRC regarding mitigation factors and crucial issues	An awareness of the issues and specific management plans	4	5	High	B

## Wastewater Risk – Treatment Plants

Risk Description	Consequence		Likelihood	Risk Rating	Best Management Option	Consequence when managed		Likelihood	Managed Risk Rating	Action Plan
Sabotage	Effluent quality compromised	3	1	Moderate	Ensure acceptable security fencing, locks and lighting at treatment plant	reduced opportunity	3	1	Moderate	C
Power supply failure	Untreated wastewater discharge to maturation pond	2	4	Low	Acceptable for short duration	Report to EW	2	4	Low	D
Disruption to activated sludge process	Reduced standard of treatment	2	3	Low	Prepare contingency plan	Reduced standard of treatment	2	3	Low	D
Structural failure of pond embankment	Major discharge of wastewater to the stream	4	4	High	Investigate and analyse stability of the embankment	Continued operation of the plant	2	1	Low	B
EQ damages WWTP	Pipe work and structural failure	4	3	High	Check susceptibility to EQ	Untreated wastewater discharge to maturation pond	3	3	Moderate	B
Inability to treat at peak inflow at Te Kuiti due to high inflow to sewers	Reduced standard of treatment	4	5	High	Install onsite storage at meat processing plants	No reduced level of treatment	2	3	Low	B
Greater level of treatment required at Benneydale to meet possible new resource consent conditions	Increased cost of treatment	3	7	High	Investigate low cost effluent disposal options	Affordable costs	3	4	Moderate	B
Te Kuiti WWTP effluent not in accordance with Resource Consent	EW action and penalties	3	4	Moderate	Install automated monitoring and SCADA equipment	Continued operation of the plant	3	2	Moderate	B
Increasing Te Kuiti resource consent Standards in 2011 consent renewal	Unable to meet discharge conditions	3	6	Moderate	Continuous improvement of WWTP processes including UV and sludge dewatering	Ability to meet increased requirements	2	2	Low	B
Enforced restriction on meat companies discharge due to WRC abatement notice	Compensation to companies and /or reduction in	4	5	High	Discussion with meat companies and EW regarding mitigation	An awareness of the issues and specific	4	5	High	B

	company investment				factors and crucial issues	management plans				
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### Wastewater Risk – Pump Stations

Risk Description	Consequence		Likelihood	Risk Rating	Best Management Option	Consequence when managed		Likelihood	Managed Risk Rating	Action Plan
Mechanical failure in Main pump station	Major overflow to river	4	4	High	Review maintenance inspection of pumps and spares holdings. Investigate pump running hours	Reduced likelihood of failure	3	1	Moderate	B
Power failure	Major overflow to river	4	5	High	Provide connection for mobile generator at pump station and install suitable overflow storage volume capacity	Much reduced risk of discharge	3	1	Moderate	B
MCC failure	Major overflow to river	4	4	High	Review maintenance inspection of controls and spares holdings	Much reduced risk of discharge	3	1	Moderate	B
Mechanical failure in local pump station	Dependent on location of station	2	4	Low	Review maintenance inspection of pumps and spares holdings and install remote SCADA monitoring and alarm	Much reduced risk of discharge	1	1	Low	D
Power failure in local pump station	Dependent on location of station	2	5	Moderate	Provide connection for mobile generator at pump stations and install remote SCADA monitoring and alarm	Much reduced risk of discharge	1	1	Low	C
MCC failure in local pump station	Dependent on location of station	1	4	Low	Review maintenance inspection of controls and spares holding and install remote SCADA monitoring and alarm	Much reduced risk of discharge	1	1	Low	D
Enforced restriction on meat companies discharge due to WRC abatement notice	Compensation to companies and /or reduction in company investment	4	5	High	Discussion with meat companies and WRC regarding mitigation factors and crucial issues	An awareness of the issues and specific management plans	4	5	High	B



**APPENDIX E - ASSET RENEWAL PROGRAMMES**

**2015 - 2025 Waste Water Reticulation Renewal Programme - Te Kuiti**

Asset ID	Asset Type	Length	Material	Diameter	Install Year	Community	Remaining Life	Optimised Replacement Value	Annual Total Replacement Value
									<b>2015/16</b>
sspipe0041	Gravity Main	78.23	Glazed Earthenware	200	1911	Te Kuiti	2	20089.46	
sspipe0124	Gravity Main	136.05	Glazed Earthenware	225	1911	Te Kuiti	2	39304.85	
sspipe0126	Gravity Main	23.78	Glazed Earthenware	225	1911	Te Kuiti	2	6870.04	
sspipe0127	Gravity Main	19.3	Glazed Earthenware	225	1911	Te Kuiti	2	5575.77	
sspipe0128	Gravity Main	60.85	Glazed Earthenware	225	1911	Te Kuiti	2	17579.57	
sspipe0232	Gravity Main	75.9	Glazed Earthenware	225	1911	Te Kuiti	2	21927.51	
sspipe0626	Gravity Main	62.7	Glazed Earthenware	200	1911	Te Kuiti	2	16101.36	
sspipe0042	Gravity Main	22.46	Reinforced Concrete	225	1911	Te Kuiti	2	6488.69	<b>\$133,937.25</b>
									<b>2016/17</b>
sspipe0043	Gravity Main	192.8	Reinforced Concrete	225	1911	Te Kuiti	2	55699.92	
sspipe0123	Gravity Main	50.2	Reinforced Concrete	225	1911	Te Kuiti	2	14502.78	
sspipe0703	Gravity Main	92.04	Reinforced Concrete	225	1911	Te Kuiti	2	26590.36	
sspipe0704	Gravity Main	54.38	Reinforced Concrete	225	1911	Te Kuiti	2	15710.38	
sspipe0261	Gravity Main	97.71	Glazed Earthenware	200	1911	Te Kuiti	2	25091.93	<b>\$137,595.37</b>
									<b>2017/18</b>
sspipe0696	Gravity Main	21.89	Asbestos Cement	300	1972	Te Kuiti	3	7378.02	
ssrm31	Rising Main	2.12	Asbestos Cement	300	1972	Te Kuiti	3	714.55	
sspipe0693	Gravity Main	9.95	Asbestos Cement	150	1972	Te Kuiti	3	1916.37	
sspipe0695	Gravity Main	19.14	Asbestos Cement	150	1972	Te Kuiti	3	3686.36	
sspipe1165	Gravity Main	70.25	Glazed Earthenware	150	1970	Te Kuiti	3	13530.15	
sspipe0427	Gravity Main	49.62	Asbestos Cement	100	1984	Te Kuiti	3	8494.94	
sspipe0694	Gravity Main	27.48	PVC	150	1981	Te Kuiti	3	5292.65	
sspipe0095	Gravity Main	48.76	Glazed Earthenware	150	1954	Te Kuiti	3	9391.18	
sspipe0096	Gravity Main	68.5	Glazed Earthenware	150	1954	Te Kuiti	3	13193.1	

sspipe1205	Gravity Main	38.93	Glazed Earthenware	150	1954	Te Kuiti	3	7497.92	
sspipe0663	Gravity Main	38.76	Glazed Earthenware	150	1955	Te Kuiti	3	7465.18	
sspipe0404	Gravity Main	50.87	Glazed Earthenware	225	1911	Te Kuiti	2	14696.34	
sspipe0406	Gravity Main	35.2	Glazed Earthenware	225	1911	Te Kuiti	2	10169.28	
sspipe0625	Gravity Main	99.66	Glazed Earthenware	200	1911	Te Kuiti	2	25592.69	<b>\$129,018.73</b>
								2018/19	
sspipe0130	Gravity Main	7.87	Reinforced Concrete	300	1911	Te Kuiti	2	2652.58	
sspipe0649	Gravity Main	209.22	Reinforced Concrete	300	1911	Te Kuiti	2	70517.6	
sspipe1185	Gravity Main	62.1	Asbestos Cement	150	1972	Te Kuiti	3	11960.46	
sspipe0659	Gravity Main	53.27	Glazed Earthenware	300	1970	Te Kuiti	3	17954.65	
sspipe0399	Gravity Main	24.91	Reinforced Concrete	150	1962	Te Kuiti	3	4797.67	
sspipe0678	Gravity Main	35.84	Reinforced Concrete	150	1962	Te Kuiti	3	6902.78	
sspipe0044	Gravity Main	37.42	Glazed Earthenware	200	1911	Te Kuiti	2	9609.46	<b>\$124,395.20</b>
								2019/20	
sspipe0594	Gravity Main	86.56	Reinforced Concrete	150	1955	Te Kuiti	2	16671.46	
sspipe0241	Gravity Main	68.55	Reinforced Concrete	150	1962	Te Kuiti	3	13202.73	
sspipe0504	Gravity Main	46.42	Reinforced Concrete	150	1962	Te Kuiti	3	8940.49	
sspipe0505	Gravity Main	126.55	Reinforced Concrete	150	1962	Te Kuiti	3	24373.53	
sspipe0700	Gravity Main	48.38	Reinforced Concrete	225	1911	Te Kuiti	2	13976.98	
sspipe0701	Gravity Main	46.32	Reinforced Concrete	225	1911	Te Kuiti	2	13381.85	
sspipe0702	Gravity Main	30.68	Reinforced Concrete	225	1911	Te Kuiti	2	8863.45	
sspipe0677	Gravity Main	8.62	Reinforced Concrete	150	1962	Te Kuiti	3	1660.21	
sspipe0679	Gravity Main	7.75	Reinforced Concrete	150	1962	Te Kuiti	3	1492.65	
sspipe0685	Gravity Main	7.83	Reinforced Concrete	150	1962	Te Kuiti	3	1508.06	
sspipe0235	Gravity Main	73.49	Glazed Earthenware	225	1911	Te Kuiti	2	21231.26	<b>\$125,302.67</b>
								2020/21	
sspipe0619	Gravity Main	85.8	Reinforced Concrete	150	1911	Te Kuiti	2	16525.08	
sspipe0620	Gravity Main	2.34	Reinforced Concrete	150	1911	Te Kuiti	2	450.68	

sspipe0018	Gravity Main	104.74	Asbestos Cement	150	1911	Te Kuiti	2	20172.92	
sspipe0234	Gravity Main	71.5	Reinforced Concrete	300	1911	Te Kuiti	2	24099.08	
sspipe0648	Gravity Main	95.41	Reinforced Concrete	300	1911	Te Kuiti	2	32157.94	
sspipe0698	Gravity Main	28.29	Reinforced Concrete	150	1944	Te Kuiti	2	5448.65	
sspipe0699	Gravity Main	43.94	Reinforced Concrete	150	1944	Te Kuiti	2	8462.84	<b>\$107,317.19</b>
								2021/22	
sspipe0324	Gravity Main	20.59	Reinforced Concrete	150	1954	Te Kuiti	2	3965.63	
sspipe0325	Gravity Main	32.93	Reinforced Concrete	150	1954	Te Kuiti	2	6342.32	
sspipe0661	Gravity Main	48.95	Reinforced Concrete	150	1954	Te Kuiti	2	9427.77	
sspipe0739	Gravity Main	50.45	Reinforced Concrete	150	1954	Te Kuiti	2	9716.67	
sspipe0740	Gravity Main	47.84	Reinforced Concrete	150	1954	Te Kuiti	2	9213.98	
sspipe0741	Gravity Main	72.46	Reinforced Concrete	150	1954	Te Kuiti	2	13955.8	
sspipe0742	Gravity Main	9	Reinforced Concrete	150	1954	Te Kuiti	2	1733.4	
sspipe0743	Gravity Main	56.06	Reinforced Concrete	150	1954	Te Kuiti	2	10797.16	
sspipe0327	Gravity Main	44.47	Reinforced Concrete	150	1954	Te Kuiti	2	8564.92	
sspipe0328	Gravity Main	41.2	Reinforced Concrete	150	1954	Te Kuiti	2	7935.12	
sspipe0440	Gravity Main	25.05	Reinforced Concrete	150	1954	Te Kuiti	2	4824.63	
sspipe0738	Gravity Main	108.21	Reinforced Concrete	150	1954	Te Kuiti	2	20841.25	
sspipe0664	Gravity Main	39.86	Glazed Earthenware	150	1954	Te Kuiti	3	7677.04	<b>\$114,995.69</b>
								2022/23	
sspipe0053	Gravity Main	51.52	Asbestos Cement	150	1975	Te Kuiti	8	9922.75	
sspipe0054	Gravity Main	43.97	Asbestos Cement	150	1975	Te Kuiti	8	8468.62	
sspipe0198	Gravity Main	50.38	Asbestos Cement	150	1975	Te Kuiti	8	9703.19	
sspipe0203	Gravity Main	58.73	Asbestos Cement	150	1975	Te Kuiti	8	11311.4	
sspipe0464	Gravity Main	64.16	Asbestos Cement	150	1975	Te Kuiti	8	12357.22	
sspipe1188	Gravity Main	15.23	Asbestos Cement	150	1975	Te Kuiti	8	2933.3	
sspipe0055	Gravity Main	64.64	Asbestos Cement	150	1976	Te Kuiti	8	12449.66	
sspipe0425	Gravity Main	26.23	Asbestos Cement	100	1984	Te Kuiti	8	4490.58	

sspipe1157	Gravity Main	66.94	Asbestos Cement	100	1984	Te Kuiti	8	11460.13	
sspipe0538	Gravity Main	37.21	Reinforced Concrete	150	1954	Te Kuiti	2	7166.65	
sspipe0548	Gravity Main	17.67	Reinforced Concrete	150	1954	Te Kuiti	2	3403.24	
sspipe0549	Gravity Main	51.21	Reinforced Concrete	150	1954	Te Kuiti	2	9863.05	
sspipe0550	Gravity Main	42.93	Reinforced Concrete	150	1954	Te Kuiti	2	8268.32	
sspipe0657	Gravity Main	49.14	Reinforced Concrete	150	1954	Te Kuiti	2	9464.36	<b>\$121,262.47</b>
								<b>2023/24</b>	
sspipe0037	Gravity Main	60.43	Reinforced Concrete	150	1970	Te Kuiti	8	11638.82	
sspipe0038	Gravity Main	60.01	Reinforced Concrete	150	1970	Te Kuiti	8	11557.93	
sspipe0039	Gravity Main	25.65	Reinforced Concrete	150	1970	Te Kuiti	8	4940.19	
sspipe0190	Gravity Main	64.21	Reinforced Concrete	150	1970	Te Kuiti	8	12366.85	
sspipe0191	Gravity Main	39.91	Reinforced Concrete	150	1970	Te Kuiti	8	7686.67	
sspipe0192	Gravity Main	11.07	Reinforced Concrete	150	1970	Te Kuiti	8	2132.08	
sspipe0237	Gravity Main	32.23	Reinforced Concrete	150	1962	Te Kuiti	8	6207.5	
sspipe0243	Gravity Main	50.42	Reinforced Concrete	150	1962	Te Kuiti	8	9710.89	
sspipe0251	Gravity Main	58.09	Reinforced Concrete	150	1962	Te Kuiti	8	11188.13	
sspipe0252	Gravity Main	71.85	Reinforced Concrete	150	1962	Te Kuiti	8	13838.31	
sspipe0058	Gravity Main	57.34	Reinforced Concrete	150	1955	Te Kuiti	2	11043.68	
sspipe0131	Gravity Main	40.21	Asbestos Cement	150	1975	Te Kuiti	8	7744.45	<b>\$110,055.50</b>
								<b>2024/25</b>	
sspipe0195	Gravity Main	15.3	Reinforced Concrete	150	1968	Te Kuiti	8	2946.78	
sspipe0196	Gravity Main	20	Reinforced Concrete	150	1968	Te Kuiti	8	3852	
sspipe0407	Gravity Main	44.82	Reinforced Concrete	150	1968	Te Kuiti	8	8632.33	
sspipe1187	Gravity Main	16.31	Reinforced Concrete	150	1968	Te Kuiti	8	3141.31	
sspipe0391	Gravity Main	62.81	Asbestos Cement	150	1975	Te Kuiti	8	12097.21	
sspipe0393	Gravity Main	4.13	Asbestos Cement	150	1975	Te Kuiti	8	795.44	
sspipe0737	Gravity Main	18.28	Asbestos Cement	150	1975	Te Kuiti	8	3520.73	
sspipe0595	Gravity Main	111.71	Reinforced Concrete	150	1955	Te Kuiti	2	21515.35	

sspipe0728	Gravity Main	67.34	Reinforced Concrete	150	1968	Te Kuiti	8	12969.68	
sspipe0729	Gravity Main	32.95	Reinforced Concrete	150	1968	Te Kuiti	8	6346.17	
sspipe0731	Gravity Main	33.49	Reinforced Concrete	150	1968	Te Kuiti	8	6450.17	<b>\$82,267.17</b>
									<b>\$1,186,147</b>

2026 - 2045 Waste Water Reticulation Renewal Programme - Te Kuiti									
Asset ID	Asset Type	Length	Material	Diameter	Install Year	Community	Remaining Life	Optimised Replacement Value	Annual Total Replacement Value
								2025/30	
20130808090919us	Gravity Main	127.94	Glazed Earthenware	225	1911	Te Kuiti	2	36961.87	
sspipe0019	Gravity Main	58.71	Glazed Earthenware	150	1911	Te Kuiti	2	11307.55	
sspipe0020	Gravity Main	44.42	Glazed Earthenware	150	1911	Te Kuiti	2	8555.29	
sspipe0021	Gravity Main	25.72	Glazed Earthenware	150	1911	Te Kuiti	2	4953.67	
sspipe0022	Gravity Main	58.92	Glazed Earthenware	150	1911	Te Kuiti	2	11347.99	
sspipe0056	Gravity Main	27.97	Reinforced Concrete	150	1955	Te Kuiti	2	5387.02	
sspipe0057	Gravity Main	56.69	Reinforced Concrete	150	1955	Te Kuiti	2	10918.49	
sspipe0100	Gravity Main	14	Reinforced Concrete	150	1944	Te Kuiti	2	2696.4	
sspipe0116	Gravity Main	2.63	Asbestos Cement	150	1942	Te Kuiti	2	506.54	
sspipe0117	Gravity Main	2.58	Asbestos Cement	150	1942	Te Kuiti	2	496.91	
sspipe0214	Gravity Main	73.96	Reinforced Concrete	150	1955	Te Kuiti	2	14244.7	
sspipe0215	Gravity Main	54.47	Reinforced Concrete	225	1955	Te Kuiti	2	15736.38	
sspipe0219	Gravity Main	15.18	Reinforced Concrete	225	1955	Te Kuiti	2	4385.5	
sspipe0220	Gravity Main	54.42	Reinforced Concrete	225	1955	Te Kuiti	2	15721.94	
sspipe0221	Gravity Main	55.04	Reinforced Concrete	225	1955	Te Kuiti	2	15901.06	
sspipe0222	Gravity Main	21.32	Reinforced Concrete	225	1955	Te Kuiti	2	6159.35	
sspipe0223	Gravity Main	57.41	Reinforced Concrete	150	1955	Te Kuiti	2	11057.17	
sspipe0224	Gravity Main	96.04	Reinforced Concrete	225	1955	Te Kuiti	2	27745.96	

sspipe0225	Gravity Main	67.51	Reinforced Concrete	150	1955	Te Kuiti	2	13002.43
sspipe0226	Gravity Main	33.52	Reinforced Concrete	225	1955	Te Kuiti	2	9683.93
sspipe0227	Gravity Main	87.53	Reinforced Concrete	225	1955	Te Kuiti	2	25287.42
sspipe0228	Gravity Main	65.59	Reinforced Concrete	225	1955	Te Kuiti	2	18948.95
sspipe0229	Gravity Main	45.47	Reinforced Concrete	225	1955	Te Kuiti	2	13136.28
sspipe0259	Gravity Main	232.08	Reinforced Concrete	225	1952	Te Kuiti	2	67047.91
sspipe0260	Gravity Main	296.53	Reinforced Concrete	225	1952	Te Kuiti	2	85667.52
sspipe0264	Gravity Main	174.93	Glazed Earthenware	300	1910	Te Kuiti	2	58960.16
sspipe0314	Gravity Main	20.74	Reinforced Concrete	200	1940	Te Kuiti	2	5326.03
sspipe0315	Gravity Main	39.22	Reinforced Concrete	200	1940	Te Kuiti	2	10071.7
sspipe0316	Gravity Main	89.74	Reinforced Concrete	200	1940	Te Kuiti	2	23045.23
sspipe0374	Gravity Main	52.51	Reinforced Concrete	150	1955	Te Kuiti	2	10113.43
sspipe0375	Gravity Main	78.51	Reinforced Concrete	225	1955	Te Kuiti	2	22681.54
sspipe0386	Gravity Main	77.77	Reinforced Concrete	225	1955	Te Kuiti	2	22467.75
sspipe0388	Gravity Main	43.91	Reinforced Concrete	225	1955	Te Kuiti	2	12685.6
sspipe0389	Gravity Main	58.81	Reinforced Concrete	225	1955	Te Kuiti	2	16990.21
sspipe0390	Gravity Main	75.3	Reinforced Concrete	225	1955	Te Kuiti	2	21754.17
sspipe0398	Gravity Main	27.93	Reinforced Concrete	150	1940	Te Kuiti	2	5379.32
sspipe0455	Gravity Main	51.43	Reinforced Concrete	225	1955	Te Kuiti	2	14858.13
sspipe0456	Gravity Main	52.88	Reinforced Concrete	225	1955	Te Kuiti	2	15277.03
sspipe0503	Gravity Main	36.07	Reinforced Concrete	225	1954	Te Kuiti	2	10420.62
sspipe0511	Gravity Main	17.5	Asbestos Cement	150	1942	Te Kuiti	2	3370.5
sspipe0557	Gravity Main	73.54	Glazed Earthenware	150	1911	Te Kuiti	2	14163.8
sspipe0592	Gravity Main	27.22	Reinforced Concrete	225	1955	Te Kuiti	2	7863.86
sspipe0596	Gravity Main	26.77	Reinforced Concrete	225	1955	Te Kuiti	2	7733.85
sspipe0597	Gravity Main	94.65	Reinforced Concrete	225	1955	Te Kuiti	2	27344.39
sspipe0598	Gravity Main	25.14	Reinforced Concrete	225	1955	Te Kuiti	2	7262.95



sspipe0599	Gravity Main	15.21	Reinforced Concrete	225	1955	Te Kuiti	2	4394.17
sspipe0616	Gravity Main	45.81	Glazed Earthenware	150	1911	Te Kuiti	2	8823.01
sspipe0617	Gravity Main	67.19	Glazed Earthenware	150	1911	Te Kuiti	2	12940.79
sspipe0618	Gravity Main	14.72	Glazed Earthenware	150	1911	Te Kuiti	2	2835.07
sspipe0621	Gravity Main	14.43	Reinforced Concrete	150	1940	Te Kuiti	2	2779.22
sspipe0637	Gravity Main	12.52	Reinforced Concrete	150	1940	Te Kuiti	2	2411.35
sspipe0640	Gravity Main	74.02	Glazed Earthenware	150	1911	Te Kuiti	2	14256.25
sspipe0665	Gravity Main	26.54	Reinforced Concrete	225	1955	Te Kuiti	2	7667.41
sspipe0673	Gravity Main	58.39	Reinforced Concrete	225	1955	Te Kuiti	2	16868.87
sspipe0674	Gravity Main	23.46	Reinforced Concrete	225	1955	Te Kuiti	2	6777.59
sspipe0680	Gravity Main	92.79	Reinforced Concrete	150	1955	Te Kuiti	2	17871.35
sspipe0722	Gravity Main	4.43	Reinforced Concrete	315	1910	Te Kuiti	2	1564.23
sspipe0724	Gravity Main	13.66	Reinforced Concrete	315	1910	Te Kuiti	2	4823.35
sspipe0746	Gravity Main	91.92	Reinforced Concrete	225	1955	Te Kuiti	2	26555.69
sspipe1138	Gravity Main	156.67	Reinforced Concrete	150	1955	Te Kuiti	2	30174.64
sspipe1139	Gravity Main	92.61	Reinforced Concrete	150	1955	Te Kuiti	2	17836.69
sspipe1155	Gravity Main	64.12	Reinforced Concrete	150	1955	Te Kuiti	2	12349.51
sspipe1156	Gravity Main	86.09	Reinforced Concrete	150	1955	Te Kuiti	2	16580.93
sspipe1183	Gravity Main	192.46	Reinforced Concrete	225	1955	Te Kuiti	2	55601.69
20140514111156ds	Rising Main	721.4	Asbestos Cement	300	1972	Te Kuiti	3	243147.9
sspipe1204	Gravity Main	40.8	Glazed Earthenware	150	2007	Te Kuiti	3	7858.08
ssrm10	Rising Main	930.76	Asbestos Cement	250	1972	Te Kuiti	3	278855.7
20131115162747us	Gravity Main	23.58	Reinforced Concrete	150	1968	Te Kuiti	8	4541.51
20131115163348ds	Gravity Main	0.1	Reinforced Concrete	150	1968	Te Kuiti	8	19.26
20131115163348us	Gravity Main	53.6	Reinforced Concrete	150	1968	Te Kuiti	8	10323.36
20131115163416ds	Gravity Main	22.69	Reinforced Concrete	150	1968	Te Kuiti	8	4370.09
20131115163416us	Gravity Main	7.76	Reinforced Concrete	150	1968	Te Kuiti	8	1494.58



sspipe0023	Gravity Main	136.67	Glazed Earthenware	150	1969	Te Kuiti	8	26322.64
sspipe0024	Gravity Main	58.71	Glazed Earthenware	150	1969	Te Kuiti	8	11307.55
sspipe0040	Gravity Main	26.02	Glazed Earthenware	100	1954	Te Kuiti	8	4454.62
sspipe0045	Gravity Main	103.03	Glazed Earthenware	200	1945	Te Kuiti	8	26458.1
sspipe0046	Gravity Main	21.14	Glazed Earthenware	200	1945	Te Kuiti	8	5428.75
sspipe0047	Gravity Main	43.11	Glazed Earthenware	200	1945	Te Kuiti	8	11070.65
sspipe0048	Gravity Main	66	Glazed Earthenware	200	1945	Te Kuiti	8	16948.8
sspipe0049	Gravity Main	53.79	Glazed Earthenware	150	1945	Te Kuiti	8	10359.95
sspipe0077	Gravity Main	20.23	Reinforced Concrete	150	1984	Te Kuiti	8	3896.3
sspipe0094	Gravity Main	48.87	Glazed Earthenware	150	1957	Te Kuiti	8	9412.36
sspipe0099	Gravity Main	11.46	Glazed Earthenware	150	1944	Te Kuiti	8	2207.2
sspipe0118	Gravity Main	11.63	Glazed Earthenware	200	1954	Te Kuiti	8	2986.58
sspipe0178	Gravity Main	31	Glazed Earthenware	150	1968	Te Kuiti	8	5970.6
sspipe0193	Gravity Main	39.75	Glazed Earthenware	150	1980	Te Kuiti	8	7655.85
sspipe0197_new	Gravity Main	365.67	PVC	150	2010	Te Kuiti	8	70428.04
sspipe0238	Gravity Main	31.61	Reinforced Concrete	150	1962	Te Kuiti	8	6088.09
sspipe0244	Gravity Main	76.93	Asbestos Cement	250	1972	Te Kuiti	8	23048.23
sspipe0262	Gravity Main	65.19	Glazed Earthenware	150	1944	Te Kuiti	8	12555.59
sspipe0265	Gravity Main	49.98	Glazed Earthenware	150	1944	Te Kuiti	8	9626.15
sspipe0266	Gravity Main	89.07	Glazed Earthenware	150	1944	Te Kuiti	8	17154.88
sspipe0272	Gravity Main	83.01	Reinforced Concrete	150	1968	Te Kuiti	8	15987.73
sspipe0338	Gravity Main	72.96	Glazed Earthenware	150	1957	Te Kuiti	8	14052.1
sspipe0342	Gravity Main	73.39	Glazed Earthenware	150	1957	Te Kuiti	8	14134.91
sspipe0343	Gravity Main	59.42	Glazed Earthenware	150	1954	Te Kuiti	8	11444.29
sspipe0344	Gravity Main	57.6	Glazed Earthenware	150	1954	Te Kuiti	8	11093.76
sspipe0346	Gravity Main	31.35	Glazed Earthenware	200	1954	Te Kuiti	8	8050.68
sspipe0347	Gravity Main	70.4	Glazed Earthenware	200	1954	Te Kuiti	8	18078.72

sspipe0365	Gravity Main	45.64	PVC	100	1972	Te Kuiti	8	7813.57
sspipe0378	Gravity Main	41.94	Glazed Earthenware	200	1945	Te Kuiti	8	10770.19
sspipe0379	Gravity Main	78.22	Glazed Earthenware	150	1955	Te Kuiti	8	15065.17
sspipe0400	Gravity Main	20.08	Reinforced Concrete	150	1962	Te Kuiti	8	3867.41
sspipe0426	Gravity Main	21.16	Glazed Earthenware	150	1981	Te Kuiti	8	4075.42
sspipe0433	Gravity Main	57.99	PVC	100	1995	Te Kuiti	8	9927.89
sspipe0444	Gravity Main	29.93	Reinforced Concrete	150	1962	Te Kuiti	8	5764.52
sspipe0454	Gravity Main	58.35	Glazed Earthenware	150	1955	Te Kuiti	8	11238.21
sspipe0459	Gravity Main	26.4	Glazed Earthenware	150	1955	Te Kuiti	8	5084.64
sspipe0465	Gravity Main	44.98	Reinforced Concrete	150	1968	Te Kuiti	8	8663.15
sspipe0469	Gravity Main	86.9	Glazed Earthenware	150	1962	Te Kuiti	8	16736.94
sspipe0486	Gravity Main	61.46	Glazed Earthenware	100	1954	Te Kuiti	8	10521.95
sspipe0488	Gravity Main	26.15	Glazed Earthenware	150	1954	Te Kuiti	8	5036.49
sspipe0489	Gravity Main	31.67	Glazed Earthenware	150	1954	Te Kuiti	8	6099.64
sspipe0490	Gravity Main	51.26	Glazed Earthenware	150	1954	Te Kuiti	8	9872.68
sspipe0501	Gravity Main	28.27	Reinforced Concrete	150	1962	Te Kuiti	8	5444.8
sspipe0540	Gravity Main	73.83	Glazed Earthenware	150	1954	Te Kuiti	8	14219.66
sspipe0554	Gravity Main	32.29	Glazed Earthenware	150	1955	Te Kuiti	8	6219.05
sspipe0561	Gravity Main	58.26	Glazed Earthenware	200	1954	Te Kuiti	8	14961.17
sspipe0562	Gravity Main	28.05	Glazed Earthenware	150	1954	Te Kuiti	8	5402.43
sspipe0563	Gravity Main	42.72	Glazed Earthenware	100	1954	Te Kuiti	8	7313.66
sspipe0578	Gravity Main	75.47	Glazed Earthenware	150	1924	Te Kuiti	8	14535.52
sspipe0579	Gravity Main	51.92	Glazed Earthenware	200	1924	Te Kuiti	8	13333.06
sspipe0581	Gravity Main	42.59	Glazed Earthenware	150	1924	Te Kuiti	8	8202.83
sspipe0583	Gravity Main	62.47	Glazed Earthenware	100	1924	Te Kuiti	8	10694.86
sspipe0628	Gravity Main	11.9	PVC	150	2000	Te Kuiti	8	2291.94
sspipe0650	Gravity Main	44.14	Glazed Earthenware	150	1955	Te Kuiti	8	8501.36

sspipe0651	Gravity Main	39.29	Glazed Earthenware	150	1955	Te Kuiti	8	7567.25
sspipe0656	Gravity Main	29.4	Glazed Earthenware	100	1924	Te Kuiti	8	5033.28
sspipe0675	Gravity Main	40.62	Asbestos Cement	250	1972	Te Kuiti	8	12169.75
sspipe0682	Gravity Main	47.1	Asbestos Cement	250	1972	Te Kuiti	8	14111.16
sspipe0684	Gravity Main	69.86	Asbestos Cement	250	1972	Te Kuiti	8	20930.06
sspipe0690	Gravity Main	66.54	Glazed Earthenware	100	1924	Te Kuiti	8	11391.65
sspipe0691	Gravity Main	8.15	Glazed Earthenware	150	1924	Te Kuiti	8	1569.69
sspipe0692	Gravity Main	59.58	Glazed Earthenware	150	1924	Te Kuiti	8	11475.11
sspipe0707	Gravity Main	35.44	PVC	150	1986	Te Kuiti	8	6825.74
sspipe0730	Gravity Main	16.45	PVC	150	1968	Te Kuiti	8	3168.27
sspipe0732	Gravity Main	19.4	Glazed Earthenware	150	1968	Te Kuiti	8	3736.44
sspipe0733	Gravity Main	92.36	Glazed Earthenware	150	1954	Te Kuiti	8	17788.54
sspipe0748	Gravity Main	42.55	Asbestos Cement	150	1972	Te Kuiti	8	8195.13
sspipe0757	Gravity Main	94.31	Concrete Lined Steel	150	1942	Benneydale	8	18164.11
sspipe1140	Gravity Main	96.27	Glazed Earthenware	200	1954	Te Kuiti	8	24722.14
sspipe1141	Gravity Main	29.78	Glazed Earthenware	200	1954	Te Kuiti	8	7647.5
sspipe1158	Gravity Main	4.72	Glazed Earthenware	150	1981	Te Kuiti	8	909.07
sspipe1194	Gravity Main	128.99	Glazed Earthenware	150	1972	Te Kuiti	8	24843.47
sspipe1195	Gravity Main	93.61	Glazed Earthenware	150	1957	Te Kuiti	8	18029.29
sspipe1207	Gravity Main	30.83	PVC	100	2007	Te Kuiti	8	5278.1
sspipe1237	Gravity Main	22.74	PVC	150	2007	Te Kuiti	8	4379.72
sspipe1238	Gravity Main	67.22	Glazed Earthenware	150	1972	Te Kuiti	8	12946.57
sspipe1243	Gravity Main	82.65	PVC	150	2007	Te Kuiti	8	15918.39
ssrm09	Rising Main	366.65	Glazed Earthenware	150	1972	Te Kuiti	8	70616.79
ssrm12	Rising Main	34.07	Asbestos Cement	100	1983	Te Kuiti	8	5832.78
ssrm32	Gravity Main	20.03	PVC	150	2007	Te Kuiti	8	3857.78
sspipe0153	Gravity Main	27.23	Reinforced Concrete	150	1957	Te Kuiti	13	5244.5

sspipe0154	Gravity Main	10.3	Reinforced Concrete	150	1957	Te Kuiti	13	1983.78
sspipe0216	Gravity Main	44.06	Reinforced Concrete	150	1957	Te Kuiti	13	8485.96
sspipe0217	Gravity Main	30.73	Reinforced Concrete	150	1957	Te Kuiti	13	5918.6
sspipe0218	Gravity Main	81.31	Reinforced Concrete	150	1957	Te Kuiti	13	15660.31
sspipe0331	Gravity Main	37.78	Reinforced Concrete	150	1957	Te Kuiti	13	7276.43
sspipe0394	Gravity Main	36.6	Reinforced Concrete	150	1957	Te Kuiti	13	7049.16
sspipe0395	Gravity Main	40.73	Reinforced Concrete	150	1957	Te Kuiti	13	7844.6
sspipe0396	Gravity Main	5.46	Reinforced Concrete	150	1957	Te Kuiti	13	1051.6
sspipe0513	Gravity Main	5.78	Reinforced Concrete	150	1957	Te Kuiti	13	1113.23
sspipe0514	Gravity Main	12.11	Reinforced Concrete	150	1957	Te Kuiti	13	2332.39
sspipe0671	Gravity Main	39.92	Reinforced Concrete	150	1957	Te Kuiti	13	7688.59
sspipe0010	Gravity Main	67.71	Reinforced Concrete	150	1958	Te Kuiti	14	13040.95
sspipe0011	Gravity Main	67.72	Reinforced Concrete	150	1958	Te Kuiti	14	13042.87
sspipe0012	Gravity Main	66.25	Reinforced Concrete	150	1958	Te Kuiti	14	12759.75
sspipe0013	Gravity Main	40.17	Reinforced Concrete	150	1958	Te Kuiti	14	7736.74
sspipe0014	Gravity Main	77.83	Reinforced Concrete	150	1958	Te Kuiti	14	14990.06
sspipe0016	Gravity Main	89.87	Reinforced Concrete	150	1958	Te Kuiti	14	17308.96
sspipe0017	Gravity Main	58.45	Reinforced Concrete	150	1958	Te Kuiti	14	11257.47
sspipe0129	Gravity Main	8.75	Reinforced Concrete	300	1958	Te Kuiti	14	2949.19
sspipe0233	Gravity Main	100.47	Reinforced Concrete	200	1958	Te Kuiti	14	25800.7
sspipe0268	Gravity Main	90.86	Reinforced Concrete	150	1958	Te Kuiti	14	17499.64
sspipe0269	Gravity Main	93.39	Reinforced Concrete	150	1958	Te Kuiti	14	17986.91
sspipe0527	Gravity Main	77.85	Reinforced Concrete	150	1958	Te Kuiti	14	14993.91
ssrm13	Rising Main	27.78	Alkaline	63	1980	Te Waitere	16	2675.21
ssrm14	Rising Main	43.57	Alkaline	63	1980	Te Waitere	16	4195.79
ssrm15	Rising Main	5.52	Alkaline	63	1980	Te Waitere	16	531.58
ssrm16	Rising Main	5.25	Alkaline	63	1980	Te Waitere	16	505.58

ssrm17	Rising Main	47.43	Alkaline	63	1980	Te Waitere	16	4567.51	
ssrm18	Rising Main	276.01	Alkaline	63	1980	Te Waitere	16	26579.76	<b>\$2,803,412</b>
								2030/35	
sspipe0132	Gravity Main	35.52	Reinforced Concrete	150	1962	Te Kuiti	18	6841.15	
sspipe0133	Gravity Main	15.07	Reinforced Concrete	150	1962	Te Kuiti	18	2902.48	
sspipe0135	Gravity Main	39.9	Reinforced Concrete	150	1962	Te Kuiti	18	7684.74	
sspipe0136	Gravity Main	39.39	Reinforced Concrete	150	1962	Te Kuiti	18	7586.51	
sspipe0142	Gravity Main	103.44	Reinforced Concrete	150	1962	Te Kuiti	18	19922.54	
sspipe0146	Gravity Main	46.14	Reinforced Concrete	150	1962	Te Kuiti	18	8886.56	
sspipe0147	Gravity Main	60.73	Reinforced Concrete	150	1962	Te Kuiti	18	11696.6	
sspipe0236	Gravity Main	19.56	Reinforced Concrete	150	1962	Te Kuiti	18	3767.26	
sspipe0239	Gravity Main	61.52	Reinforced Concrete	150	1962	Te Kuiti	18	11848.75	
sspipe0245	Gravity Main	65.94	Reinforced Concrete	150	1962	Te Kuiti	18	12700.04	
sspipe0246	Gravity Main	74.63	Reinforced Concrete	150	1962	Te Kuiti	18	14373.74	
sspipe0247	Gravity Main	22.06	Reinforced Concrete	150	1962	Te Kuiti	18	4248.76	
sspipe0248	Gravity Main	41.62	Reinforced Concrete	150	1962	Te Kuiti	18	8016.01	
sspipe0249	Gravity Main	34.77	Reinforced Concrete	150	1962	Te Kuiti	18	6696.7	
sspipe0250	Gravity Main	54.28	Reinforced Concrete	150	1962	Te Kuiti	18	10454.33	
sspipe0366	Gravity Main	12.62	Reinforced Concrete	150	1962	Te Kuiti	18	2430.61	
sspipe0434	Gravity Main	18.95	Reinforced Concrete	150	1962	Te Kuiti	18	3649.77	
sspipe0435	Gravity Main	43.48	Reinforced Concrete	150	1962	Te Kuiti	18	8374.25	
sspipe0436	Gravity Main	25.35	Reinforced Concrete	150	1962	Te Kuiti	18	4882.41	
sspipe0437	Gravity Main	81.58	Reinforced Concrete	150	1962	Te Kuiti	18	15712.31	
sspipe0438	Gravity Main	92.71	Reinforced Concrete	150	1962	Te Kuiti	18	17855.95	
sspipe0439	Gravity Main	41.21	Reinforced Concrete	150	1962	Te Kuiti	18	7937.05	
sspipe0471	Gravity Main	33.83	Reinforced Concrete	150	1962	Te Kuiti	18	6515.66	
sspipe0472	Gravity Main	20.05	Reinforced Concrete	150	1962	Te Kuiti	18	3861.63	

sspipe0473	Gravity Main	64.39	Reinforced Concrete	150	1962	Te Kuiti	18	12401.51	
sspipe0474	Gravity Main	9.44	Reinforced Concrete	150	1962	Te Kuiti	18	1818.14	
sspipe0475	Gravity Main	52.55	Reinforced Concrete	150	1962	Te Kuiti	18	10121.13	
sspipe0502	Gravity Main	21.48	Reinforced Concrete	150	1962	Te Kuiti	18	4137.05	
sspipe0642	Gravity Main	23.38	Reinforced Concrete	150	1962	Te Kuiti	18	4502.99	
sspipe0643	Gravity Main	8.58	Reinforced Concrete	150	1962	Te Kuiti	18	1652.51	
sspipe0644	Gravity Main	72.11	Reinforced Concrete	150	1962	Te Kuiti	18	13888.39	
sspipe0660	Gravity Main	68.86	Reinforced Concrete	150	1962	Te Kuiti	18	13262.44	
sspipe0705	Gravity Main	14.54	Reinforced Concrete	150	1962	Te Kuiti	18	2800.4	
sspipe0713	Gravity Main	42.75	Reinforced Concrete	150	1962	Te Kuiti	18	8233.65	
sspipe0715	Gravity Main	32.73	Reinforced Concrete	150	1962	Te Kuiti	18	6303.8	
sspipe0716	Gravity Main	21.46	Reinforced Concrete	150	1962	Te Kuiti	18	4133.2	
sspipe0717	Gravity Main	76.24	Reinforced Concrete	150	1962	Te Kuiti	18	14683.82	
sspipe1223	Gravity Main	10.4	Reinforced Concrete	150	1962	Te Kuiti	18	2003.04	
sspipe1242	Gravity Main	78.31	Reinforced Concrete	150	1962	Te Kuiti	18	15082.51	<b>\$323,870.39</b>
								2035/40	
sspipe0009	Gravity Main	25.43	Reinforced Concrete	150	1958	Te Kuiti	24	4897.82	
sspipe0026	Gravity Main	169.98	Reinforced Concrete	150	1968	Te Kuiti	24	32738.15	
sspipe0059	Gravity Main	40.53	Reinforced Concrete	150	1968	Te Kuiti	24	7806.08	
sspipe0158	Gravity Main	50.32	Reinforced Concrete	150	1968	Te Kuiti	24	9691.63	
sspipe0179	Gravity Main	28.73	Reinforced Concrete	150	1968	Te Kuiti	24	5533.4	
sspipe0180	Gravity Main	11.53	Reinforced Concrete	150	1968	Te Kuiti	24	2220.68	
sspipe0182	Gravity Main	47.71	Reinforced Concrete	150	1968	Te Kuiti	24	9188.95	
sspipe0271	Gravity Main	81.37	Reinforced Concrete	150	1968	Te Kuiti	24	15671.86	
sspipe0297	Gravity Main	78.52	Reinforced Concrete	150	1968	Te Kuiti	24	15122.95	
sspipe0298	Gravity Main	104.27	Reinforced Concrete	150	1968	Te Kuiti	24	20082.4	
sspipe0401	Gravity Main	67.38	Reinforced Concrete	150	1968	Te Kuiti	24	12977.39	



sspipe0402	Gravity Main	1.87	Reinforced Concrete	150	1968	Te Kuiti	24	360.16
sspipe0405	Gravity Main	1.47	Reinforced Concrete	150	1968	Te Kuiti	24	283.12
sspipe0630	Gravity Main	23.41	Reinforced Concrete	150	1968	Te Kuiti	24	4508.77
sspipe0631	Gravity Main	18.01	Reinforced Concrete	150	1968	Te Kuiti	24	3468.73
sspipe0632	Gravity Main	64.46	Reinforced Concrete	150	1968	Te Kuiti	24	12415
sspipe0633	Gravity Main	19.69	Reinforced Concrete	150	1968	Te Kuiti	24	3792.29
sspipe1211	Gravity Main	25.61	Reinforced Concrete	150	1968	Te Kuiti	24	4932.49
20140113164310ds	Gravity Main	26.67	Reinforced Concrete	150	1969	Te Kuiti	25	5136.64
20140113164310us	Gravity Main	28.89	Reinforced Concrete	150	1969	Te Kuiti	25	5564.21
sspipe0027	Gravity Main	71.22	Reinforced Concrete	150	1969	Te Kuiti	25	13716.97
sspipe0028	Gravity Main	29.58	Reinforced Concrete	150	1969	Te Kuiti	25	5697.11
sspipe0029	Gravity Main	68.13	Reinforced Concrete	150	1969	Te Kuiti	25	13121.84
sspipe0030	Gravity Main	87.9	Reinforced Concrete	150	1969	Te Kuiti	25	16929.54
sspipe0060	Gravity Main	37.79	Reinforced Concrete	150	1969	Te Kuiti	25	7278.35
sspipe0061	Gravity Main	74.22	Reinforced Concrete	150	1969	Te Kuiti	25	14294.77
sspipe0062	Gravity Main	41.31	Reinforced Concrete	150	1969	Te Kuiti	25	7956.31
sspipe0064	Gravity Main	17.92	Reinforced Concrete	150	1969	Te Kuiti	25	3451.39
sspipe0065	Gravity Main	34.95	Reinforced Concrete	150	1969	Te Kuiti	25	6731.37
sspipe0069	Gravity Main	19.97	Reinforced Concrete	150	1969	Te Kuiti	25	3846.22
sspipe0072	Gravity Main	46.07	Reinforced Concrete	150	1969	Te Kuiti	25	8873.08
sspipe0161	Gravity Main	62.45	Reinforced Concrete	150	1969	Te Kuiti	25	12027.87
sspipe0162	Gravity Main	31.21	Reinforced Concrete	150	1969	Te Kuiti	25	6011.05
sspipe0163	Gravity Main	54.45	Reinforced Concrete	150	1969	Te Kuiti	25	10487.07
sspipe0164	Gravity Main	11.41	Reinforced Concrete	150	1969	Te Kuiti	25	2197.57
sspipe0165	Gravity Main	32.7	Reinforced Concrete	150	1969	Te Kuiti	25	6298.02
sspipe0166	Gravity Main	49.08	Reinforced Concrete	150	1969	Te Kuiti	25	9452.81
sspipe0170	Gravity Main	34.51	Reinforced Concrete	150	1969	Te Kuiti	25	6646.63

sspipe0171	Gravity Main	31.04	Reinforced Concrete	150	1969	Te Kuiti	25	5978.3
sspipe0172	Gravity Main	33.46	Reinforced Concrete	150	1969	Te Kuiti	25	6444.4
sspipe0173	Gravity Main	37.11	Reinforced Concrete	150	1969	Te Kuiti	25	7147.39
sspipe0176	Gravity Main	39.58	Reinforced Concrete	150	1969	Te Kuiti	25	7623.11
sspipe0177	Gravity Main	26.52	Reinforced Concrete	150	1969	Te Kuiti	25	5107.75
sspipe0276	Gravity Main	63.26	Reinforced Concrete	150	1969	Te Kuiti	25	12183.88
sspipe0280	Gravity Main	75.53	Reinforced Concrete	150	1969	Te Kuiti	25	14547.08
sspipe0282	Gravity Main	86.02	Reinforced Concrete	150	1969	Te Kuiti	25	16567.45
sspipe0288	Gravity Main	57.99	Reinforced Concrete	150	1969	Te Kuiti	25	11168.87
sspipe0290	Gravity Main	37.95	Reinforced Concrete	150	1969	Te Kuiti	25	7309.17
sspipe0294	Gravity Main	55.22	Reinforced Concrete	150	1969	Te Kuiti	25	10635.37
sspipe0295	Gravity Main	25.15	Reinforced Concrete	150	1969	Te Kuiti	25	4843.89
sspipe0296	Gravity Main	81.5	Reinforced Concrete	150	1969	Te Kuiti	25	15696.9
sspipe0305	Gravity Main	24.23	Reinforced Concrete	150	1969	Te Kuiti	25	4666.7
sspipe0319	Gravity Main	73.92	Reinforced Concrete	150	1969	Te Kuiti	25	14236.99
sspipe0322	Gravity Main	51.36	Reinforced Concrete	150	1969	Te Kuiti	25	9891.94
sspipe0348	Gravity Main	68.82	Reinforced Concrete	150	1969	Te Kuiti	25	13254.73
sspipe0350	Gravity Main	34.56	Reinforced Concrete	150	1969	Te Kuiti	25	6656.26
sspipe0351	Gravity Main	45.24	Reinforced Concrete	150	1969	Te Kuiti	25	8713.22
sspipe0354	Gravity Main	78.06	Reinforced Concrete	150	1969	Te Kuiti	25	15034.36
sspipe0355	Gravity Main	38.78	Reinforced Concrete	150	1969	Te Kuiti	25	7469.03
sspipe0356	Gravity Main	40.17	Reinforced Concrete	150	1969	Te Kuiti	25	7736.74
sspipe0542	Gravity Main	35.47	Reinforced Concrete	150	1969	Te Kuiti	25	6831.52
sspipe0543	Gravity Main	101.63	Reinforced Concrete	200	1969	Te Kuiti	25	26098.58
sspipe0553	Gravity Main	71.6	Reinforced Concrete	150	1969	Te Kuiti	25	13790.16
sspipe0584	Gravity Main	51.08	Reinforced Concrete	150	1969	Te Kuiti	25	9838.01
sspipe0585	Gravity Main	28.52	Reinforced Concrete	150	1969	Te Kuiti	25	5492.95



sspipe0586	Gravity Main	20.45	Reinforced Concrete	150	1969	Te Kuiti	25	3938.67	
sspipe0587	Gravity Main	46.18	Reinforced Concrete	100	1969	Te Kuiti	25	7906.02	
sspipe0588	Gravity Main	24.52	Reinforced Concrete	100	1969	Te Kuiti	25	4197.82	
sspipe0662	Gravity Main	34.76	Reinforced Concrete	150	1969	Te Kuiti	25	6694.78	
sspipe0687	Gravity Main	35.63	Reinforced Concrete	150	1969	Te Kuiti	25	6862.34	
sspipe0688	Gravity Main	32.41	Reinforced Concrete	150	1969	Te Kuiti	25	6242.17	
sspipe1151	Gravity Main	29.44	Reinforced Concrete	150	1969	Te Kuiti	25	5670.14	
sspipe1163	Gravity Main	38.76	Reinforced Concrete	150	1969	Te Kuiti	25	7465.18	
sspipe1164	Gravity Main	16.91	Reinforced Concrete	150	1969	Te Kuiti	25	3256.87	
sspipe1291	Gravity Main	19.1	Reinforced Concrete	150	1969	Te Kuiti	25	3678.66	<b>\$662,288.09</b>
								2040/45	
sspipe0119	Gravity Main	38.48	Glazed Earthenware	200	1940	Te Kuiti	26	9881.66	
sspipe0310	Gravity Main	52.2	Glazed Earthenware	150	1940	Te Kuiti	26	10053.72	
sspipe0311	Gravity Main	25.98	Glazed Earthenware	150	1940	Te Kuiti	26	5003.75	
sspipe0312	Gravity Main	39	Glazed Earthenware	150	1940	Te Kuiti	26	7511.4	
sspipe0313	Gravity Main	12.95	Glazed Earthenware	200	1940	Te Kuiti	26	3325.56	
sspipe0368	Gravity Main	17.05	Glazed Earthenware	150	1940	Te Kuiti	26	3283.83	
sspipe0369	Gravity Main	28.75	Glazed Earthenware	150	1940	Te Kuiti	26	5537.25	
sspipe0370	Gravity Main	27.18	Glazed Earthenware	150	1940	Te Kuiti	26	5234.87	
sspipe0371	Gravity Main	72.46	Glazed Earthenware	150	1940	Te Kuiti	26	13955.8	
sspipe0373	Gravity Main	59.23	Glazed Earthenware	150	1940	Te Kuiti	26	11407.7	
sspipe0397	Gravity Main	53.14	Glazed Earthenware	150	1940	Te Kuiti	26	10234.76	
sspipe0452	Gravity Main	25.21	Glazed Earthenware	150	1940	Te Kuiti	26	4855.45	
sspipe0453	Gravity Main	77.76	Glazed Earthenware	200	1940	Te Kuiti	26	19968.77	
sspipe0622	Gravity Main	87.77	Glazed Earthenware	150	1940	Te Kuiti	26	16904.5	
sspipe0623	Gravity Main	8.82	Glazed Earthenware	150	1940	Te Kuiti	26	1698.73	
sspipe0624	Gravity Main	15.71	Glazed Earthenware	150	1940	Te Kuiti	26	3025.75	

sspipe0636	Gravity Main	67.19	Glazed Earthenware	150	1940	Te Kuiti	26	12940.79	
sspipe0122	Gravity Main	58.47	Glazed Earthenware	150	1944	Te Kuiti	30	11261.32	
sspipe0255	Gravity Main	24.88	Glazed Earthenware	150	1944	Te Kuiti	30	4791.89	<b>\$160,877.50</b>

**\$3,950,448**

**2015 - 2025 Waste Water Reticulation Renewal Programme - Benneydale**

Asset ID	Asset Type	Length	Material	Diameter	Install Year	Community	Remaining Life	Optimised Replacement Value	Annual Total Replacement Value
								2025/30	
sspipe0751	Gravity Main	14.32	Asbestos Cement	150	1942	Benneydale	2	2758.03	
sspipe0752	Gravity Main	70.81	Asbestos Cement	150	1942	Benneydale	2	13638.01	
sspipe0753	Gravity Main	66.16	Asbestos Cement	150	1942	Benneydale	2	12742.42	
sspipe0754	Gravity Main	73.13	Asbestos Cement	150	1942	Benneydale	2	14084.84	
sspipe0755	Gravity Main	71.32	Asbestos Cement	150	1942	Benneydale	2	13736.23	
sspipe0756	Gravity Main	47.23	Asbestos Cement	150	1942	Benneydale	2	9096.5	
sspipe0758	Gravity Main	107.2	Asbestos Cement	150	1942	Benneydale	2	20646.72	
sspipe0759	Gravity Main	103.15	Asbestos Cement	150	1942	Benneydale	2	19866.69	
sspipe0760	Gravity Main	74.31	Asbestos Cement	150	1942	Benneydale	2	14312.11	
sspipe0761	Gravity Main	73.89	Asbestos Cement	150	1942	Benneydale	2	14231.21	
sspipe0762	Gravity Main	89.4	Asbestos Cement	150	1942	Benneydale	2	17218.44	
sspipe0763	Gravity Main	21.72	Asbestos Cement	150	1942	Benneydale	2	4183.27	
sspipe0764	Gravity Main	29.8	Asbestos Cement	150	1942	Benneydale	2	5739.48	
sspipe0765	Gravity Main	118.46	Asbestos Cement	150	1942	Benneydale	2	22815.4	
sspipe0766	Gravity Main	27.81	Asbestos Cement	150	1942	Benneydale	2	5356.21	
sspipe0767	Gravity Main	23.96	Asbestos Cement	150	1942	Benneydale	2	4614.7	
sspipe0768	Gravity Main	28.22	Asbestos Cement	150	1942	Benneydale	2	5435.17	
sspipe0769	Gravity Main	82.82	Asbestos Cement	150	1942	Benneydale	2	15951.13	

sspipe0770	Gravity Main	63.12	Asbestos Cement	150	1942	Benneydale	2	12156.91	
sspipe0771	Gravity Main	147.8	Asbestos Cement	150	1942	Benneydale	2	28466.28	
sspipe0772	Gravity Main	85.38	Asbestos Cement	150	1942	Benneydale	2	16444.19	
sspipe0773	Gravity Main	67.83	Asbestos Cement	150	1942	Benneydale	2	13064.06	
sspipe0774	Gravity Main	84.15	Asbestos Cement	150	1942	Benneydale	2	16207.29	
sspipe0775	Gravity Main	28.35	Asbestos Cement	150	1942	Benneydale	2	5460.21	
sspipe0776	Gravity Main	75.1	Asbestos Cement	150	1942	Benneydale	2	14464.26	
sspipe0777	Gravity Main	56	Asbestos Cement	150	1942	Benneydale	2	10785.6	
sspipe0779	Gravity Main	62.69	Asbestos Cement	150	1942	Benneydale	2	12074.09	
sspipe0780	Gravity Main	74.32	Asbestos Cement	150	1942	Benneydale	2	14314.03	
sspipe0781	Gravity Main	36.4	Asbestos Cement	150	1942	Benneydale	2	7010.64	<b>\$ 366,874</b>

**APPENDIX F - EFFECTIVE LIVES AND UNIT COST OF WASTEWATER ASSETS**

Reticulation Material	Base Life Yrs	NZ-Guidelines
Unknown	80	60-150
CONC	90	60-150
PVC	120	60-150
Corrugated Plastic	80	60-150
RC	80	60-151
RIBLOC	60	60-150
GEW	100	60-150
AC	80	60-150
Feature Type	Base Life	
Cesspit	70	60-150
Manhole	100	60-151
Open Drain	100	60-152

Pipe Size	ORC(2009)	On-Cost	Unit Cost 2009	CPI 2009-2012	Estimated Unit Cost 2012
<100	165	8%	178	4.30%	186
100	113	8%	122	4.30%	127
150	138	8%	149	4.30%	155
200	154	8%	166	4.30%	173
225	165	8%	178	4.30%	186
230	179	8%	193	4.30%	202
250	186	8%	201	4.30%	210
300	194	8%	210	4.30%	219
350	223	8%	241	4.30%	251
375	242	8%	261	4.30%	273
400	265	8%	286	4.30%	299
450	282	8%	305	4.30%	318
500	307	8%	332	4.30%	346
550	332	8%	359	4.30%	374
600	376	8%	406	4.30%	424
610	378	8%	408	4.30%	426
650	421	8%	455	4.30%	474
670	421	8%	455	4.30%	474
675	421	8%	455	4.30%	474
700	454	8%	490	4.30%	511
750	514	8%	555	4.30%	579
760	518	8%	559	4.30%	583
800	575	8%	621	4.30%	648
900	659	8%	712	4.30%	742
1000	774	8%	836	4.30%	872
1200	936	8%	1011	4.30%	1054
1350	1051	8%	1135	4.30%	1184
1500	1207	8%	1304	4.30%	1360
1600	1347	8%	1455	4.30%	1517
1800	1501	8%	1621	4.30%	1691
1830	1501	8%	1621	4.30%	1691
1	165	8%	178	4.30%	186

## APPENDIX G - EXTRACT FROM WAIKATO REGIONAL PLAN

### DISCHARGE OF BIOSOLIDS AND SLUDGES OR LIQUIDS FROM ACTIVATED SLUDGE TREATMENT PROCESSES TO LAND

(Operative date: 28 September 2007)

#### 3 Water Module

#### 3.5 Discharges\*

#### 3.5.6 Implementation Methods - Discharge of Biosolids\* and Sludges or Liquids from Activated Sludge Treatment Processes to Land

##### 3.5.6.1 Good Practice

Environment Waikato will, in conjunction with organisations, industry groups and individuals, provide guidance on good practice techniques for the reuse of biosolids and nonhazardous byproducts from industrial and trade premises as soil conditioners or fertilizer substitutes.

##### 3.5.6.2 Permitted Activity Rule - Discharge of Sludges and Liquids from Activated Sludge Treatment Processes to Land

The discharge of sludges and liquids from activated sludge treatment processes onto or into land and any consequent discharge of contaminants to air is a **permitted activity** subject to the following conditions:

1. There shall be no direct discharge to water.
2. The material shall not enter surface water by overland flow.
3. The material shall not contain any human/animal pathogens or hazardous substances.
4. The total nitrogen loading onto grazed pasture shall not exceed the limits as specified in Table 3-7, including any loading made under Rules 3.5.5.1, 3.5.5.2, 3.5.5.3 and 3.5.6.3.
5. The discharger shall maintain daily records of the volume discharged to each paddock or relevant area and the concentration of nitrogen in the discharge in, as a minimum, monthly samples.
6. The records required under condition e) shall be made available to the Waikato Regional Council upon request.
7. The maximum loading rate of effluent onto any part of the irrigated land shall not exceed 25 millimetres depth per application.
8. The material shall either
  1. not be stored for longer than eight hours prior to application, or
  2. have been stabilised by storage and dewatering for a period of at least 6 months.
9. The discharge location should provide for the following buffer zones between the discharge area and neighbouring land uses or sensitive environments:
  1. 300 metres from any school, residential zone or rural residential zone as identified by the relevant district plan
  2. 150 metres from any residence or building of regular occupation such as community halls, Marae and public or community facilities
  3. 50 metres from any property boundary
  4. 10 metres from any surface water body
  5. 20 metres from a Significant Geothermal Feature\*.
10. Any discharge to air arising from this activity shall comply with the permitted activity conditions in Section 6.1.8 of this Plan.
11. Where fertiliser is applied onto the same land on which activated biosolids have been disposed of in the preceding 12 months, the application must be in accordance with Rule 3.9.4.11.
12. The soil pH where the biosolids are discharged is not less than pH 5.5.

#### Advisory Notes:

- Discharges of contaminants into or onto land within 20 metres of a Significant Geothermal Feature are addressed by Rule 7.6.6.1 of this Plan. Significant Geothermal Features are defined in the Glossary, and in Development and Limited Development Geothermal Systems, identified on maps in Section 7.10 of this Plan.

### **3.5.6.3 Controlled Activity Rule - Discharge of Biosolids and Sludges and Liquids from Activated Sludge Treatment Processes**

The discharge of biosolids or sludges and liquids from activated sludge treatment processes onto or into land, and any subsequent discharge to air, that is not permitted by Rule 3.5.6.2 is a **controlled activity** (requiring resource consent) subject to the following standards and terms:

- Concentrations of pathogens or hazardous substances in the material shall not exceed the values given in Table 3-9.
- The discharge shall not:
  - result in ponding where the contaminant remains on an area of more than 10 square metres 24 hours after being irrigated.
  - cause a direct discharge to surface water or ground water.
- The discharge shall not occur within 20 metres of a Significant Geothermal Feature\*.
- Any discharge to air arising from this activity shall comply with the permitted activity conditions in Section 6.1.8 of this Plan.
- The soil pH where the biosolids are discharged is not less than pH5.5.

Waikato Regional Council reserves control over the following matters:

- (a) The season during which the discharge can occur.
- (b) The frequency at which the discharge can occur at the same location.
- (c) The maximum annual nitrogen loading rate for the discharge site given the proposed land use.
- (d) Measures to manage the effects of contaminants such as heavy metals, mineral salts or hazardous substances on the long-term health of the soil resource and on the existing and range of foreseeable uses of the soil resource.
- (e) The means of controlling objectionable odour.
- (f) Measures to avoid significant adverse effects of the activity on tangata whenua values of the site.
- (g) Measures for managing effects of the discharge upon the soil's hydraulic loading capacity and compaction.
- (h) Measures to ensure that adverse effects on nearby land uses, water bodies or areas of significant indigenous vegetation, significant habitats of indigenous fauna and significant natural features such as cave and karst systems are avoided, remedied or mitigated.
- (i) The maximum level of soil contamination that is acceptable at the application site.
- (j) The method of application.
- (k) Separation distances from sensitive areas.
- (l) Record keeping and nutrient budgeting.

#### **Advisory Notes:**

- (b) Discharges of contaminants into or onto land within 20 metres of a Significant Geothermal Feature are addressed by Rules 7.6.6.1 of this Plan. Significant Geothermal Features are defined in the Glossary, and in Development and Limited Development Geothermal Systems, identified on maps in Section 7.10 of this Plan.
- (c) Biosolids that carry the registered Biosolids Quality Mark (BQM) accreditation are likely to comply with this Rule.

### **3.5.6.4 Discretionary Activity Rule - Other Discharges of Biosolids and Sludges and Liquids from Activated Sludge Treatment Processes<sup>1</sup>**

The discharge of biosolids into water or onto or into land that does not comply with Rules 3.5.6.2 and 3.5.6.3 is a **discretionary activity** (requiring resource consent).

#### **Exclusion to Rule 3.5.6.4:**

Discharges of contaminants within 20 metres of Significant Geothermal Features are excluded from this Rule. The effects of these activities are managed by Rule 7.6.6.1 of this Plan.

#### **Advisory Note:**

- (c) Information requirements to enable the assessment of any application under this Rule are set out in Section 8.1.2.2 of this Plan. In addition, assessment shall also take into account the matters identified in the policies of Section 3.5.3 of this Plan.

- (d) Significant Geothermal Features are defined in the Glossary, and in Development and Limited Development Geothermal Systems, identified on maps in Section 7.10 of this Plan.

**Table 3-9 Pathogen and Contaminant levels**

<i>E.coli</i>	<100 MPN/g
Campylobacter	<1/25g
Salmonella	<1/25g
Enteric Viruses	<1 PFU/4g
Helminth ova	<1/4g
Arsenic	20 mg/kg dry weight
Cadmium	1 mg/kg dry weight
Chromium	600 mg/kg dry weight
Copper	100 mg/kg dry weight
Lead	300 mg/kg dry weight
Mercury	1 mg/kg dry weight
Nickel	60 mg/kg dry weight
Zinc	300 mg/kg dry weight
DDT/DDD/DDE	0.5 mg/kg dry weight
Aldrin	0.02 mg/kg dry weight
Dieldrin	0.02 mg/kg dry weight
Chlordane	0.02 mg/kg dry weight
Heptachlor and Heptachlor epoxide	0.02 mg/kg dry weight
Hexachlorobenzene (HCB)	0.02 mg/kg dry weight
Hexachlorocyclohexane (Lindane)	0.02 mg/kg dry weight
Benzene Hexachloride (BHC)	0.02 mg/kg dry weight
Total polychlorinated biphenyls	0.02 mg/kg dry weight
Total dioxin TEQ	0.00003 mg/kg dry weight

#### **Explanation and Principal Reasons for Adopting Methods 3.5.6.1 to 3.5.6.4**

**Method 3.5.6.1** identifies that guidelines defining good practice techniques are a valuable tool in managing the effects of these discharges. Environment Waikato will provide guidance on the development of these guidelines. In particular, good practice guides need to focus on means of applying these wastes to land so that neither soils nor ground water are contaminated as a consequence of over-application or application during the wrong season.

The rule framework in **Rules 3.5.6.2 to 3.5.6.4** recognises that biosolids and other nonhazardous byproducts from industrial or trade premises can be suitable for use as soil conditioners and fertiliser substitutes in accordance with Policies 1, 2 and 4. However, because of their source, these substances may contain hazardous contaminants to levels that will contaminate soil or water. Due to their source and typical composition, these substances may also generate objectionable levels of odour. Because of these risks, some control must be exercised to ensure that the substance will not contaminate soils, generate odours or result in contamination of surface and ground water.

Only discharges of biosolids, sludges and liquids from activated sludge treatment processes are permitted by these Rules. The treatment process that they have been subject to means that the objectionable odours associated with anaerobic processes are largely removed. For example, material can be processed through a clarifier and aerated, resulting in an activated sludge. Provided they are applied in the same way as other fertilisers such as farm animal effluent, the risk of adverse effects is minimal.

Rule 3.5.6.4 provides for the beneficial reuse of biosolids sourced from municipal wastewater treatment plants and industrial sources provided that contaminants within the biosolid are sufficiently low that there is little risk of creating a new contaminated site through continual application of the material. The

contaminant levels in Table 3-8 are derived from the Guidelines for the Safe Application of Biosolids in New Zealand (NZWWA, 2003). To ensure that the objectives and policies in Chapter 5.2 of the Plan are achieved, the levels are set at the contaminant levels deemed by that guideline to be acceptable from 2012 rather than the less conservative values recommended from 2003 - 2012. With this exception, biosolids or other effluents that have obtained registered Biosolids Quality Mark accreditation or equivalent are enabled by this Rule.

#### **Footnotes**

Parts of this rule are subject to PWRP: Proposed Variation No. 7 - as notified on 27 June 2007



**APPENDIX H - EXTRACT FROM WAIKATO REGIONAL PLAN RULE 6.1 – AIR DISCHARGES  
FROM SOLID OR LIQUID WASTE MANAGEMENT PROCESSES**

(Operative date: 28 September 2007)

**6 Air Module**

**6.1 Regional and Local Air Management**

**6.1.18 Implementation Methods - Waste Management Process**

**6.1.18.1 Permitted Activity Rule - Waste Management Process**

The discharge of contaminants into the air arising from the storage, transfer (excluding refuse transfer stations), treatment or disposal of liquid and solid waste is a **permitted activity** subject to the following conditions:

- The activity was lawfully established, except by way of a resource consent, before the date of notification of this Plan.
- Any change in the activity shall not increase the scale, frequency, intensity, nature or duration of any discharge to air compared to when the activity was established or authorised.
- The activity is not already restricted in Sections 3.5.5, 3.5.6, 3.5.7, 5.2.5, 5.2.6, 5.2.7, 5.2.8 or 6.1.12 of this Plan.
- The process does not involve the treatment of hazardous substances.
- As specified in Section 6.1.8 conditions a) to e) of this Plan.

**Advisory Notes:**

- Consideration of district plan objectives, policies and rules with regard to waste management should also be made.
- Adverse effects from these activities should not occur if they are managed in accordance with good practice.
- Rule 6.1.19.1 part 27 addresses refuse transfer stations.
- If any of these conditions are not complied with then the activity is a discretionary activity in accordance with Rule 6.1.9.2.

**Explanation and Principal Reasons for Adopting Method 6.1.18.1**

**Rule 6.1.18.1** is restricted to activities lawfully established before the date of notification of this Plan and applies to waste management undertaken on both industrial or trade premises and non-industrial or trade premises. Examples of activities permitted by this Rule include municipal sewage treatment plants, trade waste, waste transfer stations, oxidation ponds, and waste from intensive indoor farms. The Rule permits the discharges only to the extent that they remain at the same or lesser scale and of a similar nature to that authorised at the date of notification of this Plan.

This Rule does not apply if the discharge to air is already addressed in other rules in this Plan.

This Rule also does **not** apply if the activity has already been authorised by a resource consent at the date of notification of this Plan.

## APPENDIX I - EXTRACT FROM WAIKATO REGIONAL PLAN – DISCHARGES TO WATER

(Operative date: 28 September 2007)

### 3 Water Module

#### 3.5 Discharges\*

##### 3.5.4 Implementation Methods - Discharges

###### 3.5.4.1 Environmental Education\*

Environment Waikato will, through environmental education programmes:

- Raise awareness of the use of land treatment as an environmentally sound method of treating some waste streams where soils allow, and recycling the nutrients and water they contain, as an alternative to disposal to water.
- Encourage waste reduction and reuse programmes in industry and the community to minimise waste discharge volumes.
- Raise awareness of the adverse effects of:
  - urban stormwater discharges on water quality
  - household water introduced into stormwater systems.

###### 3.5.4.2 Promotion

Environment Waikato will encourage and promote industry research into effluent management practices, specifically:

- Land-based irrigation systems.
- Methods for improving effluent quality.
- New technologies for managing agricultural effluents.

###### 3.5.4.3 Part XII RMA Enforcement

Environment Waikato will apply for enforcement orders, issue abatement notices and use other enforcement mechanisms in Part XII of the RMA, where, as a result of inappropriate discharge practices, significant adverse effects on water bodies occur, including:

- Significant adverse effects on water quality.
- Significant downstream flooding or erosion.
- Significant downstream siltation.

###### Advisory Note:

- Refer also to enforcement methods regarding adverse effects on soil and air quality in Section 5.2.6.1 of this Plan.

###### 3.5.4.4 Permitted Activity Rule - Discharges of Water to Water - General Rule

Except as expressly provided for by other rules in this Plan any discharge of water (excluding geothermal water), into water is a **permitted activity** subject to the following conditions:

- There shall be no adverse effect on water quality of the receiving water body.
- Any adverse erosion effects occurring as a result of the discharge to be remedied as soon as practicable.
- There shall be no adverse effects from increased water levels downstream of the discharge point.
- The Waikato Regional Council shall be notified in writing of the discharge, its volume, contaminant concentrations and the water quality of the receiving water body 10 working days prior to the discharge commencing.

#### **Exclusion to Rule 3.5.4.4**

Discharges of geothermal water are excluded from this rule. The effects of these activities are managed by the rules in Chapter 7 of this Plan.

#### ***3.5.4.5 Discretionary Activity Rule - Discharges - General Rule***

Any discharge of a contaminant into water, or onto or into land, in circumstances which may result in that contaminant (or any other contaminant emanating as a result of natural processes from that contaminant) entering water, that is not specifically provided for by any rule, or does not meet the conditions of a permitted or a controlled activity rule in this Plan, is a **discretionary activity** (requiring resource consent).

#### **Advisory Note:**

- Information requirements to enable the assessment of any application under this Rule are set out in Section 8.1.2.2 of this Plan. In addition, assessment shall also take into account the matters identified in the policies in Section 3.5.3 of this Plan.

#### ***3.5.4.6 Non-Complying Activity Rule - Discharges into other Water Bodies***

The discharge of contaminants (not including stormwater or contaminants associated with the take and use of geothermal water), into Natural State Water Bodies or wetlands<sup>1</sup> that are areas of significant indigenous vegetation and/or significant habitats of indigenous fauna or cave entrances or lakes (excluding artificial lakes and Lake Rotoaira) is a **non-complying activity** (requiring resource consent).

#### **Exclusion to Rule 3.5.4.6:**

Discharges of contaminants associated with the take and use of geothermal water are excluded from this rule. The effects of these activities are managed by the rules in Chapter 7 of this Plan.

#### **Advisory Notes:**

- Information requirements to enable the assessment of any application under this Rule are set out in Section 8.1.2.2 of this Plan. In addition, assessment shall also take into account the matters identified in the policies of Section 3.5.3 of this Plan.

#### **Explanation and Principal Reasons for Adopting Methods 3.5.4.1 to 3.5.4.6**

The methods in this section apply across the whole chapter. The non-regulatory methods have been focused on supporting activities permitted as a consequence of Policy 1 and ensuring that while these activities have been enabled, their potential adverse effects are still adequately managed. For instance, **Method 3.5.4.1** uses environmental education to promote the reuse and recycling of liquid effluents and wastes. Irrigation of effluent onto land, where appropriate, achieves this as well as meeting cultural and spiritual objections concerning effluent disposal to water. Likewise, **Method 3.5.4.2** recognises that improved treatment technology is an important area that needs further research. This recognises concern that pond and barrier ditch systems may not be sustainable in certain parts of the Waikato Region owing to the intensity of agriculture and associated discharges. **Method 3.5.4.3** acknowledges that enforcement will continue to be an option for Environment Waikato when significant adverse effects occur as a result of discharges.

**Rule 3.5.4.4** and **Rule 3.5.4.5** are general rules that apply to all discharges not otherwise enabled by this Plan. They provide certainty and clarity for resource users. Rule 3.5.4.4 implements Policy 1 by enabling discharges of water into water where the discharge will have no adverse effects. These discharges currently require resource consent under the presumptions of the RMA. The intent of this rule is that such discharges will be permitted where there is no increase in any parameters (e.g. temperature and contaminant load) of water quality in the receiving environment. The Rule does not enable discharges that will adversely change the composition of water and, therefore, have an adverse effect on water quality. The kinds of discharges to be enabled by this Rule would include discharges of diverted ground water from dewatering operations. The condition requiring that Environment Waikato be notified is essential to give the community a chance to ensure that the discharge can really comply with the Rule.

**Rule 3.5.4.6** recognises the high values of our natural state areas and the scarcity and fragile nature of our lake, wetland, and cave systems, and regulates discharges of contaminants to them. Discharges in these environments could have significant irreversible adverse effects. The non-complying status of this Rule sends the signal that these activities should be discouraged but also allows opportunity for consent to be granted in cases where the effects of the activity can be shown to be minor and where granting consent is not contrary to the objectives and policies of the Plan.

**Footnotes**

Refer to Appendix 3 of the RPS.

**APPENDIX J - WDC MANAGEMENT STRUCTURE**



**SOLID WASTE**

**ACTIVITY MANAGEMENT PLAN**

**2015 – 2025**

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<b>Revision</b>	<b>Revision Date</b>	<b>Details</b>	<b>Name – Position</b>	<b>Authorised Signature</b>
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## SECTION 1 - EXECUTIVE SUMMARY

This Activity Management Plan (AMP) complements WDC's Solid Waste Management and Minimisation Plan 2012-2018. While the latter is a legislative requirement under the Waste Minimisation Act 2008 it only need to be reviewed every 6 years i.e. 2018, this AMP focuses on the asset management aspects of the activity.

Solid waste management is a significant activity for the Waitomo District. The rationale for this service is to ensure that the natural environment is protected from detrimental effects of solid waste disposal, and that the waste disposal needs of the District community are met.

### 1. SCOPE OF WDC ASSETS USED TO PROVIDE SERVICE

WDC owns and operates the following assets for the delivery of solid waste activity:

Asset	Activities	Ownership/Operator
Waitomo District Landfill	Greenwaste collection Recycling drop off Waste to landfill Composting	Waitomo District Council Envirowaste
Piopio Transfer Station	Recycling drop off Waste to landfill	Waitomo District Council
Marokopa Transfer Station	Recycling drop off Waste to landfill	Waitomo District Council
Benneydale Transfer Station	Recycling drop off Waste to landfill	Waitomo District Council
Kinohaku Transfer Station	Recycling drop off Waste to landfill	Waitomo District Council
Awakino Transfer Station	Recycling drop off Waste to landfill	Waitomo District Council
Waitomo Village, Mokau, Marokopa and Piopio	Recycling bins	Waitomo District Council

### 2. SUMMARY OF ACTIVITY

The following area based services are provided under the Solid Waste Activity:

Location	Bagged refuse collection	Kerbside recycling collection	Litter Bin emptying	Waste Transfer Station (WTS)	Landfill	Recycling centre
Te Kuiti	✓ (Friday)	✓ (Friday)	✓ (Daily)		✓	✓ (At landfill)
Piopio	✓ (Tuesday)	✓ (Tuesday)	✓ (2x week)	✓		✓ (At WTS)
Benneydale			✓ (Daily)	✓		✓ (At WTS)
Marokopa			✓	✓		✓ (At WTS)
Kiritehere			✓ (Weekly)			
Kinohaku				✓		✓ (At WTS)
Awakino	✓ (Tuesday)	✓ (Tuesday)		✓		✓ (At WTS)
Mokau	✓ (Tuesday)	✓ (Tuesday)	✓ (3x week)			
Waitomo	✓ (Tuesday)	✓ (Tuesday)	✓ (Weekly)			

The WDC assets comprising the Solid Waste Activity have depreciated replacement value of \$3,253,360. 95% of the value is associated with the Te Kuiti landfill and transfer station

Infrastructure	Value as held by WDC 30 June 2014 (ORC)	Optimised Depreciated Replacement Cost
Te Kuiti Landfill and Transfer Station	\$3,625,403	\$3,087,344
Rural Transfer stations	\$157,290	\$25,379
Resource Consent	\$51,460	\$34,105
<b>TOTAL</b>	<b>\$3,834,153</b>	<b>\$3,253,360</b>

### 3. RESOURCE CONSENTS

WDC holds five separate consents issued by Waikato Regional Council authorising the current Waitomo District Landfill operation and controlling the environmental effects of the activity. The consents attaching to the Waitomo District Landfill are summarised as follows:

Consent No.	Date Issued	Activity Authorised	Expiry Date
101753	8 February 1999	Placing up to 232,000 tonnes of Municipal waste onto or into land	31 December 2033
101754	8 February 1999	Discharge of contaminants into air	31 December 2033
124718	3 August 2012	Discharge of up to 0.65 m3 of leachate per day into the ground	31 December 2033

A land use consent and site designation, issued by Waitomo District Council, is also in place for the site

In addition, there are five separate closed landfills across the district with associated consents to monitor WDC's aftercare responsibilities (refer to Appendices).

The key policies in this AMP, designed to deliver waste services to the Waitomo community, are:

1. Continuation of the existing kerbside collection of bagged refuse and recyclables to existing areas
2. Maintaining a network of waste transfer stations to rural townships to support district wide public accessibility to recycling and/or disposal facilities outside Te Kuiti
3. Maintaining a common schedule of fees and charges across the Waitomo District Landfill and all waste transfer stations
4. Ensuring the most cost effective waste minimisation and disposal service possible under local conditions.

WDC believes that the above policies will contribute to the objectives of reducing the quantity of residual wastes by maximising the availability of recycling and residual waste disposal facilities for both rural and urban residents on an equitable basis. This will continue to ensure that public health and the environment is protected and efficient and effective waste management and minimisation is promoted.

### 4. STRATEGIC ENVIRONMENT

#### Vision

Councils Vision for the 2015 – 2025 Long Term Plan is:

“Creating a better future with vibrant communities and thriving business”

WDC's Solid Waste Activity supports this vision by:

- Protecting public health and safety
- Enabling economic growth
- Using natural resources in a sustainable manner
- Promoting efficient waste management that minimises environmental harm

#### Community Outcomes

The Solid Waste Activity contributes to the following community outcomes:

<b>Vibrant Communities</b>
CO5 A place where we preserve the natural environment for future generations, ensuring that natural resources are used in a sustainable manner

<b>Effective Leadership</b>
CO8 A place where the development of partnership for the delivery of programmes and services is encouraged and pursued.

<b>Sustainable Infrastructure</b>
C10 A place that provides safe, reliable and well managed infrastructure which meets the District community needs and supports maintenance of public health, provision of good connectivity and development of the District

### Strategic Goals for the Group

- To protect public health
- To protect the environment from the adverse effects of discharging treated effluent to land, air and water
- To enable economic development

### Rationale for Activity

This Activity exists to ensure that the natural environment and public health is protected from detrimental effects of solid wastes, and that the waste disposal needs of the District community are met.

## 5. LEVELS OF SERVICE

This AMP is focused on clarifying and defining key levels of service for the Solid Waste Activity and then identifying and costing future operations, maintenance, renewal and capital works required providing those levels of service. The levels of service set out in Section 5 are based on customer expectations, business strategic goals and statutory and regulatory requirements (e.g. resource consents) as set and or interpreted by WDC staff. They will be used as the focus for future customer consultation.

The Levels of Service and Key Performance Indicators for this Group of Activities are:

LEVEL OF SERVICE	PERFORMANCE MEASURE	PERFORMANCE TARGET
Users find the recycling facilities safe to use.	Percentage of users rate the safety of Council's recycling facilities as satisfactory or better.	75%
Provision of effective waste service for the community.	Customer satisfaction survey rating on waste transfer stations.	60%
The solid waste management facilities feel safe to the user.	Percentage of users rate the District's waste transfer stations safe to use.	70%
Users find the landfill facility safe to use.	Percentage of users rate the safety of Council's landfill facility as satisfactory or better.	75%
The solid waste management facilities are open and accessible to users at advertised times.	Number of complaints per month due to facilities not being open at advertised times.	<1

LEVEL OF SERVICE	PERFORMANCE MEASURE	PERFORMANCE TARGET
Reduce quantity of recyclables like paper and plastics in bag collection that goes to landfill.	Percentage of reduction per annum leading to 15% reduction by 2025 achieved through continual education (both measured against the 2014 Biennial Waste Audit).	1.5%
Reduce the quantity of organic waste like food scraps etc. in bag collection that goes to landfill.	Percentage of reduction per annum achieved through continual education leading to 10% reduction by 2025 (measured against the 2014 biennial Waste Audit).	1.0%
Provision of an effective solid waste service for the community.	Average Number of complaints received per month regarding solid waste activities.	≤ 10

## 6. FUTURE DEMAND

The main drivers of demand for solid waste activity are:

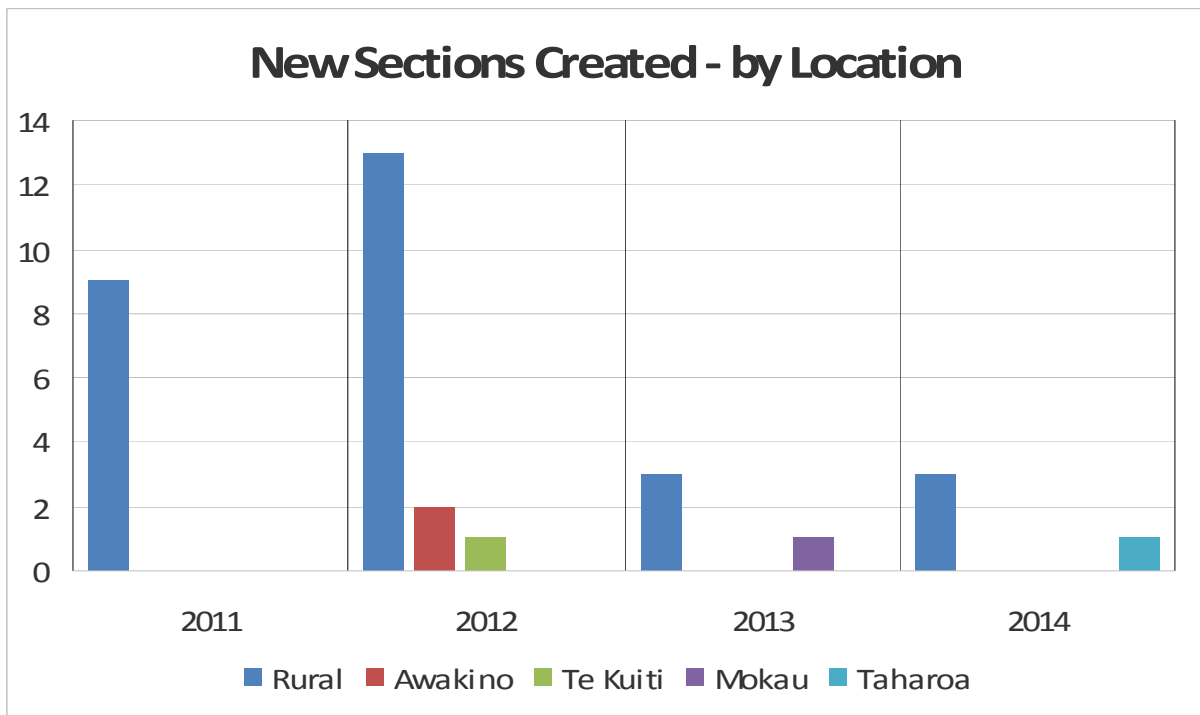
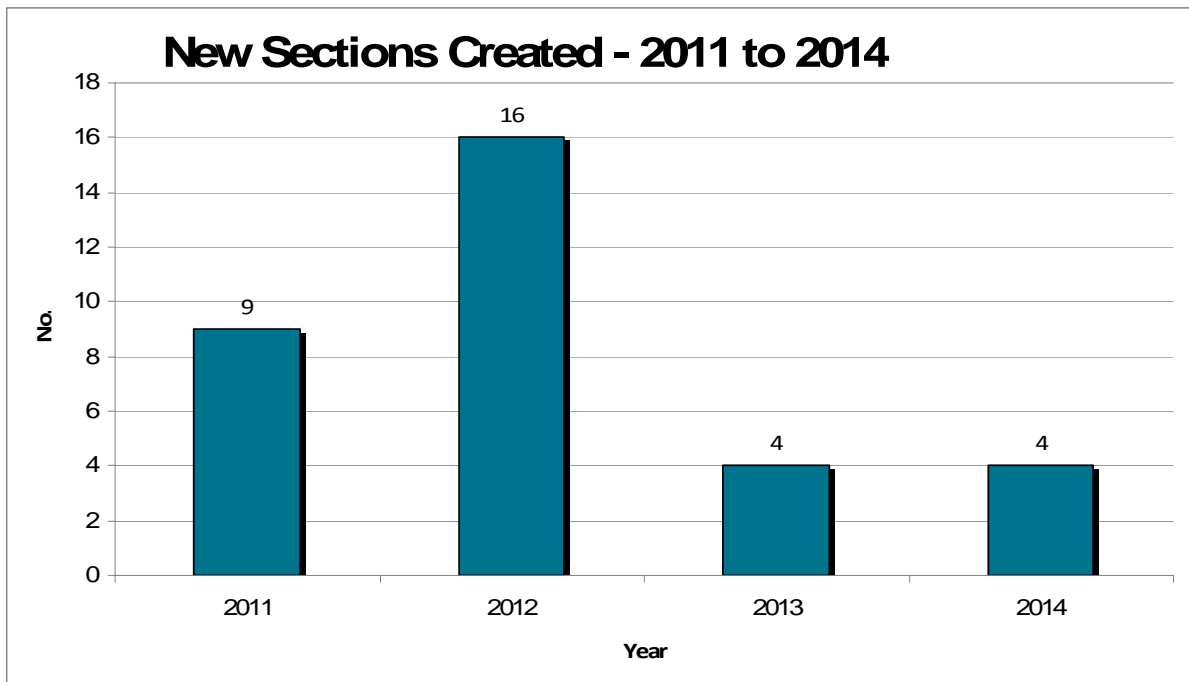
- Population growth and incidence of settlement
- Land use activities (e.g. land development, tourism and coastal settlements)
- Community expectations

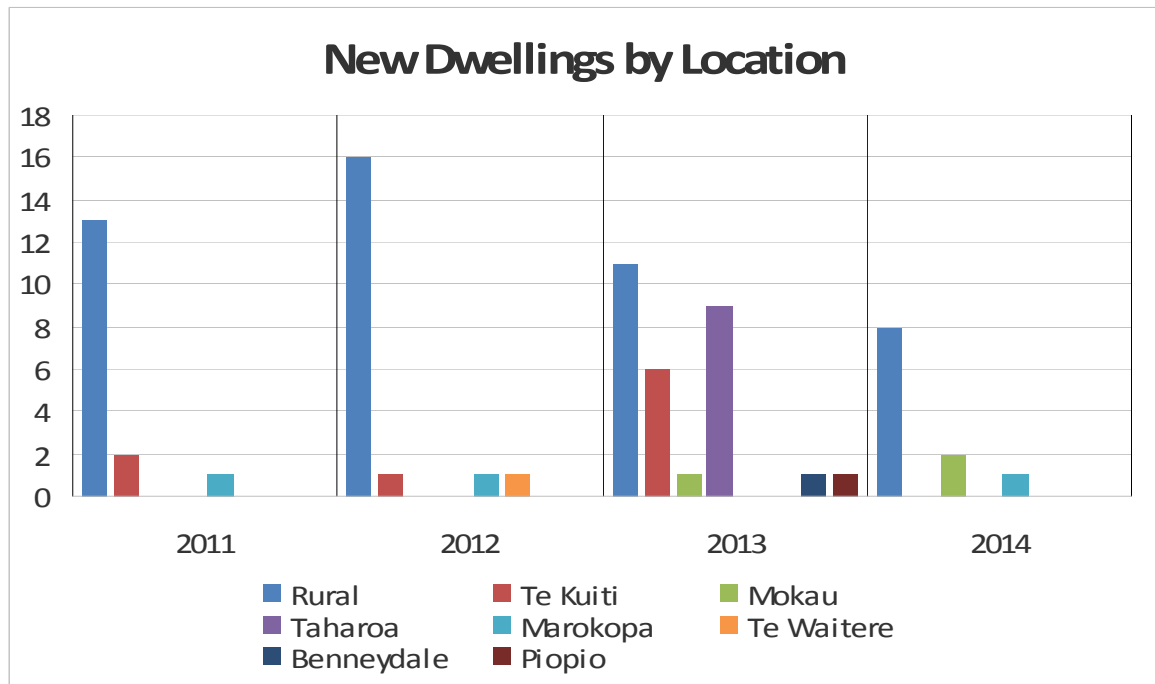
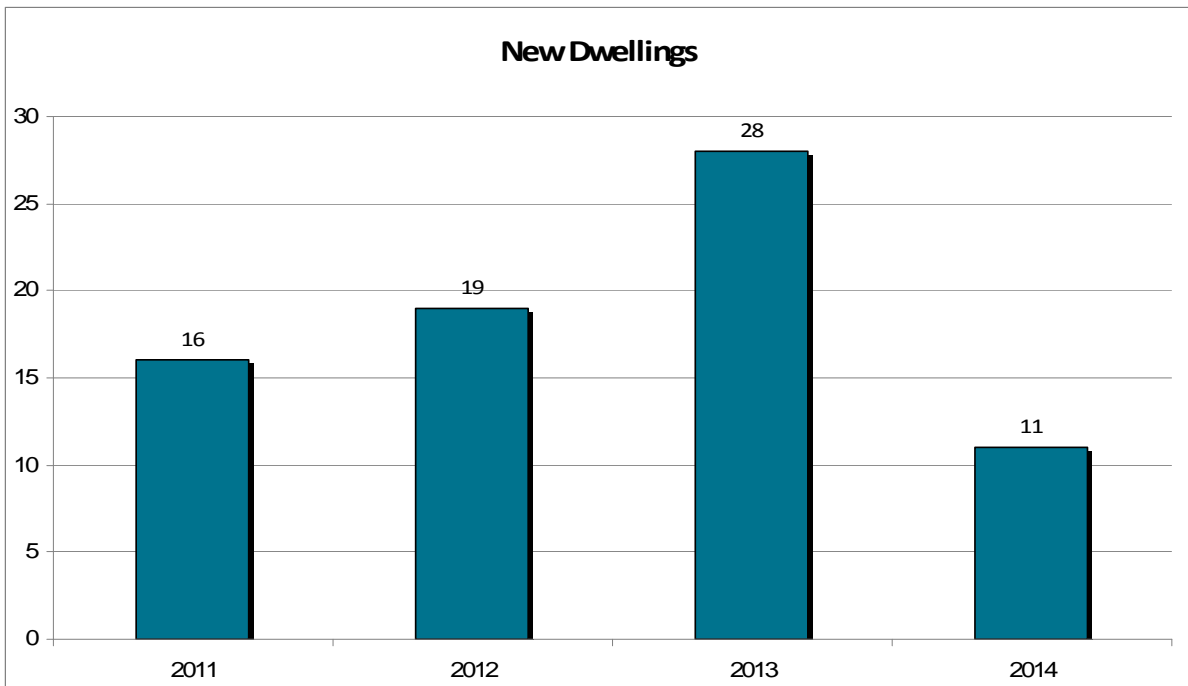
### Population

The district resident population has experienced a slight decline over the 2006 to 2013 inter-census period. The future population forecast prepared by the National Institute of Demographic and Economic Analysis (Waikato University) predicts a continuation of this downward trend for the district over the next 50 years. At a micro level, this pattern of population decline is expected to be consistent, more or less, across the district, including the coastal communities that were previously areas experiencing highest growth and demand. Overall, the demographic and development trends show that there is no population based demand for growth related infrastructure at the present time or in the foreseeable future.

### Land-use development

From a recent, informal, desktop planning exercise, drawing from development proposals which are known to officers and/or are in the early stages of consent processing, it has been identified that further growth is unlikely to place pressure on the provision of Council services. Indications are the recent trends of relatively slow development are likely to continue into the foreseeable future. It is expected that any increase in demand from residential development over the term of this AMP will be minor and won't impact on the existing capacity of the water supply infrastructure.





Of interest are the nine new houses at Taharoa during 2013. These were all relocated dwellings for the NZ Steel Mining Company, potentially indicating an increased scale of operation at that location.

The current agricultural and pastoral based economy is expected to remain predominant in the district, with growth very dependent on economic conditions and export opportunities. Industrial growth, which can have a significant impact on water supply, is partly dependent on attracting new industries into the urban centres.

#### Community Expectations

The following trends are expected to impact on the quantity and quality of solid waste services provided:

- Continued public demand for waste recycling and diversion from landfill
- Increasingly stringent resource consent conditions for landfills

#### Demand implications

The implications of these demand trends on the quantity and quality of solid waste services over the next 30 years will be:

- Future operating and maintenance costs associated with the solid waste infrastructure in general can be expected to increase within the planning period.
- The impact of increased resource recovery through waste minimisation will result in higher unit operating costs for disposal of reducing residual wastes at the landfill
- Relatively minor changes to LoS could have major impacts on costs.
- Consent standards and workplace health and safety requirements for operating the collection, landfill and transfer stations will increase costs

In the meantime, no provision has been made over the term of this AMP for additional solid waste infrastructure to support growth planning.

## **7. LIFE CYCLE ASSET MANAGEMENT**

Asset management practices focus on lifecycle activities (creation, maintenance, renewal, development and disposal) to improve the decision making and evaluation of options associated with each asset and to optimise lifecycle costs.

The major solid waste asset is the Waitomo District landfill. Minimising the creation of wastes has many flow-on benefits in support of the social, economic and environmental well being of our District. WDC is responsible for ensuring appropriate systems are in place for the environmentally safe collection and disposal of residual wastes that cannot be recycled. At this point, as in recent years, WDC is in a position of not being reliant on out-of-district landfills for the costly process of residual waste disposal.

The Emissions Trading Scheme Levy that came into effect from 1 January 2013 added to the waste minimisation levy that came into effect in 2010 resulting in increased disposal costs and affected the viability of the landfill. Waste minimisation overall was more effective than projected in 2012 resulting in a greater reduction of residual waste flow to the landfill thus increasing cost much quicker than anticipated.

Two key options will be considered by Council during the 2015 -2018 period.

- Using the landfill up to the consented volume and then close it with future waste carted and disposed of at a regional landfill, or;
- Apply for doubling of the present consented volume within the existing landfill footprint

The decision will in effect determine the future financial viability of the landfill.

Council is committed to providing the most cost effective service at all times that is possible under prevailing conditions.

The timing of this AMP will inform Council's 2015 -2025 Long Term Plan, of the scope and form of Council's future solid waste management activities. The Long Term Plan will determine their final priority and scale.

**The future use of the landfill poses a number of challenges and possible approaches but at this point the information is still vague and it is expected it will take at least two years before reasonable clarity is reached.**

**Therefore, this AMP is based on the assumption that the current scenario will continue for most of the duration of the next three years and is expected to be addressed more fully in the AMP that informs the 2018-2028 LTP.**

## **8. FINANCIAL SUMMARY**

The forecast budgets for operations and maintenance, renewal and development of the Solid Waste activity is summarised in the following table:



Solid Waste Management	EAP 2014/15	LTP 2016	LTP 2017	LTP 2018	LTP 2019	LTP 2020	LTP 2021	LTP 2022	LTP 2023	LTP 2024	LTP 2025
<b>Operating Income</b>											
Collection	120	126	129	132	136	140	145	149	154	160	166
Management	970	869	873	895	901	927	934	964	986	1,021	1,059
<b>Total Operating Income</b>	<b>1,090</b>	<b>995</b>	<b>1,002</b>	<b>1,027</b>	<b>1,037</b>	<b>1,067</b>	<b>1,079</b>	<b>1,113</b>	<b>1,140</b>	<b>1,181</b>	<b>1,225</b>
<b>Operating Expenditure</b>											
Collection	315	321	330	338	347	357	368	381	394	407	422
Management	1,478	1,635	1,658	1,705	1,723	1,753	1,870	1,983	1,997	2,030	2,040
<b>Total Operating Expenditure</b>	<b>1,793</b>	<b>1,956</b>	<b>1,988</b>	<b>2,043</b>	<b>2,070</b>	<b>2,110</b>	<b>2,238</b>	<b>2,364</b>	<b>2,391</b>	<b>2,437</b>	<b>2,462</b>
<b>Net Operating Cost/(Surplus)</b>	<b>703</b>	<b>961</b>	<b>986</b>	<b>1,016</b>	<b>1,033</b>	<b>1,043</b>	<b>1,159</b>	<b>1,251</b>	<b>1,251</b>	<b>1,256</b>	<b>1,237</b>
<b>Capital Expenditure</b>											
Collection	0	0	0	0	0	0	0	0	0	0	0
Management	901	0	30	33	0	843	890	37	0	8	0
<b>Total Capital Expenditure</b>	<b>901</b>	<b>0</b>	<b>30</b>	<b>33</b>	<b>0</b>	<b>843</b>	<b>890</b>	<b>37</b>	<b>0</b>	<b>8</b>	<b>0</b>
<b>Net Expenditure</b>	<b>1,604</b>	<b>961</b>	<b>1,016</b>	<b>1,049</b>	<b>1,033</b>	<b>1,886</b>	<b>2,049</b>	<b>1,288</b>	<b>1,251</b>	<b>1,264</b>	<b>1,237</b>
<b>Funded By</b>											
Internal Loans	831	0	26	26	0	836	890	30	0	0	0
Reserves	66	206	175	109	(70)	(187)	(195)	(216)	(243)	(264)	(271)
General Rates	8	11	11	12	9	10	13	13	16	16	14
UAGC	4	11	11	12	9	10	13	13	16	16	14
Kerbside Collect Serv Charge - Mokau	38	38	39	40	42	43	44	46	47	49	51
Kerbside Collect Serv Charge - Piopio	25	25	25	26	27	28	28	29	30	31	32
Kerbside Collect Serv Charge - Te Kuiti	92	95	98	100	103	106	109	113	117	121	125
Kerbside Collect Serv Charge - Waitomo	35	37	38	39	40	41	42	43	45	46	48
Target Rate - Solid Waste Management	505	537	591	685	875	1,002	1,105	1,216	1,223	1,249	1,224
<b>Total Funding</b>	<b>1,604</b>	<b>960</b>	<b>1,014</b>	<b>1,049</b>	<b>1,035</b>	<b>1,889</b>	<b>2,049</b>	<b>1,287</b>	<b>1,251</b>	<b>1,264</b>	<b>1,237</b>

## 9. IN SUMMARY:

### Operations

Three of the Waitomo District landfill consents expired in May 2012. One was renewed and the other two have become obsolete. All remaining consents now will expire in 2033.

Operations of Waitomo District Council's activities for solid waste (kerbside refuse and recycling collection and landfill operation by contract, and community education etc. in-house) will continue to be provided at the same level of service. Moving Mokau transfer station closer to town to improve public accessibility will be investigated and if feasible it is expected to be done within the operations budget.

### Routine Maintenance

Maintenance is the on-going day to day work activity required to keep assets serviceable and prevent premature deterioration or failure. Two categories of maintenance are carried out:

**Unplanned Maintenance:** Work carried out in response to reported problems or defects (e.g. vandalism etc.). Defects are identified through reporting by the public using the service request system and or inspection by the landfill staff and Council's contractor and Council employees. A 24 hour call-out service is provided to attend urgent problems.

**Planned Maintenance:** Work carried out to a predetermined schedule or planned in association with other work. Maintenance work on the high-wall has been carried out in 2014. At this stage there is no other planned maintenance work.

### Renewals

It is intended that for the 2015-25 financial year, no planned renewal, or rehabilitation of the existing waste management infrastructure i.e. Council's waste transfer stations, road accesses, fencing, drainage and recycling facilities will be carried out. The installation of cell number 3 will be completed in 2015.

### Development works

Development works involving the construction of Waitomo District Landfill high wall cell may be constructed during 2015-2025 dependent on how waste disposal develop over the years. The \$800,500 in years 15-16 and 19-20 represent development of the landfill and additional \$50,000 in 21-22 represent the next reseal of the roadway from Williams Street to the transfer station

### Asset Disposal

There are no asset disposals anticipated for the duration of this AMP or the LTP.

## 10. ASSUMPTIONS

The following basic assumptions have been made in preparing the 10 year funding requirement forecasts for this AMP:

- All expenditure is stated in dollar values as at 30 June 2014 with no allowance made for inflation over each subsequent year of the 10 year planning period.
- It is anticipated that there will be a gradual increase in operation and maintenance expenditure in real terms over the planned period due to ever more stringent compliance requirements relating to resource consents and workplace safety.
- Operating and maintenance allocations are largely based on maintaining current levels of service including compliance with current resource consents.

These projections and the AMP will be reviewed in 2017 in light of improved operational information that will be collected and recorded over the next 3 years ahead of the 2018 LTP.

## SECTION 2 - INTRODUCTION

### 1. WAITOMO DISTRICT

The Waitomo District occupies a large area extending from the west coast of the North Island between Mokau and Te Waitere through to Pureora forest in the east, and from Mapiu in the south to Waitomo Village in the north. The District is situated within the Waikato Region and comprises 3,363.57 sq. km of land. The total, normally resident, population is 8,910 (2013 Census), with Te Kuiti the main residential and service center having a population of 4,200. Other towns include Mokau, Waitomo, Piopio, Awakino, Marokopa and Benneydale. The local economy is based on farming, forestry, mining and tourism. Major industrial users of wastewater infrastructure include two abattoirs based in Te Kuiti, and a local hospital.



## 2. PURPOSE OF THIS PLAN

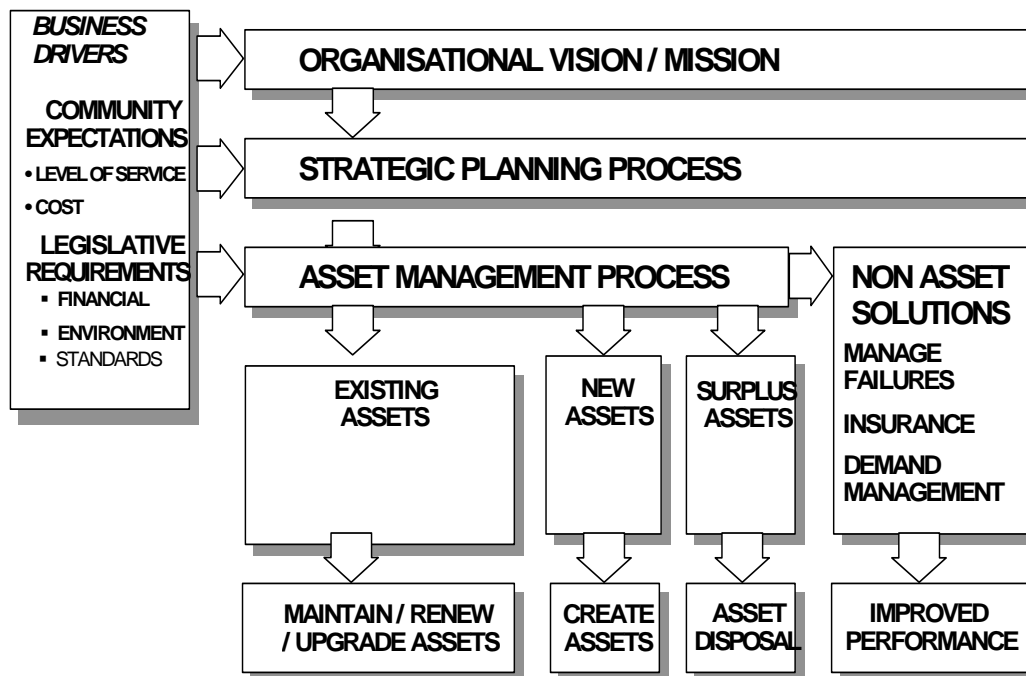
This AMP is intended to demonstrate responsible stewardship of Council's waste collection, recycling and disposal assets and services on behalf of its customers and stakeholders. The AMP also acts as a vehicle for communication with all parties with an interest in Waitomo District Council's (WDC's) activity management practices. It provides a focus within WDC for ongoing development of good activity asset management and demonstrates that waste management services are delivered at optimum cost, to a defined level of service, over the long term.

Waste reduction activities are aimed at reducing the quantity of waste generated at source whereas waste diversion seeks to reduce the quantity of waste entering a landfill

The AMP provides the tactics that will enable Council to achieve its strategic goals most cost effectively, via the LTP process. It combines management, financial, engineering and technical practices to ensure that the level of service required by customers is provided at the lowest long term cost to the community.

## 3. PROCESS FOR DEVELOPING ACTIVITY MANAGEMENT PLAN

AM plans are a key component of the Council's planning process, being prepared within the context of Council's strategic and financial planning processes. These links, and the key outputs of the asset management planning process, are illustrated in the figure below.



This AMP is the latest version of the Council's Solid Waste AMP, developed through a process of updating and improvement. It links asset management to the processes and principles outlined in the Local Government Act 2002 for long term planning. It is based on levels of service confirmed during annual resident satisfaction surveys the latest available asset information and knowledge of council staff. A programme of AM improvement (see Section 12) will be undertaken to improve the quality of decision making arising from improved knowledge of asset condition and performance, growth predictions and customer expectations and the accuracy of the financial projections.

The timing of this version is consistent with the three yearly review of the Council's Long Term Plan (LTP). This Activity Management Plan (AMP) is one of several AMPs prepared within the current planning cycle as part of a much larger, organisation wide project.

The establishment of the organisation wide project plan, known as the "Road Map", was led by the Group Manager - Corporate Services and sponsored by the Chief Executive. The Road Map is a detailed organisational work programme for the adoption of the Long Term Plan 2015 – 2025. It ensured that key organisational planning issues were addressed systematically and across the organisation.

A specific AM planning strategy/work plan for the AMP section of the Road Map was developed to facilitate cross organisation coordination and to improve alignment of expectations between Council and

management. Input to the project included the Group Manager – Assets and asset management staff, and Corporate Services. The project was coordinated and quality managed internally and peer reviewed externally.

The AMP will be subject to ongoing review, particularly in relation to changing service delivery standards and expectations, and changes in the demand for and use of services. By monitoring community service delivery requirements, Council will be better able to develop and manage its assets and ensure community demand and service levels are sustainable and met in the most effective and timely manner. A programme of AMP improvement (see Section 12) will also be undertaken to improve the quality of decision making, the knowledge of assets and customer expectations and the accuracy of the financial projections.

#### 4. LEGAL AUTHORITY FOR COUNCIL INVOLVEMENT

WDC is a "Territorial Authority", an operator of waste disposal facilities in accordance with the Waste Minimisation Act 2008 and a consent holder as defined in the Resource Management Act 1991 for WDC's active and closed landfills. As the owner, it is legally responsible for the control of its solid waste facilities.

The legal authority for Council to be involved in the provision of solid waste assets is contained in the Local Government Act 2002.

The rationale for Council's involvement stems in part from statutory requirements. The Local Government Act 2002 empowers Council to acquire land for public works:

- Section 181 empowers Council to construct work on private land that it considers necessary for (inter alia) land drainage, rivers clearance and stormwater drainage
- Section 189 (1), "Power to Acquire Land": empowers Council to 'purchase, or take in the manner provided for in the Public Works Act 1981, any land or interest in land, whether within or outside its district, that may be necessary or convenient for the purposes of, or in connection with, any public work that the local authority was empowered to undertake, construct or provide immediately before 1 July 2003'.

#### 5. JUSTIFICATION FOR OWNERSHIP

Council ownership of wastewater infrastructure assets is justified by the following factors relating to the service;

- Core Business - Council accepts responsibility for providing essential services. These services include solid waste management and disposal.
- Public Benefit - the service is generally assessed to provide mainly public benefits
- Funding - Council has access to more favourable financing options than is available to the private sector
- Community Opinion - the public and Council have strongly expressed a preference for key infrastructure assets to remain in public ownership.

#### 6. THE EXTENT OF COUNCIL'S RESPONSIBILITY

Council is the primary service provider for the planning, construction, operation and maintenance of solid waste disposal programmes and facilities within Waitomo District. WDC may maintain these facilities as it sees fit, subject to Central Government and regional council requirements.

#### 7. PLAN FRAMEWORK

The sections are structured to develop the AMP in a logical manner as follows:

Section Number	Section Title	Description
1	Executive Summary	A succinct overview of the key issues contained in the body of the AMP
2	Introduction	A summary of all the elements of the Solid Waste activity, the rationale for ownership of the asset components, and the reasons for preparing the AMP
3	The Activity	A description of the assets making up the Solid Waste activity and the potential significant negative effects.

<b>Section Number</b>	<b>Section Title</b>	<b>Description</b>
4	Strategic Environment	A discussion on the planning and statutory framework and the context of where the AMP is situated within it.
5	Levels of Service	An outline of the levels of service that are proposed and the basis for these.
6	Future Demand	Details of growth forecasts impacting on the management and utilisation of the assets and which form the basis for proposed new works.
7	Risk Management	Identifies the risks associated with the activity and the resilience of critical assets to natural disasters
8	Lifecycle Asset Management	Details of what is planned to manage and operate the Solid Waste activity at the agreed levels of service and optimal lifecycle cost.
9	Asset Management Practices	The information available, the information systems and processes used to make decisions on how the assets will be managed
10	Financial Summary	The financial requirements resulting from all the information in the previous sections
11	Assumptions	The assumptions used and uncertainty in forecasting the expenditure required to achieve the agreed levels of service over the term of the plan
12	Improvement Plan	Details of the plan for monitoring implementation and effectiveness of the AMP and improvements to AMP systems to improve confidence in the AMP, particularly over the next three years.
13	References	Details of information sources used to prepare this AMP
14	Appendices	Complementary material referred to in the body of the document

## SECTION 3 - THE ACTIVITY

### 1. SCOPE OF THE SOLID WASTE ACTIVITY

This AMP focuses on solid and hazardous waste produced in the Waitomo District. It does not include liquid waste (sewage), bulk liquid hazardous waste, or bio-solids (sewage sludge).

Waste types considered in this AMP:

- Residual wastes destined for landfill
- Organic materials including greenwaste
- Material able to be recycled or reused including metals (ferrous and non ferrous, plastics 1&2, paper, cardboard, textiles, glass and other recycling materials presented by the private sector
- Hazardous materials including, batteries, electronic waste and other materials needing special treatment before disposal.

Waste disposal assets relevant to the Waitomo District are:

- Transfer Stations
- Recycling facilities
- Landfill

The solid waste services are summarised as follows:

Asset	Activities	Ownership/Operator
Waitomo District Landfill	Greenwaste collection Recycling drop off Waste to landfill Composting	Waitomo District Council Envirowaste
Piopio Transfer Station	Recycling drop off Waste to landfill	Waitomo District Council
Marokopa Transfer Station	Recycling drop off Waste to landfill	Waitomo District Council
Benneydale Transfer Station	Recycling drop off Waste to landfill	Waitomo District Council
Kinohaku Transfer Station	Recycling drop off Waste to landfill	Waitomo District Council
Awakino Transfer Station	Recycling drop off Waste to landfill	Waitomo District Council
Waitomo Village, Mokau, Marokopa and Piopio	Recycling bins	Waitomo District Council

Waste is accepted from a number of sources including:

- Kerbside collection from residential, commercial and rural properties
- Illegal dumping
- Street Litter collections
- Transfer Stations

The following area based services are provided under the Solid Waste Activity for collection and processing of solid wastes:

Location	Bagged refuse collection	Kerbside recycling collection	Litter Bin emptying	Waste Transfer Station (WTS)	Landfill	Recycling centre
Te Kuiti	✓ (Friday)	✓ (Friday)	✓ (Daily)		✓	✓ (At landfill)
Piopio	✓ (Tuesday)	✓ (Tuesday)	✓ (2x week)	✓		✓ (At WTS)
Benneydale			✓ (Daily)	✓		✓ (At WTS)
Marokopa			✓	✓		✓ (At WTS)
Kiritehere			✓ (Weekly)			



Location	Bagged refuse collection	Kerbside recycling collection	Litter Bin emptying	Waste Transfer Station (WTS)	Landfill	Recycling centre
Kinohaku				✓		✓ (At WTS)
Awakino	✓ (Tuesday)	✓ (Tuesday)		✓		✓ (At WTS)
Mokau	✓ (Tuesday)	✓ (Tuesday)	✓ (3x week)			
Waitomo	✓ (Tuesday)	✓ (Tuesday)	✓ (Weekly)			

## 2. MANAGEMENT STRUCTURE

The WDC Assets Group manages the Solid Waste Activity. The current organisational structure is illustrated in the Appendices.

## 3. PHYSICAL WORKS & PROFESSIONAL SERVICES DELIVERY

WDC contracts out kerbside collection and recycling services. The Waitomo District Landfill and waste transfer stations are operated by WDC staff. All non-routine maintenance, renewal and new works are contracted out. The management of these contracts is undertaken by WDC's in-house resources.

Asset management services are provided internally by WDC staff. Specialist investigation and design is outsourced to appropriately qualified consultants.

## 4. SIGNIFICANT EFFECTS OF PROVIDING THE ACTIVITY

Positive Effects	Potential Negative Effects	Mitigation
Maintaining / improving community health and wellbeing through the provision of an effective waste collection, recycling and disposal system	Malodour from landfill can impact on quality of life and amenity.	Daily processing and covering of landfill waste
Robust planning and design avoids adverse effects on the environment and efficient reuse of resources	Leachate from landfills and transfer stations sewers has the potential for negative impact on the environment	Leachate collections systems installed
Provides means for the reuse of solid wastes	Additional costs of Emissions Trading Scheme will impact on viability of district landfill	Extend the landfill life coincident with loan amortisation period
An effective waste management system helps to protect traditional cultural values	Leachate discharges from landfill can have a damaging effect on both the physical and cultural attributes of the receiving environment	Leachate collections systems installed

## 5. TERM OF THE PLAN

This AMP covers the period 1 July 2015 to 30 June 2025, however it will be reviewed every three years to contribute to and inform the LTP process.



## SECTION 4 – STRATEGIC ENVIRONMENT

### 1. VISION

Councils Vision for the 2015-25 Long Term Plan is:

***“Creating a better future with vibrant communities and thriving business”***

Council’s Solid Waste Group supports this vision by:

- Protecting public health and safety
- Enabling economic growth
- Using natural resources in a sustainable manner
- Promoting efficient waste management that minimises environmental harm

### 2. COMMUNITY OUTCOMES

The Local Government Act 2002 requires local authorities to identify Community Outcomes for their districts. The 2010 Amendment to the LGA has altered the definition of Community Outcomes. Under the LGA 2010 Amendment, Community Outcomes mean the outcomes that the Council aims to achieve to meet the current and future needs of the communities for good quality local infrastructure, local public services, and performance of regulatory functions in a way that is most cost-effective for households and businesses. Section 1 of Schedule 10 provides that Council must, to the extent determined appropriate by Council, describe the Community Outcomes for the District.

Council considers in its 2015-2025 Long Term Plan that the Solid Waste Activity contributes to the following community outcomes:

#### **Vibrant Communities**

***CO5 - A place where we preserve the natural environment for future generations, ensuring that natural resources are used in a sustainable manner***

#### **Effective Leadership**

***CO8 A place where the development of partnerships for the delivery of programmes and services is encouraged and pursued***

#### **Sustainable Infrastructure**

***CO10 - A place that provides safe, reliable and well managed infrastructure which meets the District community needs and supports maintenance of public health, provision of good connectivity and development of the District***

### 3. STRATEGIC GOALS

Council has developed the following Strategic Goals for this activity:

Strategic Goal 1: Ensure the safe disposal of solid waste to protect our natural environment.

Strategic Goal 2: Minimise waste disposal within the district

### 4. RATIONALE FOR COUNCIL INVOLVEMENT

This Activity exists to ensure that the natural environment and public health is protected from detrimental effects of solid wastes, and that the waste disposal needs of the District community are met.

### 5. THE EXTENT OF COUNCIL’S RESPONSIBILITY

WDC is the primary service provider for the planning, construction, maintenance and operation of the community solid waste recycling and disposal systems within Waitomo District.

The Activity comprises a number of elements including kerbside refuse and recycling collections, transfer stations, and landfill. Council manages these services by planning and coordinating the appropriate facilities, programmes and service delivery.

## 6. KEY STAKEHOLDERS

In addition to the general public, there are a number of key external stakeholders who have an important role in the planning and delivery of service standards for the District's solid waste activity. They include:

### External

- Ratepayers
- Council's solid waste management collection contractor (currently Envirowaste)
- Waikato Regional Council
- Ministry of Health (Medical Officer of Health)
- Ministry for the Environment
- Ngati Maniapoto

There are a number of internal stakeholders who have had involvement in the development of this AM plan as part of the cross organisational project team referred to above:

### Internal

- Councillors
- Chief Executive
- Asset managers and AM staff
- Finance Manager
- Information Technology Manager
- Customer Services Staff

## 7. LINKS TO OTHER PLANNING DOCUMENTS

The key internal planning document influencing this AMP is Council's 2015 – 2025 Long Term Plan (LTP) which sets out Council's role in maintaining and promoting community well-being of the district. The AMP is a "tactical" plan in support of the Council's LTP, with linkages to the Council's District Plan, Structure Plans and Council bylaws pertaining to transport related matters.

The following table summarises the linkages between AM plans and the other key components of the strategic planning and management of Council:

- |  |   |
|--|---|
| <ul style="list-style-type: none"><li>• <b>Long Term Plan</b></li></ul>        | The broad strategic direction of Council set in the context of current and future customer requirements, many of which relate to the performance and financial requirements of the assets which are the subject of AM planning. The AMP is the means for developing appropriate strategies and policies for the long term management of Council's assets, and the basis for analysing the impact of Corporate strategic options on levels of service and long term funding needs. |
| <ul style="list-style-type: none"><li>• <b>Annual Plan</b></li></ul>           | The service level options and associated costs developed in the AMP are fed into the Annual Plan consultation process.  |
| <ul style="list-style-type: none"><li>• <b>Financial Strategy</b></li></ul>    | Financial plans developed in each AMP are consolidated into the short and long term programmes of Council. AMPs improve financial planning by identifying planned long term maintenance and operation programmes and provides justification for works programmes and levels of funding.   |
| <ul style="list-style-type: none"><li>• <b>Business Plans</b></li></ul>        | The service levels and budgets defined in an AMPs are incorporated into Business Plans as performance measures for each Department and individuals.   |
| <ul style="list-style-type: none"><li>• <b>Contracts</b></li></ul>             | The service levels, strategies and information requirements contained in the AMP become the basis for performance orientated Contracts let for service delivery   |
| <ul style="list-style-type: none"><li>• <b>Corporate Information</b></li></ul> | Quality AM is dependent on suitable information and data. This requires the availability of sophisticated AM systems which are fully integrated with the wider corporate information systems (e.g. financial, property, GIS, customer service, etc.).   |

This AMP should be read in conjunction with the Waitomo District Council's Long Term Plan 2015 – 2025. It is based on confirmed levels of service, currently available information and the knowledge of Council staff and contractors.

The Solid Waste AMP has synergies with the wastewater activity. The latter is pivotal in removing or mitigating the adverse effects of liquid wastes on the environment. Sludge from the wastewater treatment plant is disposed at the Waitomo district landfill.

At an external level, this AMP is consistent with Waikato Regional Council's operative Regional Policy Statement and its Waste and Resource Efficiency Strategy 2012-2015. The former has a significant impact on levels of service at the WDC's closed and active landfills.

## **8. ACTIVITY MANAGEMENT STRATEGY & POLICIES**

Activity Management practices undertaken through contract procurement is reviewed and made more timely and relevant to the requirements of the Solid Waste activity group as time goes.

The Activity Management policies and strategies guide and integrate Activity Management practice for Solid Waste activity within WDC. The Activity Management policy states the overall intention and includes such items of Activity Management as:

- focusing on delivering the required level of service to existing and future customers in the most cost-effective way
- ensuring legislation, regulatory and statutory requirements will be complied with
- long term stewardship of assets, with planning undertaken for a minimum of 10 years
- commitment to continuous improvement of Activity Management, with consideration to a correlation between the nature and scale of Council assets and Activity Management.
- risk management to support all activity management activities
- activity management is directed to the achievement of community outcomes and strategic goals as stated in the Long Term Plan
- activity management outputs will be communicated to relevant employees and third parties to ensure they are aware of their Activity Management responsibilities.
- periodic reviews will be carried out to ensure the AMP remains relevant

## SECTION 5 - LEVELS OF SERVICE

### 1. INTRODUCTION TO LEVELS OF SERVICE (LoS)

The statutory background against which solid waste services are provided goes beyond simply enabling the Council to provide and maintain these services. Either directly (e.g. the Resource Management Act) or indirectly (e.g. through consultation required with key organisations under the Waste Minimisation Act 2008), statutory processes can impose minimum levels of service beyond those identified by the community. The ensuing cost of compliance with statute and regulation (e.g. Health and Safety in Employment Act requirements) is transferred back to the ratepayer and user through contract payments at the time of Solid Waste operation and maintenance.

Levels of service are defined in the NAM's International Infrastructure Management Manual as the identified service quality for a particular activity (e.g. solid waste) or service area against which service performance may be measured. Service levels usually relate to quality, quantity, reliability, responsiveness, environmental, acceptability and cost.

An objective of AM planning is to match the level of service provided by the asset with the expectations of customers. AM planning will enable the relationship between level of service and cost of service (the price/quality relationship) to be determined. This relationship can then be evaluated in consultation with customers to determine the optimum level of service they are prepared to pay for.

Defined levels of service can then be used to:

- Inform customers of the proposed type and level of service to be offered.
- Develop AM strategies to deliver the required level of service.
- Measure performance against these defined levels of service.
- Identify the costs and benefits of the services offered.
- Enable customers to assess suitability, affordability and equity of the services offered.

### 2. LEVELS OF SERVICE DRIVERS

The following LoS drivers define the need for, and scope of, all services provided by the activity:

#### Statutory and Requirements

Statutory requirements set the minimum standards of service which the water supply activity has to meet and are generally not negotiable. The relevant legal requirements include:

- Local Government Act 2002
- Waste Minimisation Act 2008
- Resource Management Act 1991
- Health Act 1956
- Health and Safety in Employment Act 1992
- Building Act 2004
- Council Bylaws and Policies

#### Local Government Act 2002

The Local Government Act 2002 required all territorial authorities to adopt a waste management plan (WMP) by 30 June 2005. The Act further requires that either a summary of the waste management and minimisation plan (WMMP) in force at the time, or the full, proposed WMMP, must be contained in the Council's Long Term Plan. The WMMP must be adopted using the special consultative procedure prescribed in the Act.

#### Waste Minimisation Act 2008

The Waste Minimisation Act 2008 (WMA) came into force on 26 September 2008. The Act aims to protect the environment from harm by encouraging the efficient use of materials and a reduction in waste, with consequent environmental, social cultural and economic benefits.

Territorial authorities are now responsible under the WMA for implementing waste and management plans, and overseeing and promoting effective and efficient waste management and minimisation in their districts in accordance with the New Zealand Waste Strategy (NZWS).

Waitomo District Council has a statutory responsibility to promote effective and efficient waste management and minimisation within the Waitomo district under section 42 of the Act and to review its Solid Waste Management and Minimisation Plan (SWaMMP) no later than every six years (next review due by 1 July 2018). Prior to completing a review, the Waste Minimisation Act 2008 requires Councils to complete a waste assessment and to have regard to the assessment in preparation of the plan. The

assessment provides the necessary background information on waste and diverted material streams to determine priorities. The required assessment is included in the WMMP.

A key element of the Act is the introduction of a \$10 per tonne levy on all wastes to landfill. The purpose of the levy is to increase the price of waste disposal to better reflect the cost of waste on the environment, society and the economy and to generate money for waste minimisation initiatives.

### **Resource Management Act 1991**

The Act requires Council to manage the use, development and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic and cultural well-being and for their health and safety while:

- Sustaining the potential of natural and physical resources to meet the reasonable foreseeable needs of future generations.
- Avoiding, remedying or mitigating any adverse effect of activities on the environment.
- Safeguarding the life-supporting capacity of air, water, soil and ecosystems.

In managing the use, development, and protection of natural and physical resources Council must:

- recognise the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu and other taonga and comply with.
- take into account the principles of the Treaty of Waitangi in exercising functions and powers under the Act relating to the use, development, and protection of natural and physical resources.
- comply with planning documents prepared under the Resource Management Act that impact on the management of wastewater assets, which include the Regional Plan prepared by the Waikato Regional Council (refer to Appendices 6, 7 and 8) and Council's District Plan and Water Bylaw.
- comply with discharge consents issued by the Waikato Regional Council for disposal of treated effluent, disposal of bio solids and sludges to land, and discharge to air.

### **Health Act 1956**

The Act requires:

- Local Authorities to provide 'sanitary works', the definition of which includes waterworks, drainage works, wastewater works, works for collection and disposal of refuse, cemeteries and crematoria and includes all lands, buildings, machinery, reservoirs, dams, tanks, pipes and appliances used in connection with any such works.
- Empowers the Minister to require local authorities to undertake works necessary to protect public health.
- Requires provision in any dwelling house of suitable appliances for the disposal of refuse water and sufficient sanitary conveniences.
- Empowers councils to make bylaws covering conditions to be observed in the construction and approval of drains.

### **Health & Safety in Employment Act 1992**

Council must ensure the safety of the public and all workers (including contractors) when carrying out, inter alia, solid waste activity works.

### **Building Act 2004**

Requires Council to ensure all buildings and facilities constructed comply with this Act, including dams and retaining walls.

### Emissions Trading Amendment Act 2008 (ETS)

The Climate Change (Emissions trading) Amendments Act 2008 (ETS) requires landfill owners to purchase emission trading units to cover emissions generated from the landfill.

The net impact on the waste sector significantly increased the cost of disposal of residual rubbish at small (<1.0 million tonne) landfills. The impact from the ETS, particularly if combined with the landfill levy in Waitomo lead to investigation of alternatives to land filling residual waste.

### New Zealand Waste Strategy

The Ministry for the Environment, in consultation with Local Government New Zealand, published its first NZWS in 2002. The Strategy was reviewed in 2010 which now replaces the 2002 New Zealand Waste Strategy.

The New Zealand Waste Strategy sets out the Government's long-term priorities for waste management in New Zealand. The Strategy's two goals provide direction to local government, businesses (including the waste industry), and communities on where to focus their efforts in order to deliver environmental, social and economic benefits to all New Zealanders. The goals are:

- reducing the harmful effects of waste
- improving the efficiency of resource use.

The Strategy's flexible approach will ensure waste management activities are appropriate for local situations. The Strategy provides national guidance for waste management and provides a framework to support local and central government to move towards common goals and address particular waste issues.

The WMA (Section 44) requires that Council have regard to the NZWS or other such policy which is subsequently developed, when preparing a SWaMMP.

### **Waitomo District Solid Waste Bylaw 2009**

The purpose of this bylaw is to ensure that household waste is reduced, collected and disposed of in the interests of public health and in an efficient and cost effective manner, provide for the efficient collection and recovery of recyclable waste and manage waste management facilities for the optimum disposal or recycling of waste.

### **Other Drivers**

#### **Customer service**

Customers require that agreed levels of road maintenance, management and construction services be delivered reliably, efficiently and economically. The use of AM techniques provides the following benefits in satisfying these demands;

- Focuses on identifying and satisfying customer requirements.
- Provides the basis for customer consultation for determining level of service preferences by identifying the range and cost of service level and service delivery options
- Improves reliability of asset performance and availability of consequent services to the customer
- Enhances customer confidence that funding is being allocated in an equitable and cost effective manner and that assets are being well managed
- Improves understanding of service level options and requirements.

#### **Financial Responsibility**

The Local Government Act 2002 places an emphasis on the preparation of long term strategic financial planning. The Act requires Local Authorities to:

- prepare and adopt, every three years, a long term (10 years plus) financial strategy which takes into account asset creation, realisation, and loss of asset service potential
- in determining their long term financial strategy, consider all relevant information and assess the cost/benefit of options
- adopt a financial system consistent with generally accepted accounting practices.

The implementation of the optimised work programmes and resulting long term financial forecasts in this AMP for the management of WDC's sewerage infrastructure is the means of complying with the above requirements.

This AMP provides justification for forward work programmes and provides the ability to even out peak funding demands and account for changes in asset service potential.

#### **Environmental Responsibility**

Council is required under the provisions of the Resource Management Act to provide solid waste services in an environmentally responsible manner. This AMP demonstrates how Council is addressing sustainable management of its physical resources and environmental protection issues associated with the maintenance and development of solid waste disposal assets.

#### **Safety**

Asset management planning addresses Council's safety obligations through the;

- adoption of appropriate safety standards for the creation of new assets.
- specification of works to maintain assets in a safe condition.
- enforcement of safe operating and work practices.
- compliance with industry standards and codes of practice.

#### **Efficiency and Effectiveness**

WDC manages community solid waste infrastructure on behalf of the affected district ratepayers. Delivery of agreed LoS needs to be carried out in a manner that can be shown to be both effective and efficient.

The techniques of asset management support economic efficiency by;

- providing a basis for monitoring asset performance and utilisation
- enabling asset managers to anticipate, plan and prioritise asset maintenance and renewal works
- identifying under funding of asset maintenance and replacement
- quantifying risk, allowing the minimisation of high impact (financial and service level) failures and environmental effects and resulting in savings where asset renovation is less than for replacement
- extending the life of an asset by optimising maintenance and refurbishment.

### Corporate Profile

Council aims to be a customer focused organisation and a good corporate citizen. AM planning reflects this corporate aim.

### 3. METHODOLOGY

The first step is to identify the key service criteria for each service area from the customers perspective (the objectives of the services provided) and identify defined levels of performance for key service criteria.

Asset managers then plan, implement and control both the technical or outcome related dimensions and the functional or process related dimensions of service levels. These technical and functional dimensions are not always independent of each other. In some cases high technical quality may contribute to high functional quality or vice versa.

Recognition of the differences and relationships between the technical and functional levels of service is an important part of understanding levels of service.

Typical Technical Levels of Service	Typical Customer Levels of Service
Process related – measures define how the customer receives the service	Outcome related - measures define what the customer receives in an interaction with WDC
Quality – bacteriological, nutrient levels	Intangibles
Quantity	Responsiveness
Availability	Courtesy
Legislative requirements	Assurance (knowledge, trust, confidence)
Maintainability	Empathy (understanding, individual attention)
Capacity	Cost
Reliability and performance	Safety
Environmental impacts	Comfort
Cost / affordability	Cost/affordability
Comfort	Availability
Safety	Safety
Reliability and performance	Reliability

### 4. STATEMENT OF SERVICE PERFORMANCE

The following levels of service, performance measures and targets correspond to the DIA mandatory measures for the Solid Waste activity:

LEVEL OF SERVICE	PERFORMANCE MEASURE	PERFORMANCE TARGET
Users find the recycling facilities safe to use.	Percentage of users rate the safety of Council's recycling facilities as satisfactory or better.	75%
Provision of effective waste service for the community.	Customer satisfaction survey rating on waste transfer stations.	60%
The solid waste management facilities feel safe to the user.	Percentage of users rate the District's waste transfer stations safe to use.	70%



LEVEL OF SERVICE	PERFORMANCE MEASURE	PERFORMANCE TARGET
Users find the landfill facility safe to use.	Percentage of users rate the safety of Council's landfill facility as satisfactory or better.	75%
The solid waste management facilities are open and accessible to users at advertised times.	Number of complaints per month due to facilities not being open at advertised times.	< 1
Reduce quantity of recyclables like paper and plastics in bag collection that goes to landfill.	Percentage of reduction per annum leading to 15% reduction by 2025 achieved through continual education (both measured against the 2014 Biennial Waste Audit).	1.5%
Reduce the quantity of organic waste like food scraps etc in bag collection that goes to landfill.	Percentage of reduction per annum achieved through continual education leading to 10% reduction by 2025 (measured against the 2014 biennial Waste Audit).	1.0%
Provision of an effective solid waste service for the community.	Average Number of complaints received per month regarding solid waste activities.	≤ 10

## 5. RESIDENT SATISFACTION

The current services can be summarised as provision of safe, effective and accessible recycling and waste disposal services. They include weekly kerbside collection of recyclables and bagged refuse, transfer stations and promotion education of waste minimisation practices.

The 2014 Resident Satisfaction Survey identified high usage of the kerbside bagged refuse collection service (61% of those who responded to the survey), followed by moderate usage of kerbside recycling collection and refuse/recycling facilities at the landfill (41% and 46% of those who responded to the survey, respectively). Only 29% of those who responded to the survey had used the community based transfer stations.

In terms of levels of satisfaction, 92% of responses were satisfied (61%) or very satisfied (31%) with safety at recycling facilities and transfer stations. 78% were satisfied (61%) or very satisfied (17%) with the provision of rural transfer stations and 90% were satisfied (72%) or very satisfied (18%) with the quality of rural transfer stations. 94% of respondents were satisfied (67%) or very satisfied (26%) with the quality of the landfill facility.

Given the predominance of "satisfied" over "very satisfied" responses, the levels of service are not being over-delivered, and align well with current performance targets.





Adding colour to Marokopa transfer station

#### **6. GAPS IN LEVELS OF SERVICE**

Potential areas of review, based on the reasons given by the minority of respondents for dissatisfaction, include the tidiness of recycling/transfer stations (broken glass etc), frequency of emptying bins at transfer stations and operating hours, and the price of refuse bags.

## SECTION 6 - FUTURE DEMAND

The main drivers of demand for solid waste activity are:

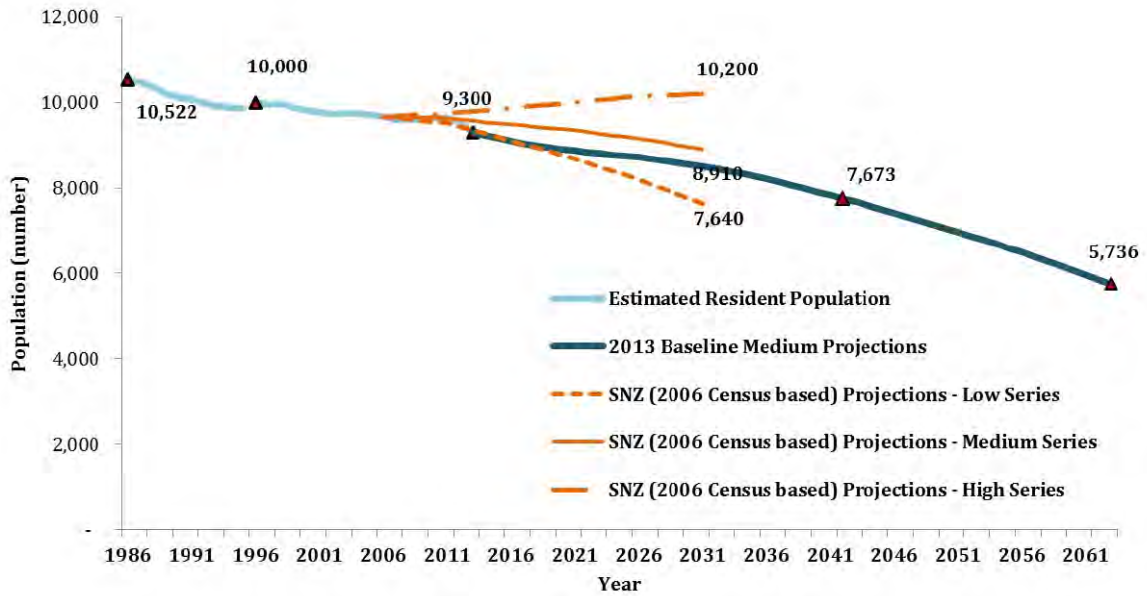
- Population growth and incidence of settlement
- Land use activities (e.g. land development, tourism and coastal settlements)
- Community expectations

### 1. POPULATION

The district resident population has experienced a slight decline over the 2006 to 2013 inter-census period. The future population forecast prepared by the National Institute of Demographic and Economic Analysis (Waikato University) predicts a continuation of this downward trend for the district over the next 50 years. At a micro level, this pattern of population decline is expected to be consistent, more or less, across the district, including the coastal communities that were previously areas experiencing highest growth and demand.

Waitomo District	Census usually resident population count			Population Change		
	2001	2006	2013	2001-2006	2006-2013	2001-2013
<b>Area Units</b>						
531500 Piopio	468	468	393	0	-75	-75
531600 Taharoa	246	216	231	-30	15	-15
531710 Mahoenui	528	480	399	-48	-81	-129
531720 Marokopa	1,569	1,572	1,536	3	-36	-33
531731 Waipa Valley	960	984	1,050	24	66	90
531732 Tiroa	72	81	51	9	-30	-21
531800 Mokauiti	1,218	1,182	1,029	-36	-153	-189
532000 Te Kuiti	4,392	4,455	4,218	63	-237	-174
619201 Inlet-Waitomo District	-	-	-			
<b>Total Waitomo District</b>	<b>9,453</b>	<b>9,438</b>	<b>8,910</b>	<b>-15</b>	<b>-528</b>	<b>-543</b>

The graph below presents the 2013-base medium population projection for Waitomo District to 2063, along with historical population estimates from Statistics New Zealand back to 1991. The 2006-base Statistics New Zealand (SNZ) high, medium and low projections (October 2012 update) are also included for comparison.

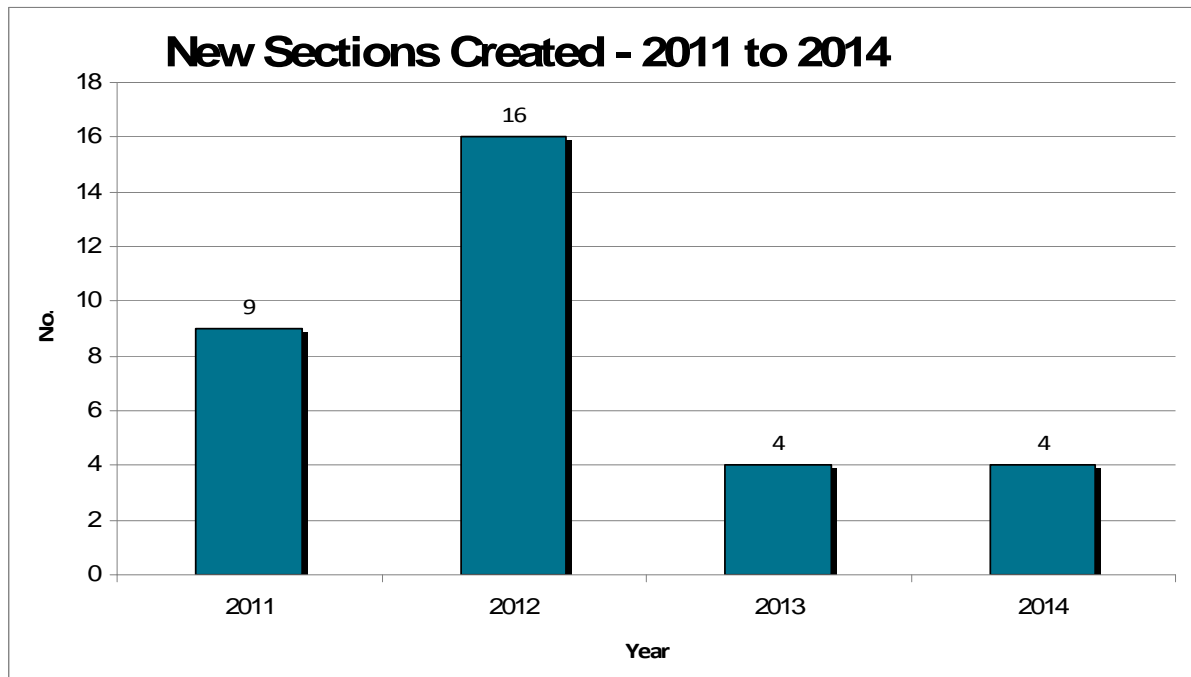


**Fig.: Baseline Medium Population Projections for Waitomo District and Comparison with Statistics NZ (2012) Sub-national Projections**

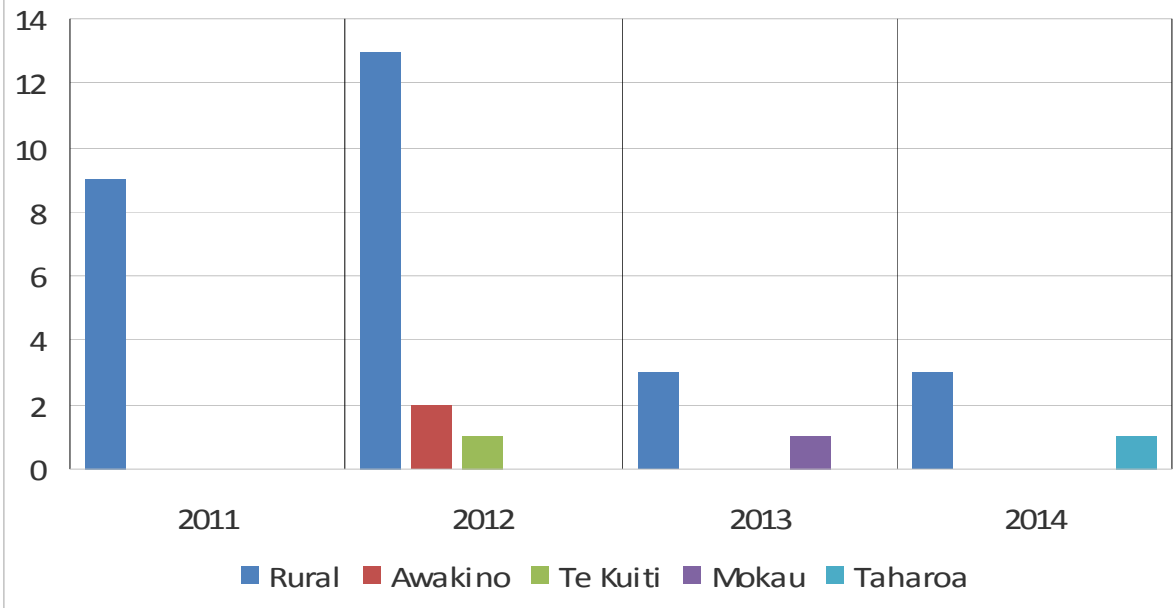
Overall, the demographic and development trends show that there is no population based demand for growth related infrastructure at the present time or in the foreseeable future.

## 2. LAND-USE DEVELOPMENT

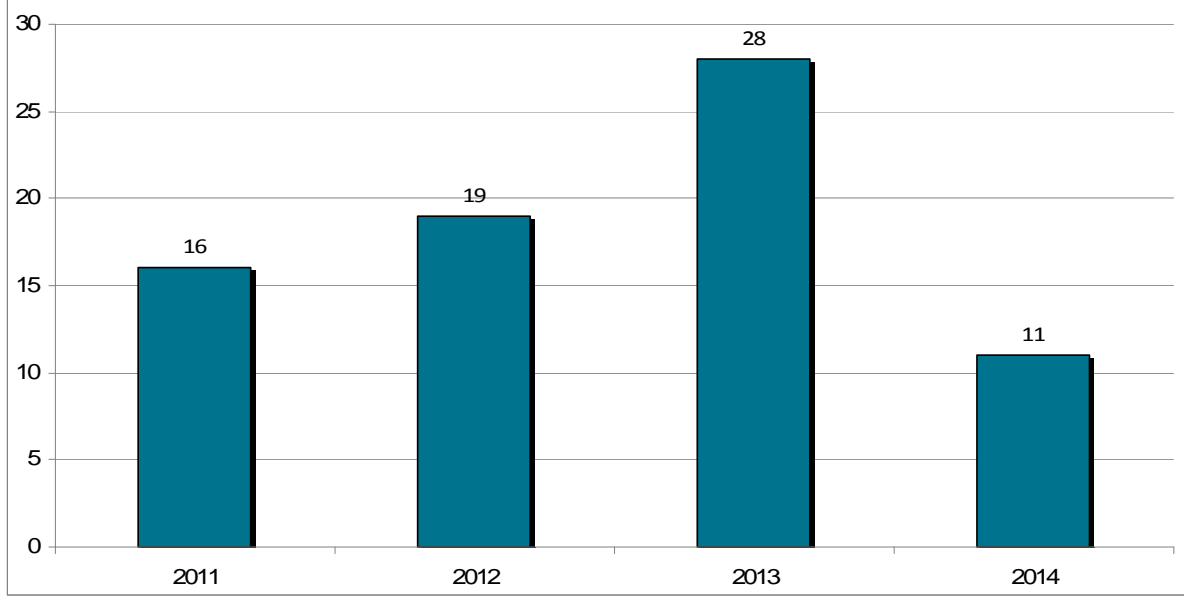
From a recent, informal, desktop planning exercise, drawing from development proposals which are known to officers and/or are in the early stages of consent processing, it has been identified that further growth is unlikely to place pressure on the provision of Council services. Indications are the recent trends of relatively slow development are likely to continue into the foreseeable future. It is expected that any increase in demand from residential development over the term of this AMP will be minor and won't impact on the existing capacity of the Solid Waste Activity..

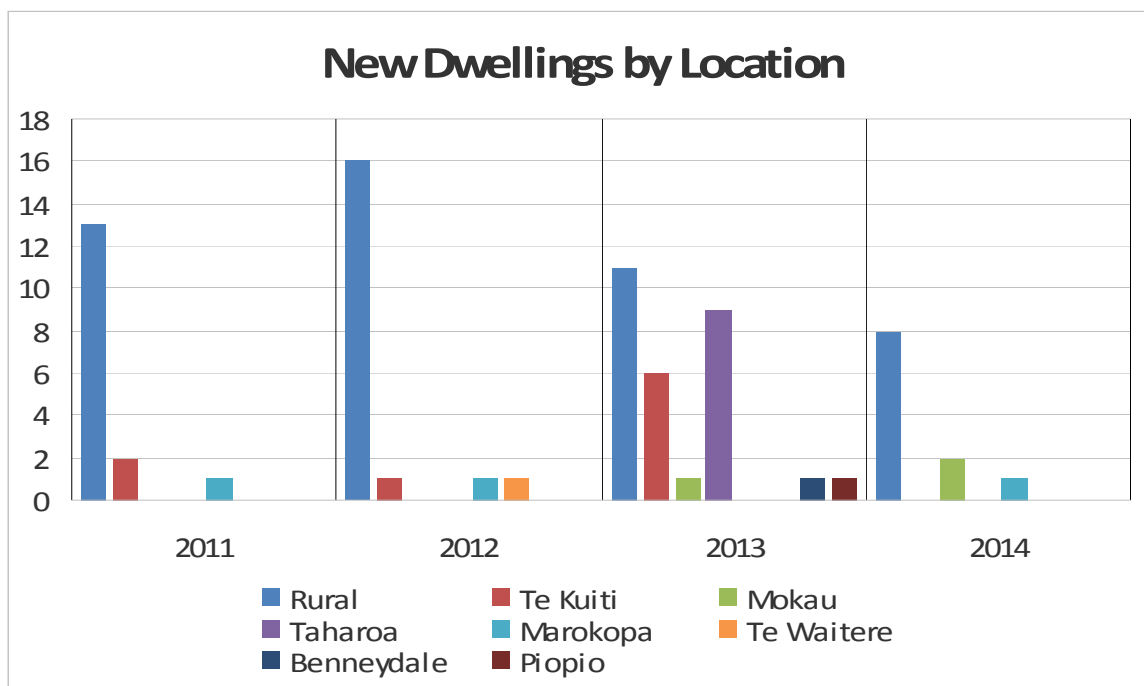


### New Sections Created - by Location



### New Dwellings





Of interest are the nine new houses at Taharoa during 2013. These were all relocated dwellings for the NZ Steel Mining Company, potentially indicating an increased scale of operation at that location.

The current agricultural and pastoral based economy is expected to remain predominant in the district, with growth very dependent on economic conditions and export opportunities. Industrial growth, which can have a significant impact on solid waste, is partly dependent on attracting new industries into the urban centres.

#### Urban Infill and Expansion

The District Plan allows for smaller lot sizes in the residential zone where sewerage services are available, defined by minimum yard separation distances and maximum building site coverage of 35%, without resource consent. Otherwise, a minimum lot size of 2500m<sup>2</sup> is required.

With reticulated sewerage in place, infill development can occur in residential areas as a permitted activity, with minimum lot sizes reducing to 300m<sup>2</sup>. In a "Greenfield" residential development with reticulated sewerage, the minimum lot size is 600m<sup>2</sup>

Further development, especially in the form of lifestyle blocks around the Te Kuiti/Oparure rural areas, has and can occur but with only minor impact on existing solid waste infrastructure. A development pattern comprising lifestyle blocks of 1.0 to 5.0ha units has occurred around Te Kuiti, together with an earlier trend towards infill subdivision in Te Kuiti itself. Current lot sizes average 1,000m<sup>2</sup>, with infill allowing surplus land to be used for residential property development.

This above could potentially facilitate a greater demand for solid waste services, within existing communities, but is unlikely given the outlook on population growth.

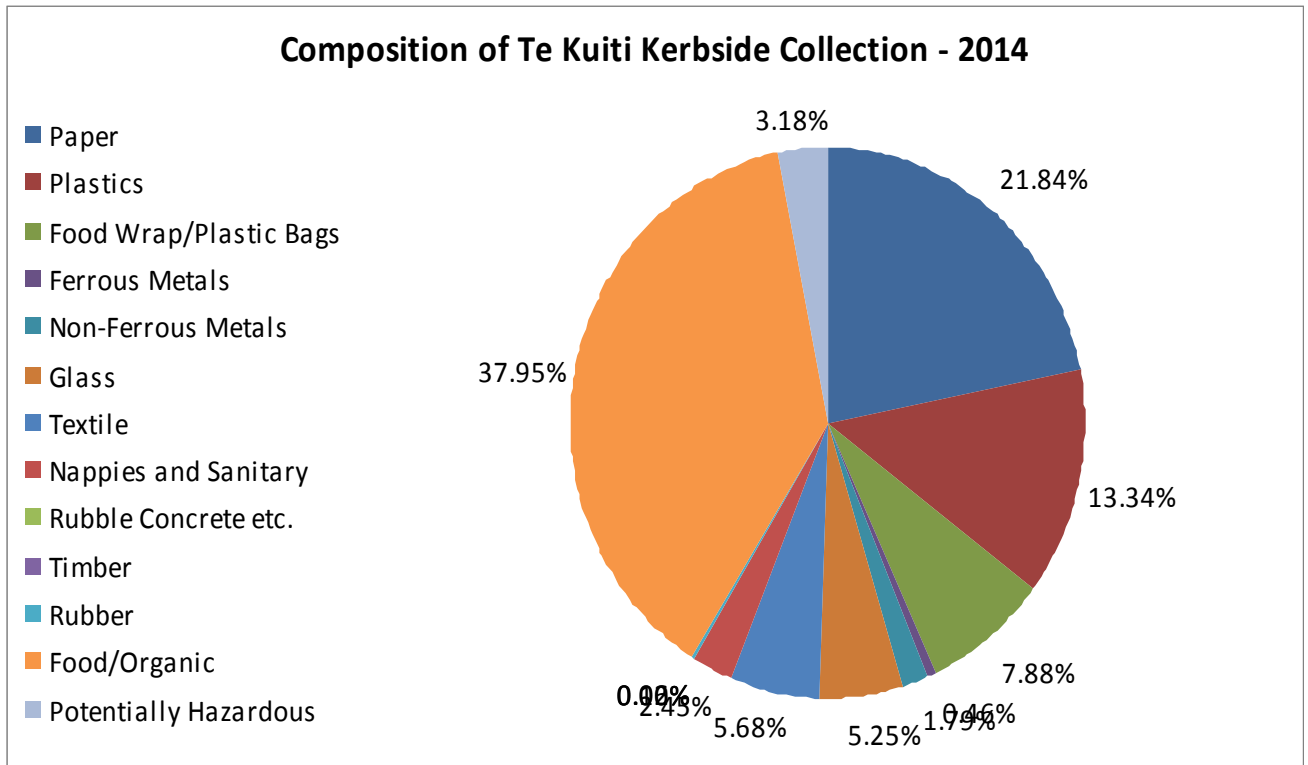
### **3. COMMUNITY EXPECTATIONS**

The following trends are expected to impact on the quantity and quality of solid waste services provided:

- Continued public demand for waste recycling and diversion from landfill
- Increasingly stringent resource consent conditions for landfills

The known waste sent to landfill from kerbside and refuse transfer station collections for the 2012/2013 year was approximately 7,600 tonnes (Source: WDC's waste data collection). Recyclables collected from kerbside and refuse transfer stations for the same year is approximately 1,650 tonnes. These totals do not represent all waste and diverted materials for the district; in rural areas on-site disposal occurs. Although rural transfer stations include recycling and disposal facilities, people still have to travel to these points and therefore waste minimisation and capture of recyclable or recovered materials decreases. If this waste was dealt with through the transfer stations, data on waste to landfill and waste minimisation would be more accurate.

There is potential for increased diversion to occur through the kerbside collection. The bags surveyed in 2014 contained approximately 45% by weight of potential recyclable material. It is evident that more emphasis on encouraging the recycling of organic material (home composting) and separation of paper and plastics is required for both residential and commercial properties.



#### 4. DEMAND IMPLICATIONS

The implications of these demand trends on the quantity and quality of solid waste services over the next 30 years will be:

- Future operating and maintenance costs associated with the solid waste infrastructure in general can be expected to increase within the planning period.
- The impact of increased resource recovery through waste minimisation will result in higher unit operating costs for disposal of reducing volume of residual wastes at the landfill
- Relatively minor changes to LoS could have major impacts on costs.
- Consent standards and workplace health and safety requirements for operating the collection, landfill and transfer stations will increase costs

In the meantime, no provision has been made over the term of this AMP for additional solid waste infrastructure due to the "no-growth" population forecast.



## SECTION 7 - RISK MANAGEMENT

### 1. RISK MANAGEMENT CONTEXT

Risk identification and management for the Solid Waste Activity has been modelled on AS/NZS 4360. A pragmatic approach has been taken to risk management. In identifying risk events they have been grouped into:

- Natural events, where there is no real control over the timing or extent of the event, although probabilities may be understood, e.g. floods, lightning strikes, earthquakes.
- External interdependencies, where other service providers are not providing services which impact on the organisation or individuals, e.g. power supply failures, material supply failures.
- Physical failure risks, where condition or performance of the asset could lead to failure.
- Operational risks, where management of the asset or asset management activities may impact adversely on the asset. This includes unsustainable, funding deficiencies

As well as direct impacts on assets, the events will usually pose a risk by impacting directly or indirectly on customers and possibly others.

The legal liability for nuisance, negligence and third party damage needs to be recognised. Consequences of failure are linked to the asset types and include:

- Repair costs
- Loss of income
- Loss of service
- Loss of life, or injury
- Health impacts
- Environmental impacts
- Damage to property
- Failure to meet statutory requirements
- Third party loss
- Loss of image

The probability of physical failure of an asset is related directly to the current condition of the asset, hence the importance of realistic and accurate condition assessment.

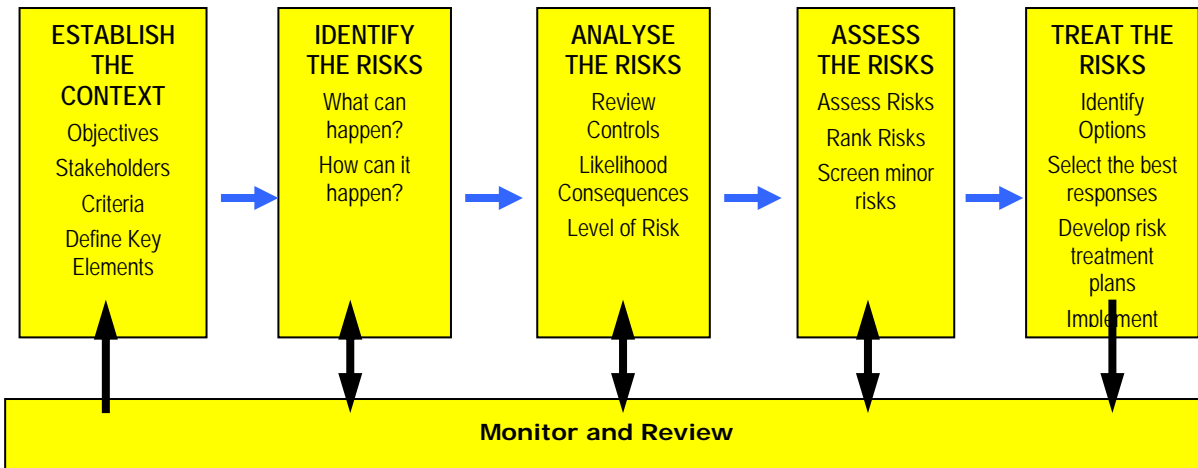
The effort put into assessing and managing risk needs to be proportional to the risk exposure. A practical approach has therefore been taken to risk management in identifying risk events. They have been grouped into:

- External impacts, where other service providers fail to provide key services which impact on the organisation or individuals, e.g. power supply failures, material supply failures.
- Physical failure risks, where condition or performance of the assets could lead to failure.
- Operational risks, where management of the asset or asset management activities may impact adversely on the asset.

The Solid Waste Activity is an essential component of the community's lifelines. Along with roading, water, wastewater and energy/communications, the assets employed provide an essential service necessary for the Waitomo community to continue to function during and after a natural disaster.

The risk standard AS/NZS 4360:2004 is the formal framework used for risk management.

**Risk Management Framework (Refer AS / NZS 4360)**



**2. RISKS TABULATION**

The following table lists the risks rating matrix:

Consequence ↑	Major Extraordinary Events	Strategic Imperatives "Action"
	Minor or Insignificant	Operating and Compliance Risks
	Likelihood (probability of failure)	→

Risks are aligned to: Public Health; Environment; Security of Service; Quality; Asset Protection and Capacity.

The following table explains the risk rating matrix used to assess the risks tabulated below for the water supply activity assets. Risk is assessed as the product of Consequence and Probability, thus a high likelihood of the event occurring with a major consequence leads to an extreme risk that requires immediate action.

EVENT	Consequence				
	E Negligible	D Minor	C Moderate	B Major	A Catastrophic
<b>9 - 10 Almost Certain</b>	Moderate	High	High	Extreme	Extreme
<b>7 - 8 Likely</b>	Moderate	Moderate	High	Extreme	Extreme
<b>5 - 6 Moderate</b>	Low	Moderate	Moderate	High	Extreme
<b>3 - 4 Unlikely</b>	Low	Low	Moderate	High	Extreme
<b>0 - 2 Rare</b>	Low	Low	Moderate	High	High

**Table: Risk Rating**

Measures of likelihood or probability are explained in the table below:

Likelihood	Descriptor	Description	100% Probability of Failure	Probability
<b>9 – 10</b>	<b>Almost Certain</b>	The event is expected to occur in most circumstances	Within 1 year	0.9
<b>7 – 8</b>	<b>Likely</b>	The event will probably occur in most circumstances	Within 2 years	0.5
<b>5 – 6</b>	<b>Possible</b>	The event should occur at some time	Within 3 – 10 years	0.15



<b>3 – 4</b>	<b>Unlikely</b>	The event could occur at some times	Within 11 – 20 years	0.07
<b>1 – 2</b>	<b>Rare</b>	The event may occur but only in exceptional circumstances	After more than 20 years	0.02

**Table: Probability Table**

Measures of consequence or impact are explained in the table below:

Consequence	Descriptor	Financial	Technical	Personnel Incident or Accident	Social	Political	Commercial
1	Negligible	< \$10,000	Minimal impact to production	First Aid Treatment. Limited lost time	Minimal impact or disruption	Minimal Interest	Minimal Impact
2	Minor	> \$10,000 < \$50,000	Limited disruption & some loss of production	Medical treatment required. Lost time injury	Some disruption to normal access or community systems	Minor Impact or interest. Questions raised in local Forums. Local media reports	Claims from business or repairs to other services. Customers inconvenienced.
3	Moderate	> \$50,000 < \$500,000	Significant impact, production reduced or stopped for up to two weeks	Serious injury. Extended medical treatment required	Disruption to public access and other systems. Increased potential incidents.	Community discussion. Broad media cover. Questions raised in parliament.	Significant claims. Customers forced to other options. Questions from regulator.
4	Major	> \$500,000	Disruption and damage to system or incident involving other structure	Serious Injury or loss of life	Extensive disruption. Incidents / accidents involving the public	Loss of confidence in facility management. Corporate credibility affected.	Loss of substantial business opportunity. Rebuke or threat from regulator
5	Catastrophic	Very high. Extensive losses within & beyond the system	Extensive disruption and damage with broad impact on other infrastructure	Loss of more than one life and or extensive injuries	Broad impact on community health or the environment	Public furore and investigations. Management changes demanded	Loss of substantial part of business. Loss of licence for large area or region

**Table: Measures of Consequence or Impact**

### 3. OPERATIONAL RISKS

Operational risks are defined as those with potential for a major impact on environmental and public health service levels in the event of failure. These include failure to maintain the landfill leachate pump station. Also, waste reduction and diversion are the top order priorities and focus of the companion SWaMMP. The impact of not achieving the operational target of reducing the District's bag collection waste stream by 15% before 2016 is that the landfill will fill quicker and its life will be reduced accordingly. In the long term, beyond the life of the landfill, residual refuse will have to be carted to commercial waste disposal facilities and the smaller the quantity the lower the cost. The contra risk, however, is that there is a base cost of waste disposal attached to the landfill that has to be funded regardless of quantity, and effective waste minimisation directly increases the unit rate cost of waste disposal.

Although service delivery is separated from direct asset management of the solid waste management functions it is dealt with at a higher management level therefore the risk of lack of coordination between Council's planning and budgeting processes and the contractors' operational programme is small.

Of the two functions, the asset management function allows Council to best manage its ownership risks. The importance of obtaining and controlling reliable data to support the Council's planning and decision-making processes is high. By providing the activity and direct asset management function in house, Council is well placed to capture and retain the core data impacting on the planning, design, costing and performance of its services, manage its resource consent responsibilities, and implement the strategies outlined in this Waste Management Plan.

Risks associated with delivery of the collection, waste transfer stations and landfill can be mitigated by effective contract management including monitoring of contractor performance and ensuring regular reporting of core service and activity data. Council officers have the skills required to carry out this role.

### 4. MITIGATION MEASURES

Mitigation measures typically include design and engineering measures to strengthen the ability of the asset to withstand the hazard event and or prevent public access.

When an asset has failed or is expected to fail in the future, strategies are developed to avoid or react to the failure. If the failure mode of an asset is critical to the organisation, failure avoidance is likely to be more effective than reactive activities.

Depending on the failure mode, the strategies may include: changed maintenance activities, rehabilitation works, replacement works, back-up systems or abandonment of the asset.

These Strategies can provide a list of works, which may be further broken down into:

'Should Do' – Complete within 5 years

'Could Do' – Works which may possibly be deferred for 5 years

'Defer' – Works which can be deferred for 5 years based on the risk rating matrix above. The table below gives guidance on mitigation measures:

Risk Category	Action
Extreme	Immediate Action Required to reduce risk
High Risk	Treatment options must be reviewed and action taken to manage risk
Significant Risk	Treatment options reviewed and action taken dependent on treatment cost
Low Risk	Manage by routine procedures

Table: Risk vs Action

### 5. CRITICAL ASSETS

The critical solid waste assets have been defined as those which would have the greatest consequences, including major impact on minimum environmental and public health service levels, in the event of failure. Critical assets for the Solid Waste Activity are those assets in the Risk Assessment table below rated as having high criticality.

Failure of individual components of solid waste facilities could result in localised adverse effects, but are not of the same scale or intensity as the critical asset components. System failure could include capacity overload

due to high inflow/infiltration of sewers, leading to upstream overflow of raw sewage at manholes and low lying residential gully traps.

Financial risk is associated with the high cost of landfill development to meet environmental standards, the rehabilitation of reticulation to reduce inflow/infiltration and the required renewal programme to bring LoS to a reasonable standard and maintain it.

Asset criticality within the solid waste activity is summarised as follows:

Criticality	Asset Type
1 (Most Critical)	<ul style="list-style-type: none"> <li>Landfill liner</li> </ul>
2	<ul style="list-style-type: none"> <li>Leachate transfer pipelines</li> <li>Waitomo District transfer station</li> </ul>
3 (Least Critical)	<ul style="list-style-type: none"> <li>Local transfer stations</li> <li>Recycling facilities</li> </ul>

The rationale behind the selection of critical assets is that at the most critical level, the service could not continue to operate to an acceptable level of service if any one of the key components listed was to fail

## 6. NATURAL HAZARDS

The natural hazard events considered relevant to this AMP are those most likely to impact on lifelines as defined in the Civil Defence and Emergency Management Act 2002.

### Seismic event

A major earthquake with a shaking intensity of MM9 (return period of 1,000 years) would pose a major threat to WDC's solid waste assets. These include the landfill liner and the structural integrity of the transfer station facilities at Te Kuiti. Replacement of the leachate rising main with flexible joints and pipe material at the time of renewal, and seismic strengthening of relevant building structures, are means of mitigating the impacts of a major seismic event.

### Resilience to natural hazards

The main risks to the critical solid waste assets resulting from natural hazards relates to a significant earthquake, or flooding.

## 7. IMPACT OF RISKS ON PROGRAMME FUNDING

The funding of measures to protect solid waste assets from high risks would impact on current budget provisions. That in itself introduces a further risk; that asset condition may decline in the short term because of the diversion of funding away from core maintenance and renewal programmes in the absence of additional funding.

Further analysis of risk criticality and mitigation measures will be carried out over the next three years as part of the AMP Improvement Plan to quantify and prioritise priorities within available budgets.

## 8. RISKS AND RESILIENCE IMPROVEMENT PLAN

Aspects that require further development include:

- Further investigation and better information about the impact of natural hazards on the solid waste activity assets
- Further assessment of risk and programmes to mitigate risk in the light of the above investigations
- Development a more advanced approach to identifying critical assets that incorporates rating and other dimensions of criticality.
- Further assessment of current levels of resilience
- Develop a more comprehensive method of assessing resilience using risk based evaluation and optimised decision making tools to assist decision making around the desired level of resilience
- On-going review of the risk register

## SECTION 8 - LIFECYCLE MANAGEMENT

### 1. OPERATIONS

Operational activity is work or expenditure which is necessary to keep assets functioning and provide the service, such as the provision of bagged refuse collection and recycling services, education programmes, staff for planning and coordinating, consumable materials, resource consent applications and compliance, monitoring and investigations.

Operational requirements and procedures for:

- contract management
- technical specifications consultancy services brief template
- project management
- safety management systems
- resource consent register

are well documented on Council's intranet. Decision-making is based on a combination of local knowledge and the judgement of experienced staff together with adopted analytical procedures.

#### Consent Compliance and Renewal

Council is the holder of five separate consents issued by Waikato Regional Council authorising the current landfill operation and controlling the environmental effects of the activity, summarised as follows:

WDC holds five separate consents issued by Waikato Regional Council authorising the current Waitomo District Landfill operation and controlling the environmental effects of the activity. The consents attaching to the Waitomo District Landfill are summarised as follows:

Consent No.	Date Issued	Activity Authorised	Expiry Date
101753	8 February 1999	Placing up to 232,000 tonnes of Municipal waste onto or into land	31 December 2033
101754	8 February 1999	Discharge of contaminants into air	31 December 2033
124718	3 August 2012	Discharge of up to 0.65 m3 of leachate per day into the ground	31 December 2033

The leachate is all captured and piped to the Te Kuiti wastewater treatment plant where it becomes part of the consent compliance parameters for that operation.

The solid waste management and minimisation activity is subject to different work categories, defined as follows:

#### Operational Strategies

- Preparation quality AMP's based on a sound knowledge of customer needs and preferences,
- Optimising activity management practices and decision-making;
  - document existing, and develop new business processes
  - continue to collect AM data (physical attributes, waste stream data, asset performance/condition, and costs)
  - operate solid waste management assets in accordance with current Resource Consents.

Minimise activity costs by:

- considering all life cycle costs, including operational costs, when evaluating asset renewal/acquisition options
- identify, evaluate and introduce new technologies that may improve operational and management efficiency and modify standards as appropriate
- continue to observe competitive tendering procedures for asset operation, maintenance, renewal, and construction works
- Resource Consents:
  - Discharge consent applications will propose standards for quality, disposal method and operation, which reflect community wishes with respect to environmental protection, public nuisance and affordability.

## Operational Standards and Specifications

Operate assets and services in compliance with:

- this SWaMMP
- defined processes and procedures
- resource consents
- statutory requirements.

### 2. ROUTINE MAINTENANCE

Routine maintenance falls into two broad categories as follows:

- Planned (Proactive) Maintenance: Proactive inspection and maintenance works planned to prevent service disruption or asset failure.
- Unplanned (Reactive) Maintenance: Reactive action to correct asset or service malfunctions and failures on an as required basis (i.e. removal of illegally dumped waste).

In so far as the waste management assets are concerned, a key element of activity management planning is determining the most cost effective blend of planned and unplanned maintenance as illustrated below:

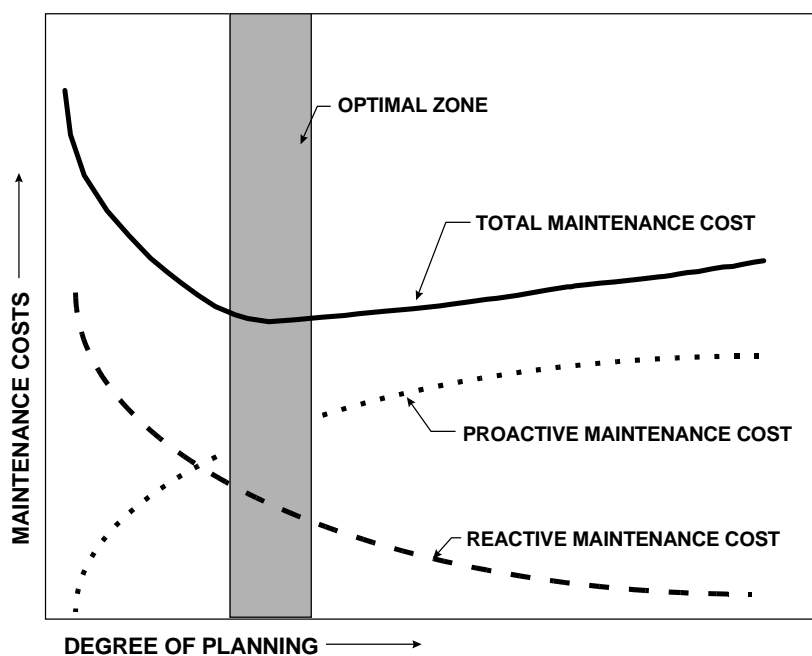


Figure: Balancing Proactive and Reactive Maintenance

### 3. RENEWALS

This includes replacement and rehabilitation of existing waste management infrastructure to its original condition and capacity. It applies to the infrastructure associated with Council's waste transfer stations, certain landfill components (access, fencing, drainage etc.) and recycling facilities.

The landfill disposal cells are unique in an asset management context in that the base, liners and leachate collection systems are constructed once. They are designed to operate over the life of the landfilling operation and ensuing after-care, with no programme for renewal once they have reached the end of their economic lives. They are, in effect, a sunk cost after the point of construction.

The required level of rehabilitation/renewal of the remaining waste management infrastructure will vary depending on;

- the age profile of the asset component
- the condition profile of the component
- the level of ongoing maintenance demand
- the differing economic lives of the materials used

The objective of rehabilitating and renewing the asset components is to apply the correct treatments at the optimum time so that the required level of service is delivered whilst minimising total life cycle costs.

#### 4. DEVELOPMENT WORKS

This section of the AMP covers strategies for the creation of new assets or programmes which upgrade, extend or improve an existing asset or service beyond its existing capacity or performance in response to changes in demand or customer expectations.



Cell 3 under development -2015

#### Development Strategies

Solid waste management assets and services are developed to meet community expectations, growth projections over the next 20 years, and technical and environmental standards.

A 10 year programme is essential to implement the long term vision for the activity and to confirm compliance with regional waste strategies and the strategic goals for growth and development of the District. This programme can be amended from time to time to accommodate the changing needs of the community.

New solid waste management works are identified on the following basis:

- Growth - ability to meet the most likely demand projections
- Regulatory - anticipated expenditure needed to obtain and comply with resource consents required under the Resource Management Act
- Operational efficiency - to reduce costs and improve efficiency

The selection criteria for the prioritising and programming of solid waste asset and service development projects is a function of Council interpretation of community preference, consideration of risk, costs and benefits, affordability and ranking with other projects. Criteria to be applied to Council funded projects include the following:



Priority	Selection Criteria for New Capital Works or Programmes
<b>1 (High)</b>	<ul style="list-style-type: none"> <li>▪ Proposed work or programme is consistent with relevant community outcomes and Council's SWaMMP</li> <li>▪ Work or programme is required for compliance with statutory obligations</li> <li>▪ Work or programme involves completion of an earlier stage of the project</li> <li>▪ Public health considerations represent a high proportion of the work or programme benefits</li> </ul>
<b>2</b>	<ul style="list-style-type: none"> <li>▪ Proposed work or programme is consistent with relevant community outcomes and Council's SWaMMP</li> <li>▪ Public health considerations represent a high proportion of work benefits</li> <li>▪ Work or programme is strongly supported by community at large through a process of public consultation or involves work funded by a targeted rate</li> </ul>
<b>3</b>	<ul style="list-style-type: none"> <li>▪ Proposed work is consistent with relevant community outcomes</li> <li>▪ Work or programme is strongly supported by local sector of community through a process of public consultation</li> <li>▪ Work or programme is justified on the basis of robust evaluation, but deferment would result in minimal loss of opportunity or additional cost</li> </ul>
<b>4</b>	<ul style="list-style-type: none"> <li>▪ Work or programme is supported by an interest group or small part of local community through a process of public consultation</li> </ul>
<b>5 (Low)</b>	<ul style="list-style-type: none"> <li>▪ Work or programme is discretionary and can be deferred with minimal loss of benefit to the community</li> </ul>

**Table: Selection criteria for new solid waste management works or services**

All options will be examined when evaluating upgrading options, including;

- status quo
- renovation or replacement
- augmentation
- disposal

#### **Funding of Additional Capacity**

Demand-related capital work will be funded principally from loan, maximising the use of external subsidies where possible. Additional solid waste management programmes will be funded from a combination of targeted rates and user charges (refer to Council's Revenue and Financing Policy in its Long Term Plan (LTP) for further details).

#### **Mode of Service Delivery**

Development works involving the construction of new assets and new or extended services is undertaken by an external contract.

#### **Viability of Landfill**

There are two key risks attendant with the waste management activity.

On one hand is the drive to minimise waste. On the other, the ability to access sufficient quantity of residual wastes from outside the District to maintain the financial viability of the landfill. Revenue from the current tonnage of 7 - 8,000 tonnes per annum is not sufficient to meet costs. A minimum of 12,000 tonnes per annum is required.

The additional cost of the Emissions Trading Scheme (ETS) contributes to making the operation of the landfill unaffordable. The landfill will never be of a viable size to justify mitigation through methane burn off or similar practices, therefore can be expected to always attract the full cost of the ETS scheme.

Within the middle North Island there are a number of large landfills operating with long term consents of 20 years or more so there is little opportunity for additional residual tonnage arising from a soon to be closed, neighbouring landfill and even less chance of competing with the ETS effectively. Even if there was, the scale of regional waste disposal exceeds what is available at Waitomo, and the haulage distance to the next closest landfill may only marginally favour Waitomo at best. The largest of the regional landfills, at Hampton Downs near Meremere, has a consented volume of 30,000,000m<sup>3</sup> over a term expiring in 2030. Its consent was issued in 2001.



A full detailed investigation will be undertaken over next three years and the issue addressed in the SWaMMP informing the 2018-28 LTP.

## **5. ASSET DISPOSAL**

Retirement or sale of surplus assets is generally concerned with the sale of surplus land and replaced structures, e.g. implement buildings associated with retired transfer station.

Also in this category is the after-care of the Waitomo District Landfill once it has been filled and/or after the consent period has expired. Monitoring, repair and intervention responsibilities for the landfill continue normally for 35 years after the consent expiry date.

Assets may become surplus to requirements for any of the following reasons:

- under utilisation
- obsolescence
- provision exceeds required level of service
- uneconomic to upgrade or operate
- policy change
- service provided by other means (e.g. private sector involvement)
- potential risk of ownership (financial, environmental, legal, social, vandalism).

Disposal activity for solid waste assets and facilities relates to the sale of surplus land, divestment or sale of the waste management assets including the landfill, and the demolition of structures.

### **Asset Disposal Strategies**

- Develop AM systems and asset condition/performance data to allow better planning for the disposal of assets through rationalisation of the asset stock or when assets become uneconomic to own and operate.
- When considering disposal options all relevant costs of disposal will be considered, including;
  - evaluation of options
  - consultation/advertising
  - obtaining building and resource consents
  - professional services, including engineering, planning, legal, survey
  - demolition/make safe
  - after-care including site clearing, decontamination, and beautification.

The use of revenue arising from the sale of any assets shall be decided by Council at the time it gives consideration to the asset's disposal.

## SECTION 9 - ASSET MANAGEMENT PRACTICES

This section outlines the decision making systems that Council currently use to determine short, medium and long term collection, maintenance, renewal and capital expenditure requirements for solid waste management assets and services. It looks at three broad areas of activity:

- **Processes:** The necessary processes, analysis and evaluation techniques needed for life cycle asset management.
- **Information Systems:** The information support systems used to store and manipulate the data
- **Data:** Data available for manipulation by information systems to produce the required outputs.

### 1. CURRENT ASSET MANAGEMENT PRACTICES

Activity	Process
Service Delivery	Contracts are let for the delivery of kerbside collection services, repair work, rehabilitation, renewal, and development work. The activity management and inspection is undertaken by WDC staff.
Financial Control	An NCS (Napier Computer Systems) financial management system is used to record the cost of each work activity for comparison with budget and financial control. Payments made to contractors are coded against the relevant activity.
Procurement	Council's procurement policy is guided by a comprehensive contract management policy posted on the Intranet. This document links with Council's delegation manual.  Decisions on budgeted capital works can be decided by a Tenders Committee made up of senior management. Projects above the value of \$100,000 are reported to Council.
Performance Monitoring	Records are kept of audited activities, forward and completed maintenance programmes. Council's database is updated regularly with data from the various solid waste management activities.
Condition Monitoring	Preventative maintenance inspections are routinely undertaken to monitor the condition of waste management facilities.
Quality Assurance	Audit procedures are defined for controlling the quality data received from external contracts for condition monitoring. Data from site operators and collection contractors is received for work activity, financial and waste stream quantities.
Maintenance/ operations	Records are kept of all maintenance and repair works. Change in asset data is routinely transferred to the BizeAsset system by the Information Services staff.
Waste management strategies	Activity and asset maintenance decisions are based on an assessment by experienced WDC staff
Risk Management	Risk management is practised both formally and informally. Judgments are made based on the knowledge of experienced staff.

### 2. CURRENT ASSET MANAGEMENT DATA

#### Asset Attributes

Records of the assets, facilities and service coverage exist. Attribute data available on solid waste management assets is stored in the Council Asset database.

The efficient operation of solid waste management assets is supported by the knowledge and judgment of experienced staff.

#### Condition Data

There is condition information available on solid waste management assets, with renewal and development decisions based on the experience and knowledge of key staff.

## SECTION 10 - FINANCIAL SUMMARY

### 1. VALUATION OF SOLID WASTE ASSETS

The key components of WDC's solid waste infrastructure and their attendant values, as at 30 June 2014 are summarised in the table below:

Infrastructure	Value as held by WDC 30 June 2014 (ORC)	Optimised Depreciated Replacement Cost
Te Kuiti Landfill and Transfer Station	\$3,625,403	\$3,087,344
Rural Transfer stations	\$157,290	\$25,379
Resource Consent	\$51,460	\$34,105
<b>TOTAL</b>	<b>\$3,834,153</b>	<b>\$3,253,360</b>

The assets were valued using the Depreciated Replacement Cost methodology as described in the NZ Infrastructure Asset Valuation and Depreciation Guidelines.

The confidence ratings for each of the significant asset components of the wastewater valuation as detailed in the valuation report are:

Valuation Element	Confidence Grade
Fixed asset register downloads	Good confidence
Attribute details	Good confidence
Asset categorisation	Good confidence
Economic lives information	Good confidence
Unit replacement rates	Good confidence
<b>Overall rating</b>	<b>Good confidence</b>

The following table shows the financial projections for the wastewater activity over the next ten years. The following definitions apply to the respective activity classes shown:

Activity Class	Definition
Maintenance and Operations	All actions necessary to retain an asset as near as practicable to its original condition, but excluding renewals and rehabilitation. Includes costs such as insurances, rates, energy and consumables associated with owning and using the asset
Renewals	Works to upgrade, refurbish or replace existing assets with assets of equivalent capacity or performance capability
Improvements	Expenditure used to create new assets or to increase the capacity of existing assets beyond their original design capacity or service potential. Improvements increase the value of asset stock

## SOLID WASTE

Solid Waste Management	EAP 2014/15	LTP 2016	LTP 2017	LTP 2018	LTP 2019	LTP 2020	LTP 2021	LTP 2022	LTP 2023	LTP 2024	LTP 2025
<b>Operating Income</b>											
Collection	120	126	129	132	136	140	145	149	154	160	166
Management	970	869	873	895	901	927	934	964	986	1,021	1,059
<b>Total Operating Income</b>	<b>1,090</b>	<b>995</b>	<b>1,002</b>	<b>1,027</b>	<b>1,037</b>	<b>1,067</b>	<b>1,079</b>	<b>1,113</b>	<b>1,140</b>	<b>1,181</b>	<b>1,225</b>
<b>Operating Expenditure</b>											
Collection	315	321	330	338	347	357	368	381	394	407	422
Management	1,478	1,635	1,658	1,705	1,723	1,753	1,870	1,983	1,997	2,030	2,040
<b>Total Operating Expenditure</b>	<b>1,793</b>	<b>1,956</b>	<b>1,988</b>	<b>2,043</b>	<b>2,070</b>	<b>2,110</b>	<b>2,238</b>	<b>2,364</b>	<b>2,391</b>	<b>2,437</b>	<b>2,462</b>
<b>Net Operating Cost/(Surplus)</b>	<b>703</b>	<b>961</b>	<b>986</b>	<b>1,016</b>	<b>1,033</b>	<b>1,043</b>	<b>1,159</b>	<b>1,251</b>	<b>1,251</b>	<b>1,256</b>	<b>1,237</b>
<b>Capital Expenditure</b>											
Collection	0	0	0	0	0	0	0	0	0	0	0
Management	901	0	30	33	0	843	890	37	0	8	0
<b>Total Capital Expenditure</b>	<b>901</b>	<b>0</b>	<b>30</b>	<b>33</b>	<b>0</b>	<b>843</b>	<b>890</b>	<b>37</b>	<b>0</b>	<b>8</b>	<b>0</b>
<b>Net Expenditure</b>	<b>1,604</b>	<b>961</b>	<b>1,016</b>	<b>1,049</b>	<b>1,033</b>	<b>1,886</b>	<b>2,049</b>	<b>1,288</b>	<b>1,251</b>	<b>1,264</b>	<b>1,237</b>
<b>Funded By</b>											
Internal Loans	831	0	26	26	0	836	890	30	0	0	0
Reserves	66	206	175	109	(70)	(187)	(195)	(216)	(243)	(264)	(271)
General Rates	8	11	11	12	9	10	13	13	16	16	14
UAGC	4	11	11	12	9	10	13	13	16	16	14
Kerbside Collect Serv Charge - Mokau	38	38	39	40	42	43	44	46	47	49	51
Kerbside Collect Serv Charge - Piopio	25	25	25	26	27	28	28	29	30	31	32
Kerbside Collect Serv Charge - Te Kuiti	92	95	98	100	103	106	109	113	117	121	125
Kerbside Collect Serv Charge - Waitomo	35	37	38	39	40	41	42	43	45	46	48
Target Rate - Solid Waste Management	505	537	591	685	875	1,002	1,105	1,216	1,223	1,249	1,224
<b>Total Funding</b>	<b>1,604</b>	<b>960</b>	<b>1,014</b>	<b>1,049</b>	<b>1,035</b>	<b>1,889</b>	<b>2,049</b>	<b>1,287</b>	<b>1,251</b>	<b>1,264</b>	<b>1,237</b>

## **2. IN SUMMARY:**

### **Operations**

Three of the Waitomo District landfill consents expired in May 2012. One was renewed and the other two have become obsolete. All remaining consents now will expire in 2033.

Operations of Waitomo District Council's activities for solid waste (kerbside refuse and recycling collection and landfill operation) is by contract, and community education etc. in-house, all will continue to be provided at the same level of service.

### **Routine Maintenance**

Maintenance is the on-going day to day work activity required to keep assets serviceable and prevent premature deterioration or failure. Two categories of maintenance are carried out:

**Unplanned Maintenance:** Work carried out in response to reported problems or defects (e.g. vandalism etc.). Defects are identified through reporting by the public using the service request system and or inspection by the landfill staff and Council's contractor and Council employees. A 24 hour call-out service is provided to attend urgent problems.

**Planned Maintenance:** Work carried out to a predetermined schedule or planned in association with other work. Maintenance work on the high-wall has been carried out in 2014. At this stage there is no other planned maintenance work.

### **Renewals**

It is intended that for the 2015-25 financial year, no planned renewal, or rehabilitation of the existing waste management infrastructure i.e. Council's waste transfer stations, road accesses, fencing, drainage and recycling facilities will be carried out. The installation of cell number 3 will be completed in 2015.

### **Development works**

Development works involving the construction of Waitomo District Landfill high wall cell may be constructed during 2015-2025 dependent on how waste disposal develop over the years. The \$800,500 in years 15-16 and 19-20 represent development of the landfill and additional \$50,000 in 21-22 represent the next reseal of the roadway from Williams Street to the transfer station

### **Asset Disposal**

There are no asset disposals anticipated for the duration of this AMP or the LTP.

## **3. FUNDING OF THE PLAN**

The Solid Waste Activity is funded through a combination of rates and charges to represent as closely as possible the allocation of benefits.

Council's current Revenue and Financing Policy separates funding of the solid waste management activity into four parts:

- Kerbside collection which comprises the bagged refuse collection service for designated communities;
- Kerbside recycling, in conjunction with the refuse bag collection;
- Landfill and transfer stations management which includes landfill management, the waste transfer stations; and
- Waste minimisation

The kerbside refuse bag collection service is funded through fees and charges and a targeted rate in communities where this service is delivered. The operation of District landfill and transfer stations are funded through fees and charges and a common scale of charges at point of entry. The landfill's original establishment costs, cost of waste minimisation activities, including kerbside recycling, are funded partly through rates.

The disposal of recyclables is free at transfer stations to encourage maximum recovery of recyclable material.

### **Waste Minimisation Levy**

Council receives a population based funding from the waste levy collected under the Waste Minimisation Act 2008. The levy is intended to create a dedicated fund for waste minimisation programmes; and by increasing the cost of disposing of waste, it is expected to change the behaviour of those using disposal facilities. The Act allows for up to fifty percent of waste levy monies to be paid to territorial authorities on a population basis regardless of whether a community owns and operates a landfill or not. The remaining funds, minus administration costs, can be applied for specific waste minimization projects by interested parties (including territorial authorities).

This waste levy is used to help fund Council's new or improvement of existing waste minimisation activities. These waste minimisation activities include, promoting home composting, schools education programmes, and the Para Kore Marae recycling initiative.

**Financial/development contributions:**

Council has two different policy tools available to it under the LGA 2002 that can be used to fund the capital cost of new assets or additional asset capacity included in the Long Term Plan as a result of growth. A financial contributions policy prepared in accordance with the Resource Management Act 1991 allows Council to charge developers financial contributions while the LGA 2002 prescribes the process under which Council may establish a policy to charge development contributions. One or other, or a combination of both, can be used as a source of funding for growth related capital expenditure. However, "double dipping" of contributions is not permitted.

Council has a financial contributions policy, as included in its operative district plan but not a development contributions policy.

Financial contributions can be applied as an appealable condition on a resource consent, corresponding to work required to mitigate an adverse effect of a development on existing infrastructure or the environment. The financial contributions policy contained in Council's operative District Plan allows contributions to be charged where necessary, but remains untested. This stance reflects an unwritten policy of supporting economic development by not applying financial contributions policy to new developments. Although any need for growth related expenditure with or without a formal development/financial contributions policy will be at the expense of existing ratepayers.

## SECTION 11 - ASSUMPTIONS

The following basic assumptions have been made in preparing the 30 year financial forecasts:

1	No allowance has been made for inflation i.e. assumed to be zero for the purposes of this AMP Capital costs past Year 3 are subject to change as programmes become refined and detailed
2	The emissions trading scheme is calculated at 1.31 tonnes of CO <sub>2</sub> – equivalent per tonne of disposed residual wastes and will be charged at the rate of \$30.00 plus GST per tonne of waste, inclusive of an administration charge
3	The waste disposal levy stays at \$11.00 plus GST (including an administration charge) per tonne of waste disposed of.
4	Operational and indirect cost will only rise with inflation
5	Future funding policy at a national and regional level will not impact on the local share of solid waste management projects projected for expenditure over the next 10 years
6	Movement in contract rates as the result of re-tendering solid waste activities and capital works will be within the construction price index used in the financial projections
7	The construction price index will compound at the rate of no more than 3% per annum
8	Growth in the size of the existing solid waste management network will be minor over the term of the plan
9	Changes in the district population will not impact on the expenditure forecasts for the solid waste activity
10	Resource consents required for any planned project will not result in any material delay or additional expenditure.
11	The additional cost of ETS may make the landfill uneconomical however this AMP is based on the assumption that the current scenario will continue for most of the duration of the next three years and will be addressed fully in the AMP that informs the 2018-2028 LTP.

These assumptions and the AMP will be reviewed in 2017 in light of improved asset information that will be collected and recorded over the next 3 years ahead of the 2018-28 LTP.

## SECTION 12 –IMPROVEMENT PLAN

### INTRODUCTION

Activity management planning involves a process of constant improvement. The following table summarises the proposed actions and timetables for improving

Ref	Description	Relative Priority				Target Completion Date	Officer Responsible	Additional Resources Required	Actual Completion Date	Comment
		1	2	3	4					
1	Promote understanding, commitment and engagement of the community in waste minimisation (more intensive recycling and home composting)		X				Leader Solid Waste		Ongoing	Engage the community with current waste minimisation topics through local advertising
2	Manage relevant data and information and provide feedback on performance		X			July 2016	Leader Solid Waste	Environmental Technician	July 2016	Waste audit completed to be presented to council in August 2014
3	Initiate and foster waste minimisation in community targeting schools and rural communities		X				Leader Solid Waste	Paper for Tress and Enviroschools coordinators	Ongoing	Education will be continuous to schools and the rural communities
4	Explore into WDC landfill becoming a cleanfill site only		X				Group Manager Assets	Manager Asset Operations	December 2016	
5	Reduction in onsite disposal of agricultural products		X				Leader Solid Waste		Ongoing	Agricultural waste education will be ongoing
6	Establishment and compliance of Hazardous Waste facilities			X		July 2012	Leader Solid Waste	Contractor	December 2012	Complete Onsite
7	Prepare and maintain an audit procedure			X		July 2012	Leader Solid Waste		Ongoing	Audit procedure prepared and reporting ongoing
8	Prepare and maintain data base			X			Leader Solid Waste	Manager Asset Operations	ongoing	Asset inventory

accuracy and confidence in the Solid Waste AMP. It identifies and prioritises what needs to be done, who is going to do it and when it is to be completed by:

#### Key:

- 1 = High importance/high urgency
- 2 = High importance/low urgency
- 3 = Low importance/high urgency
- 4 = Low importance/low urgency



## **SECTION 13 - REFERENCES AND ACKNOWLEDGEMENTS**

Material from the following documents has been used in the preparation of this AMP:

- WDC Solid Waste (Activity) Management and Minimisation Plan (SWaMMP)
- Waikato Regional Plan (Part)
- Miscellaneous consultant reports
- Resident Satisfaction Surveys 2014

## SECTION 14 - APPENDICES

Appendix	Title
A	Glossary
B	Extract from Schedule 10, Local Government Act 2002 – Information to be included in long term plans
C	Extract from LGA 2002 – s.101B Infrastructure Strategy
D	Indicative Solid Waste AMP Expenditure Programmes 2015 – 2025
E	Closed Landfills
F	Organisational Management Structure

## APPENDIX A: GLOSSARY

<b>Activity</b>	An activity is the work undertaken on an asset or group of assets to achieve a desired outcome.
<b>Advanced Activity Management (AAM)</b>	Activity Management practices that has evolved to a state that matches business needs. AAM employs predictive modeling, risk management and optimised renewal decision making techniques to establish asset lifecycle treatment options and related long term cash flow predictions. (See Core Activity Management).
<b>Annual plan</b>	The Annual Plan provides a statement of the direction of Council and ensures consistency and coordination in both making policies and decisions concerning the use of Council resources. It is a reference document for monitoring and measuring performance for the community as well as the Council itself.
<b>Asset</b>	A physical component of a facility which has value, enables services to be provided and has an economic life of greater than 12months.
<b>Activity Management (AM)</b>	The combination of management, financial, economic, engineering and other practices applied to physical assets with the objective of providing the required level of service in the most cost effective manner.
<b>Activity Management system (AMS)</b>	A system (usually computerised) for collecting analysing and reporting data on the utilisation, performance, lifecycle management and funding of existing assets.
<b>Activity Management Plan</b>	A plan developed for the management of one or more infrastructure assets that combines multidisciplinary management techniques (including technical and financial) over the lifecycle of the asset in the most cost effective manner to provide a specified level of service. A significant component of the plan is a long term cash flow projection for the activities.
<b>Activity Management strategy</b>	A strategy for Activity Management covering, the development and implementation of plans and programmes for asset creation, operation, maintenance, renewal, disposal and performance monitoring to ensure that the desired levels of service and other operational objectives are achieved at optimum cost.
<b>Asset register</b>	A record of asset information considered worthy of separate identification including inventory, historical, financial, condition, construction, technical and financial information about each.
<b>Benefit cost ratio (B/C)</b>	The sum of the present values of all benefits (including residual value, if any) over a specified period, or the life cycle of the asset or facility, divided by the sum of the present value of all costs.
<b>Berm</b>	The area of a road reserve between the kerb or surface water channel and property boundary exclusive of footpath.
<b>Capital expenditure (CAPEX)</b>	Expenditure used to create new assets or to increase the capacity of existing assets beyond their original design capacity or service potential. CAPEX increases the value of an asset.
<b>Cash flow</b>	The stream of costs and/or benefits over time resulting from a project investment or ownership of an asset.
<b>Components</b>	Specific parts of an asset having independent physical or functional identity and having specific attributes such as different life expectancy, maintenance regimes, risk or criticality.
<b>Condition monitoring</b>	Continuous or periodic inspection, assessment, measurement and interpretation of resulting data, to indicate the condition of a specific component so as to determine the need for some preventive or remedial action
<b>Core Activity Management</b>	Activity Management which relies primarily on the use of an asset register, maintenance history, condition assessment,

	defined levels of service, and simple risk and benefit/ cost assessments in order to establish work priorities and long term cash flow predictions.
<b>Critical assets</b>	Assets for which the financial, business or service level consequences of failure are sufficiently severe to justify proactive inspection and rehabilitation. Critical assets have a lower threshold for action than non-critical assets.
<b>Current replacement cost</b>	The cost of replacing the service potential of an existing asset, by reference to some measure of capacity, with an appropriate modern equivalent asset.
<b>Deferred maintenance</b>	The shortfall in rehabilitation work required to maintain the service potential of an asset.
<b>Demand management</b>	The active intervention in the market to influence demand for services and assets with forecast consequences, usually to avoid or defer CAPEX expenditure. Demand management is based on the notion that as needs are satisfied expectations rise automatically and almost every action taken to satisfy demand will stimulate further demand.
<b>Depreciated replacement cost (DRC)</b>	The replacement cost of an existing asset after deducting an allowance for wear or consumption to reflect the remaining economic life of the existing asset.
<b>Depreciation</b>	The wearing out, consumption or other loss of value of an asset whether arising from use, passing of time or obsolescence through technological and market changes. It is accounted for by the allocation of the historical cost (or revalued amount) of the asset less its residual value over its useful life.
<b>Disposal</b>	Activities necessary to dispose of decommissioned assets.
<b>Diverted Material</b>	Diverted material means anything that is no longer required for its original purpose and, but for commercial or other waste minimisation activities, would be disposed of or discarded.
<b>Economic life</b>	The period from the acquisition of the asset to the time when the asset, while physically able to provide a service, ceases to be the lowest cost alternative to satisfy a particular level of service. The economic life is at the maximum when equal to the physical life however obsolescence will often ensure that the economic life is less than the physical life.
<b>Geographic information system (GIS)</b>	Software which provides a means of spatially viewing, searching, manipulating, and analysing an electronic data-base.
<b>Infrastructure assets</b>	Stationary systems forming a network and serving whole communities, where the system as a whole is intended to be maintained indefinitely at a particular level of service potential by the continuing replacement and refurbishment of its components. The network may include normally recognised 'ordinary' assets as components.
<b>Landfill</b>	A waste disposal site used for the controlled deposit of solid wastes onto or into the land.
<b>Level of service</b>	The defined service quality for a particular activity (i.e. roading) or service area (i.e. street-lighting) against which service performance may be measured. Service levels usually relate to quality, quantity, reliability, responsiveness, environmental acceptability and cost.
<b>Life</b>	A measure of the anticipated life of an asset or component; such as time, number of cycles, distance intervals etc.

<b>Life cycle</b>	Life cycle has two meanings: (a) The cycle of activities that an asset (or facility) goes through while it retains an identity as a particular asset i.e. from planning and design to decommissioning or disposal. (b) The period of time between a selected date and the last year over which the criteria (e.g. costs) relating to a decision or alternative under study will be assessed.
<b>Life cycle cost</b>	The total cost of an asset throughout its life including planning, design, construction, acquisition, operation, maintenance, rehabilitation and disposal costs.
<b>Maintenance</b>	All actions necessary for retaining an asset as near as practicable to its original condition, but excluding rehabilitation or renewal.
<b>Maintenance plan</b>	Collated information, policies and procedures for the optimum maintenance of an asset, or group of assets.
<b>Maintenance standards</b>	The standards set for the maintenance service, usually contained in preventive maintenance schedules, operation and maintenance manuals, codes of practice, estimating criteria, statutory regulations and mandatory requirements, in accordance with maintenance quality objectives.
<b>Net present value (NPV)</b>	The value of an asset to the organisation, derived from the continued use and subsequent disposal in present monetary values. It is the net amount of discounted total cash inflows arising from the continued use and subsequent disposal of the asset after deducting the value of the discounted total cash outflows.
<b>NIMT</b>	North Island Main Trunk rail line
<b>Objective</b>	An objective is a general statement of intention relating to a specific output or activity. They are longer term aims and are not necessarily outcomes that managers can control.
<b>Operation</b>	The active process of utilising an asset which will consume resources such as manpower, energy, chemicals and materials. Operation costs are part of an assets life cycle costs.
<b>Optimised renewal decision making (ORDM)</b>	An optimisation process for considering and prioritising all options to rectify performance failures of assets. The process encompasses NPV analysis and risk assessment.
<b>Organic Waste</b>	Putrescible waste mainly from food preparation and leftover food scraps.
<b>Performance indicator (PI)</b>	A qualitative or quantitative measure of a service or activity used to compare actual performance against a standard or other target. Performance indicators commonly relate to statutory limits, safety, responsiveness, cost, comfort, asset performance, reliability, efficiency, environmental protection and customer satisfaction.
<b>Performance monitoring</b>	Continuous or periodic quantitative and qualitative assessments of the actual performance compared with specific objectives, targets or standards.
<b>Planned maintenance</b>	Planned maintenance activities fall into 3 categories : (a) Periodic - necessary to ensure the reliability or sustain the design life of an asset. (b) Predictive – condition monitoring activities used to predict failure. (c) Preventive - maintenance that can be initiated without routine or continuous checking (e.g. using information contained in maintenance manuals or manufacturers' recommendations) and is not condition-based.
<b>Recovery</b>	Extraction of materials or energy from waste for future use or processing, and includes, but not limited to, making materials

	into compost.
<b>Recycling</b>	A general term for the reuse and reprocessing of waste materials into new ones, that is technically limited to the manufacture of new items from waste materials.
<b>Rehabilitation</b>	Works to rebuild or replace parts or components of an asset, to restore it to a required functional condition and extend its life, which may incorporate some modification. Generally involves repairing the asset using available techniques and standards to deliver its original level of service (i.e. heavy patching of roads, slip-lining of stormwater mains, etc.) without resorting to significant upgrading or replacement.
<b>Remaining economic life</b>	The time remaining until an asset ceases to provide service level or economic usefulness.
<b>Renewal</b>	Works to upgrade, refurbish, rehabilitate or replace existing facilities with facilities of equivalent capacity or performance capability.
<b>Repair</b>	Action to restore an item to its previous condition after failure or damage.
<b>Replacement</b>	The complete replacement of an asset that has reached the end of its life, so as to provide a similar or agreed alternative, level of service.
<b>Residual Waste</b>	Solid waste remaining after reduction and diversion (recycling etc.) measures have been applied.
<b>Reuse</b>	The use of waste items for a similar purpose usually after cleaning or refurbishment.
<b>Risk cost</b>	The assessed annual cost or benefit relating to the consequence of an event. Risk cost equals the costs relating to the event multiplied by the probability of the event occurring.
<b>Risk management</b>	The application of a formal process to the range of possible values relating to key factors associated with a risk in order to determine the resultant ranges of outcomes and their probability of occurrence.
<b>Routine maintenance</b>	Day to day operational activities to keep the asset operating (replacement of light bulbs, cleaning of drains, repairing leaks, etc.) and which form part of the annual operating budget, including preventative maintenance.
<b>Service potential</b>	The total future service capacity of an asset. It is normally determined by reference to the operating capacity and economic life of an asset.
<b>Solid Waste</b>	Solid waste is all waste generated as a solid or converted to a solid for disposal. It includes wastes like paper, plastic, glass, metal, electronic goods, furnishings, garden and other organic wastes.
<b>Special Waste</b>	Waste that requires special measures in handling and disposal over and above that normally required for general community wastes.
<b>Strategic plan</b>	Strategic planning involves making decisions about the long term goals and strategies of an organisation. Strategic plans have a strong external focus, cover major portions of the organization and identify major targets, actions and resource allocations relating to the long term survival, value and growth of the organisation.
<b>Unplanned maintenance</b>	Corrective work required in the short term to restore an asset to working condition so it can continue to deliver the required service or to maintain its level of security and integrity.
<b>Traffic volume</b>	The number of vehicles flowing in both directions past a particular part in a given time (for example, vehicles per hour or vehicles per day).
<b>Transfer Station</b>	A refuse handling facility designed primarily to consolidate small loads of waste and recycling for transport to a distant disposal site.

<b>Upgrading</b>	The replacement of an asset or addition/ replacement of an asset component which materially improves the original service potential of the asset.
<b>Valuation</b>	Estimated asset value which may depend on the purpose for which the valuation is required, i.e. replacement value for determining maintenance and replacement levels, or market value for life cycle costing.
<b>Waste Analysis Protocol</b>	Waste survey methods designed by the Ministry for the Environment for the purpose of waste survey to obtain quantitative estimate of the quantity and composition of solid wastes arising from domestic and industrial premises.
<b>Waste Generator</b>	All those involved in the production, use, retail and purchase of wastes or products which become waste.
<b>Waste Minimisation</b>	The range of activities which will lower the amount and/or toxicity of waste (reduce, re-use, recycle, recovery).

## APPENDIX B: EXTRACT – SCHEDULE 10, LOCAL GOVERNMENT ACT 2002 – INFORMATION TO BE INCLUDED IN LONG TERM PLANS

### 1. Community outcomes

- A long-term plan must, to the extent determined appropriate by the local authority, describe the community outcomes for the local authority's district or region.

### 2. Groups of activities

- (1) A long-term plan must, in relation to each group of activities of the local authority,—
  - (a) identify the activities within the group of activities;
  - (b) identify the rationale for delivery of the group of activities (including the community outcomes to which the group of activities primarily contributes);
  - (c) outline any significant negative effects that any activity within the group of activities may have on the local community;
  - (d) include the information specified in [clauses 4](#) and [5](#)—
    - (i) in detail in relation to each of the first 3 financial years covered by the plan; and
    - (ii) in outline in relation to each of the subsequent financial years covered by the plan.
- (2) In this schedule, each of the following activities is a group of activities:
  - (a) water supply;
  - (b) sewerage and the treatment and disposal of sewage;
  - (c) stormwater drainage;
  - (d) flood protection and control works;
  - (e) the provision of roads and footpaths.
- (3) Despite subclause (2), a local authority may treat any other activities as a group of activities

### 3. Capital expenditure for groups of activities

- (1) A long-term plan must, in relation to each group of activities of the local authority and for each financial year covered by the plan, include a statement of the amount of capital expenditure that the authority has budgeted to—
  - (a) meet additional demand for an activity; and
  - (b) improve the level of service; and
  - (c) replace existing assets.
- (2) For the purpose of this clause, capital expenditure budgeted for 2 or all of the purposes in subclause (1) may be treated as if it were made solely in relation to the primary purpose of the expenditure.

### 4. Statement of service provision

- A long-term plan must, in relation to each group of activities of the local authority, include a statement of the intended levels of service provision that specifies—
  - (a) any performance measures specified in a rule made under [section 261B](#) for a group of activities described in [clause 2\(2\)](#); and
  - (b) the performance measures that the local authority considers will enable the public to assess the level of service for major aspects of groups of



activities for which performance measures have not been specified under paragraph (a); and

- (c) the performance target or targets set by the local authority for each performance measure; and
- (d) any intended changes to the level of service that was provided in the year before the first year covered by the plan and the reasons for the changes; and
- (e) the reason for any material change to the cost of a service.

#### **5. Funding impact statement for groups of activities**

- (1) A long-term plan must, in relation to each year covered by the plan, include a funding impact statement in relation to each group of activities of the local authority.
- (2) The funding impact statement must be in the prescribed form and must identify—
  - (a) the sources of funding to be used by the local authority; and
  - (b) the amount of funds expected to be produced from each source; and
  - (c) how the funds are to be applied.

#### **6. Variation between territorial authority's long-term plan and assessment of water and sanitary services and waste management plans**

- A long-term plan for a territorial authority must identify and explain any significant variation between the proposals outlined in the long-term plan and the territorial authority's—
  - (a) assessment of water and other sanitary services under [section 125](#);
  - (b) waste management and minimisation plans adopted under [section 43](#) of the Waste Minimisation Act 2008

#### **7. Council-controlled organisations**

- A long-term plan must, in relation to each council-controlled organisation,—
  - (a) name the council-controlled organisation and any subsidiary of the council-controlled organisation; and
  - (b) identify—
    - (i) the local authority's significant policies and objectives in relation to ownership and control of the organisation; and
    - (ii) the nature and scope of the activities to be provided by the council-controlled organisation; and
    - (iii) the key performance targets and other measures by which performance is to be judged.

#### **8. Development of Māori capacity to contribute to decision-making processes**

- A long-term plan must set out any steps that the local authority intends to take, having undertaken the consideration required by [section 81\(1\)\(b\)](#), to foster the development of Māori capacity to contribute to the decision-making processes of the local authority over the period covered by that plan.

#### **9. Financial strategy and infrastructure strategy**

- A long-term plan must include a local authority's financial strategy described under [section 101A](#) and infrastructure strategy described under [section 101B](#).

#### **10. Revenue and financing policy**

- A long-term plan must include a local authority's revenue and financing policy already adopted under [section 102\(1\)](#).

#### **11. Significance and engagement policy**

- A long-term plan must contain—
  - (a) a summary (or other description) of the local authority's significance and engagement policy under [section 76AA](#); and
  - (b) a reference to where the full policy can be found, which may be done by providing a link to the relevant document on an Internet site maintained by or on behalf of the local authority.

#### **12. Forecast financial statements**

- (1) A long-term plan must include, for each of the financial years covered by the plan, forecast financial statements for the local authority.
- (2) A long-term plan may include, for each of the financial years covered by the plan, or for any of those years, forecast financial statements for any council-controlled organisation or any other entity under the local authority's control.

#### **13. Financial statements for previous year**

- (1) A long-term plan must include the numerical information from the forecast financial statements referred to in [clause 12\(1\)](#) that were prepared for the financial year that is the year before the first year covered by the plan.
- (2) The numerical information must be presented in a way that allows the public to compare the information with the numerical information contained in the forecast financial statements for each of the financial years covered by the plan.

#### **14. Statement concerning balancing of budget**

- If the local authority has resolved, under [section 100\(2\)](#), not to balance its operating budget in any year covered by the long-term plan, the plan must include—
  - (a) a statement of the reasons for the resolution and any other matters taken into account; and
  - (b) a statement of the implications of the decision.

#### **15. Funding impact statement**

- (1) A long-term plan must include a funding impact statement in relation to each year covered by the plan.
- (2) The funding impact statement must be in the prescribed form and must identify—
  - (a) the sources of funding to be used by the local authority; and
  - (b) the amount of funds expected to be produced from each source; and
  - (c) how the funds are to be applied.
- (3) If the sources of funding include a general rate, the funding impact statement must—
  - (a) include particulars of the valuation system on which the general rate is to be assessed; and
  - (b) state whether a uniform annual general charge is to be included and, if so,—
    - (i) how the charge is to be calculated; and
    - (ii) the local authority's definition of a separately used or inhabited part of a rating unit, if the charge is to be calculated on that basis; and

- (c) state whether the general rate is to be set differentially and, if so,—
    - (i) the categories of rateable land, within the meaning of [section 14](#) of the Local Government (Rating) Act 2002, to be used; and
    - (ii) the objectives of the differential rate, in terms of the total revenue sought from each category of rateable land or the relationship between the rates set on rateable land in each category.
- (4) If the sources of funding include a targeted rate, the funding impact statement must—
- (a) specify the activities or groups of activities for which the targeted rate is to be set; and
  - (b) include particulars of the category, or categories, of rateable land, within the meaning of [section 17](#) of the Local Government (Rating) Act 2002, to be used; and
  - (c) for each category, state—
    - (i) how liability for the targeted rate is to be calculated; and
    - (ii) the local authority's definition of a separately used or inhabited part of a rating unit, if the rate is to be calculated on that basis; and
  - (d) if the targeted rate is set differentially, state the total revenue sought from each category of rateable land or the relationship between the rates set on rateable land in each category; and
  - (e) state whether lump sum contributions will be invited in respect of the targeted rate.
- (5) If the sources of funding include a general rate or a targeted rate, the funding impact statement must, for the first year covered by the long-term plan, include examples of the impact of the rating proposals in subclauses (3) and (4) on the rates assessed on different categories of rateable land with a range of property values.
- (6) If the same source of funding is to be used in more than 1 of the years covered by the long-term plan, in order to comply with subclauses (2)(a), (3), and (4) with respect to that source, it is sufficient—
- (a) to comply with those subclauses in relation to 1 of those years; and
  - (b) for the funding impact statement to specify the other years in respect of which that source is to be used.

## 16. Rating base information

- A long-term plan must state, for each year covered by the plan, the projected number of rating units within the district or region of the local authority at the end of the preceding financial year.

## 17. Reserve funds

- A long-term plan must identify each reserve fund set aside by the local authority and, in relation to each fund, specify—
  - (a) the purpose of the fund; and
  - (b) the activities to which the fund relates; and
  - (c) the amount expected to be in the fund at—
    - (i) the commencement of the first year to which the long-term plan relates; and
    - (ii) the end of the last year to which the long-term plan relates; and
  - (d) the amount expected to be deposited in the fund in the period to which the long-term plan relates; and

- (e) the amount expected to be withdrawn from the fund in the period to which the long-term plan relates.

#### **18. Significant forecasting assumptions**

- A long-term plan must clearly identify—
  - (a) all the significant forecasting assumptions and risks underlying the financial estimates:
  - (b) without limiting the generality of paragraph (a), the following assumptions on which the financial estimates are based:
    - (i) the assumptions of the local authority concerning the life cycle of significant assets; and
    - (ii) the assumptions of the local authority concerning sources of funds for the future replacement of significant assets:
  - (c) in any case where significant forecasting assumptions involve a high level of uncertainty,—
    - (i) the fact of that uncertainty; and
    - (ii) an estimate of the potential effects of that uncertainty on the financial estimates provided.

#### **19. Additional information to be included in long-term plan for unitary authority with local boards**

- In the case of a unitary authority for a district that includes 1 or more local board areas, a long-term plan must also—
  - (a) identify the non-regulatory activities of the unitary authority for which decision-making responsibility is allocated to 1 or more local boards under [section 48L](#) or under [section 17](#) of the Local Government (Auckland Council) Act 2009:
  - (b) group the activities to which paragraph (a) relates separately from any other activity or group of activities of the unitary authority (there may be 1 or more groups, but each group of activities specified in [clause 2\(2\)](#) must be separately identified):
  - (c) include the estimated local board funding allocation for each local board for each year to which the long-term plan relates:
  - (d) include the local board agreement for each local board area for the first year to which the long-term plan relates.

## APPENDIX C: EXTRACT – SCHEDULE 10, LOCAL GOVERNMENT ACT 2002 – S.101B INFRASTRUCTURE STRATEGY

- A local authority must, as part of its long-term plan, prepare and adopt an infrastructure strategy for a period of at least 30 consecutive financial years.
  - (2) The purpose of the infrastructure strategy is to—
    - (a) identify significant infrastructure issues for the local authority over the period covered by the strategy; and
    - (b) identify the principal options for managing those issues and the implications of those options.
  - (3) The infrastructure strategy must outline how the local authority intends to manage its infrastructure assets, taking into account the need to—
    - (a) renew or replace existing assets; and
    - (b) respond to growth or decline in the demand for services reliant on those assets; and
    - (c) allow for planned increases or decreases in levels of service provided through those assets; and
    - (d) maintain or improve public health and environmental outcomes or mitigate adverse effects on them; and
    - (e) provide for the resilience of infrastructure assets by identifying and managing risks relating to natural hazards and by making appropriate financial provision for those risks.
  - (4) The infrastructure strategy must outline the most likely scenario for the management of the local authority's infrastructure assets over the period of the strategy and, in that context, must—
    - (a) show indicative estimates of the projected capital and operating expenditure associated with the management of those assets—
      - (i) in each of the first 10 years covered by the strategy; and
      - (ii) in each subsequent period of 5 years covered by the strategy; and
    - (b) identify—
      - (i) the significant decisions about capital expenditure the local authority expects it will be required to make; and
      - (ii) when the local authority expects those decisions will be required; and
      - (iii) for each decision, the principal options the local authority expects to have to consider; and
      - (iv) the approximate scale or extent of the costs associated with each decision; and
    - (c) include the following assumptions on which the scenario is based:
      - (i) the assumptions of the local authority about the life cycle of significant infrastructure assets;
      - (ii) the assumptions of the local authority about growth or decline in the demand for relevant services;
      - (iii) the assumptions of the local authority about increases or decreases in relevant levels of service; and
    - (d) if assumptions referred to in paragraph (c) involve a high level of uncertainty,—
      - (i) identify the nature of that uncertainty; and
      - (ii) include an outline of the potential effects of that uncertainty.

(5) A local authority may meet the requirements of [section 101A](#) and this section by adopting a single financial and infrastructure strategy document as part of its long-term plan.

(6) In this section, **infrastructure assets** includes—

- (a) existing or proposed assets to be used to provide services by or on behalf of the local authority in relation to the following groups of activities:
  - (i) water supply;
  - (ii) sewerage and the treatment and disposal of sewage;
  - (iii) stormwater drainage;
  - (iv) flood protection and control works;
  - (v) the provision of roads and footpaths; and
- (b) any other assets that the local authority, in its discretion, wishes to include in the strategy.

Section 101B: inserted, on 8 August 2014, by [section 36](#) of the Local Government Act 2002 Amendment Act 2014 (2014 No 55).

## APPENDIX D: FINANCIAL FORECAST NET COST OF SERVICE 2015 - 25

Solid Waste Management	EAP 2014/15	LTP 2016	LTP 2017	LTP 2018	LTP 2019	LTP 2020	LTP 2021	LTP 2022	LTP 2023	LTP 2024	LTP 2025
<b>Operating Income</b>											
Collection	120	126	129	132	136	140	145	149	154	160	166
Management	970	869	873	895	901	927	934	964	986	1,021	1,059
<b>Total Operating Income</b>	<b>1,090</b>	<b>995</b>	<b>1,002</b>	<b>1,027</b>	<b>1,037</b>	<b>1,067</b>	<b>1,079</b>	<b>1,113</b>	<b>1,140</b>	<b>1,181</b>	<b>1,225</b>
<b>Operating Expenditure</b>											
Collection	315	321	330	338	347	357	368	381	394	407	422
Management	1,478	1,635	1,658	1,705	1,723	1,753	1,870	1,983	1,997	2,030	2,040
<b>Total Operating Expenditure</b>	<b>1,793</b>	<b>1,956</b>	<b>1,988</b>	<b>2,043</b>	<b>2,070</b>	<b>2,110</b>	<b>2,238</b>	<b>2,364</b>	<b>2,391</b>	<b>2,437</b>	<b>2,462</b>
<b>Net Operating Cost/(Surplus)</b>	<b>703</b>	<b>961</b>	<b>986</b>	<b>1,016</b>	<b>1,033</b>	<b>1,043</b>	<b>1,159</b>	<b>1,251</b>	<b>1,251</b>	<b>1,256</b>	<b>1,237</b>
<b>Capital Expenditure</b>											
Collection	0	0	0	0	0	0	0	0	0	0	0
Management	901	0	30	33	0	843	890	37	0	8	0
<b>Total Capital Expenditure</b>	<b>901</b>	<b>0</b>	<b>30</b>	<b>33</b>	<b>0</b>	<b>843</b>	<b>890</b>	<b>37</b>	<b>0</b>	<b>8</b>	<b>0</b>
<b>Net Expenditure</b>	<b>1,604</b>	<b>961</b>	<b>1,016</b>	<b>1,049</b>	<b>1,033</b>	<b>1,886</b>	<b>2,049</b>	<b>1,288</b>	<b>1,251</b>	<b>1,264</b>	<b>1,237</b>
<b>Funded By</b>											
Internal Loans	831	0	26	26	0	836	890	30	0	0	0
Reserves	66	206	175	109	(70)	(187)	(195)	(216)	(243)	(264)	(271)
General Rates	8	11	11	12	9	10	13	13	16	16	14
UAGC	4	11	11	12	9	10	13	13	16	16	14
Kerbside Collect Serv Charge - Mokau	38	38	39	40	42	43	44	46	47	49	51
Kerbside Collect Serv Charge - Piopio	25	25	25	26	27	28	28	29	30	31	32
Kerbside Collect Serv Charge - Te Kuiti	92	95	98	100	103	106	109	113	117	121	125
Kerbside Collect Serv Charge - Waitomo	35	37	38	39	40	41	42	43	45	46	48
Target Rate - Solid Waste Management	505	537	591	685	875	1,002	1,105	1,216	1,223	1,249	1,224
<b>Total Funding</b>	<b>1,604</b>	<b>960</b>	<b>1,014</b>	<b>1,049</b>	<b>1,035</b>	<b>1,889</b>	<b>2,049</b>	<b>1,287</b>	<b>1,251</b>	<b>1,264</b>	<b>1,237</b>

## APPENDIX E: CLOSED LANDFILLS

As at January 2000, only one landfill disposal site was in use in the Waitomo District. Five other sites were closed over 8 years prior to this. Details of the closed landfills are summarised below:

### Aria Landfill

The Aria landfill is situated at Waitahi Road and is approximately 4km from Aria and 7km from Piopio. Landfilling commenced at this site in the 1970s and the landfill was officially closed in November 1993. Reinstatement works commenced immediately after its closure, the site is monitored and maintained.

### Benneydale Landfill

The landfill is located at the end of a right of way off State Highway 30 and is sited 3km from Benneydale. The landfill was officially closed on 30 June 1995. By virtue of the physical setting of this landfill, long term stability of the site is monitored and maintained.

### Piopio Landfill

The landfill was officially closed to the public in 1992 and has been rehabilitated. The closed landfill is sited on a flood plain of the Mokau River and is bounded by Tiki Tiki Road, the Mokau River and an old river meander, the site is monitored and maintained.

### Mokau Landfill

The landfill is situated at Te Mahoe Road and 3 - 4 km from the Mokau Township. The landfill was officially closed to the public on 23 January 1995 and reinstated after its closure. There were some concerns regarding the stability of the fill and ground movements are monitored and the site maintained.

### Te Kuiti Landfill – Walker Road

The landfill is located off Walker Road and approximately 1km from the Te Kuiti township. The landfill was closed in 1999.

The resource consents for each of the above closed landfill sites require a long period of aftercare including maintenance of the capping layers and monitoring of groundwater quality downstream from each site.

Resource Consents are held for each of the closed landfills, authorising the following activities:

Location	Consent number	Activity authorised	Sampling frequency	Consent start date	Expiry date	Map reference	Amended monitoring possibility
Benneydale	103193	To discharge leachate onto or into land from the Benneydale closed landfill in circumstance which may result in contaminants entering water.	Surface water, groundwater springs or seepage twice every year; site inspections twice every year.	17-Sep-01	31-Jun-36	S17:183-972	The consent holder may amend the frequency of inspections / monitoring after 2 years provided written approval is obtained from WRC
	103194	To discharge landfill gas to air from the Benneydale closed landfill	Site inspections twice every year	17-Sep-01	30-Jun-36		
Waitahi Rd - Aria	103198	To discharge leachate onto or into land from the Aria closed landfill in circumstances that may result in contaminants entering water	Surface water, Leachate monitoring twice every year; site inspection twice every year	17-Sep-01	31-Jun-36	R 17: 857-926	The consent holder may amend the frequency of inspections / monitoring after 2 years provided written approval is obtained from WRC

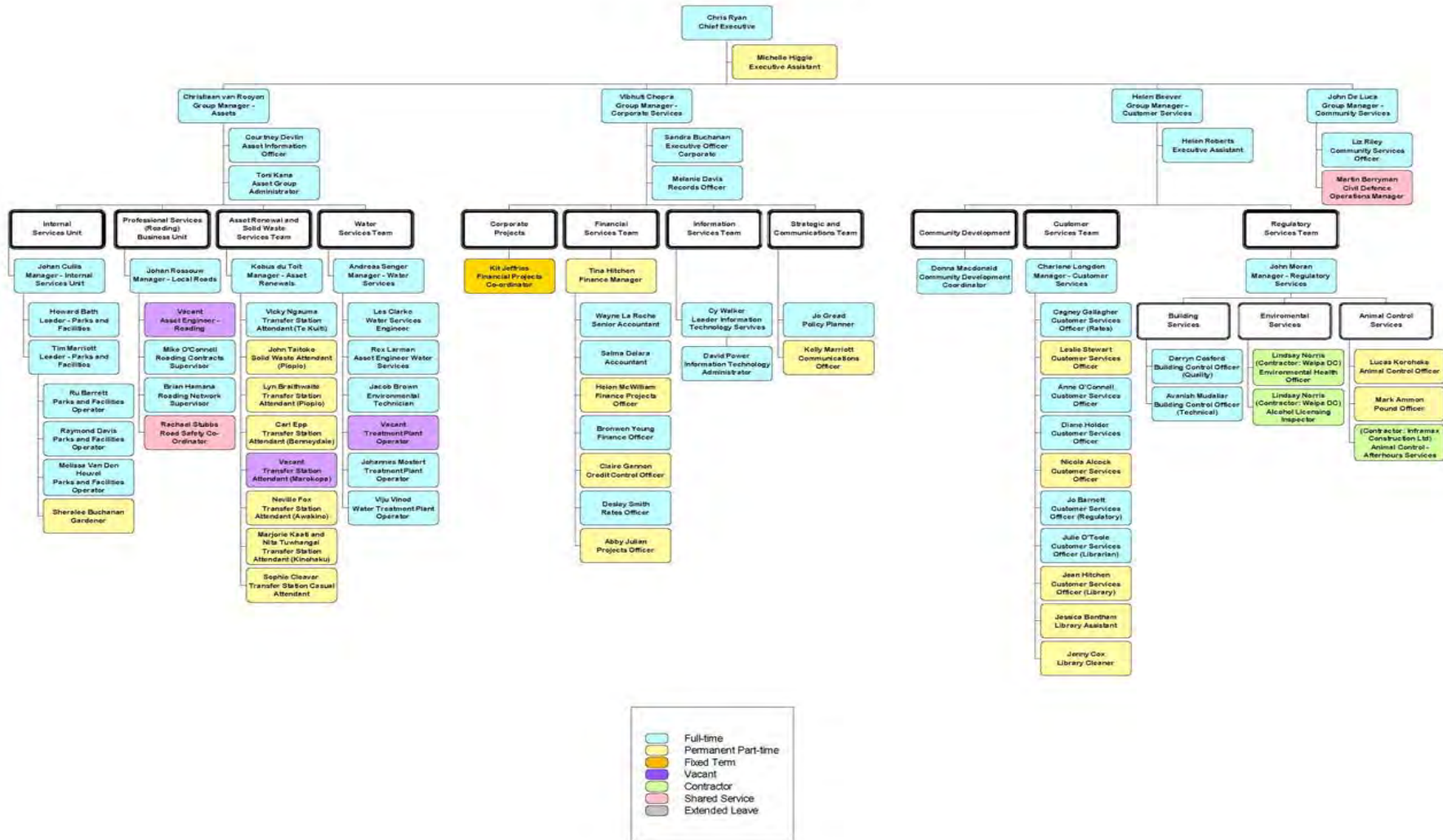


Location	Consent number	Activity authorised	Sampling frequency	Consent start date	Expiry date	Map reference	Amended monitoring possibility
	103206	Diversion of unnamed tributary of the Mokauiti Stream	Site inspections twice every year	17-Sep-01	31-Jun-36		
<b>Tiki Tiki Rd -Piopio</b>	103196	To discharge leachate onto or into land from the Piopio closed landfill in circumstances that may result in contaminants entering water	Surface water monitoring twice every year; site inspections twice every year	17-Sep-01	30-Jun-36	S17:906-046	The consent holder may amend the frequency of inspections / monitoring after 2 years provided written approval is obtained from WRC
	103197	To discharge landfill gas to air from the Piopio closed landfill	Site inspections twice every year	17-Sep-01	30-Jun-36		
<b>Mokau</b>	The Resource Consent application for this landfill is currently in progress.						
<b>Walker Rd - Te Kuiti</b>	103287	To discharge contaminants (i.e. landfill leachate) into the ground from the closed Walker Road landfill in circumstances that result in contaminants entering groundwater	Groundwater monitoring twice every year; Site inspections twice every year	30-Sep-07	30-Jun-37	S16:011-167	After at least two years of monitoring (including at least four sampling rounds) the consent holder may, subject to obtaining the written approval of WRC, amend the sampling frequency and the parameters
	103288	To discharge contaminants (i.e. landfill gas) into the air from the closed Walker Road landfill	Site inspections twice every year		30-Jun-37		
	103289	To divert and discharge natural water and stormwater from the closed Walker Road landfill	Surface water monitoring twice every year; site inspections twice every year		30-Jun-37		

**Table: Resource Consents – Closed Landfills**

# APPENDIX F: ORGANISATIONAL STRUCTURE

## WDC Staffing Structure





**Draft**

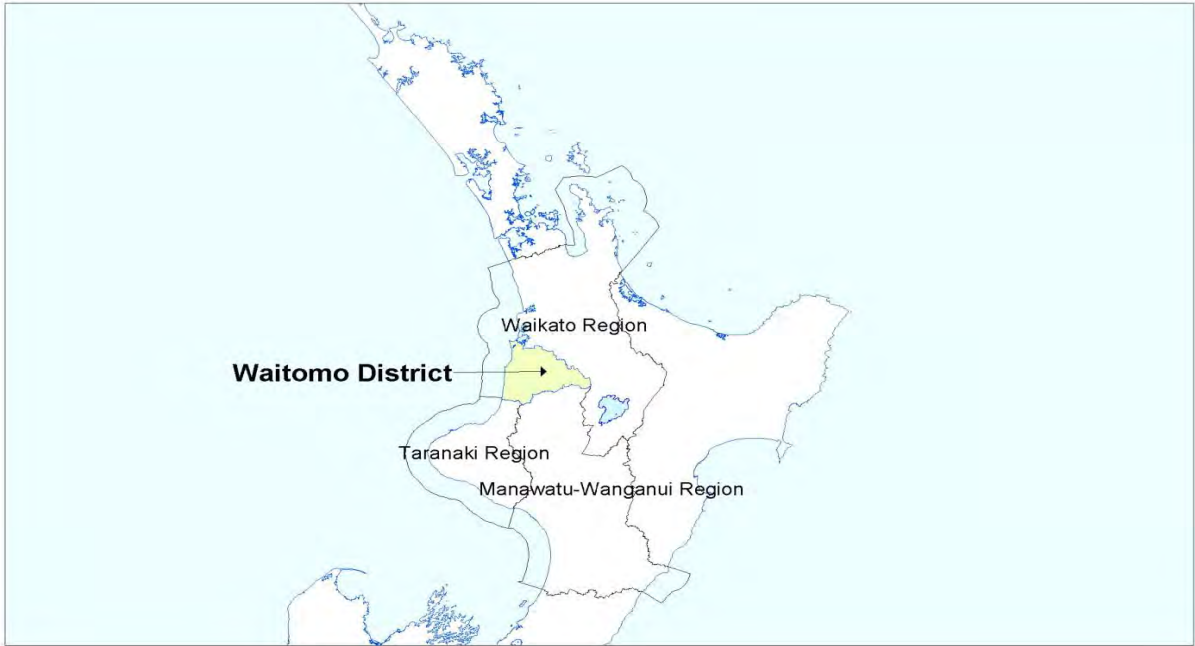
**Community Development Activity  
Management Plan**

**2015**

DRAFT

Adopted by Council: 29 June 2012

Reviewed: 2015



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## Executive Summary: Community Development

This Activity Management Plan (AMP) outlines Waitomo District Council's (WDC's) intended involvement in Community Development over the next 10 years. It identifies ways in which WDC will work to increase effectiveness and efficiency in this area.

Community Development is a group of activities where WDC, in a number of diverse roles, is actively involved in 'helping the community to help itself'. Community Development represent a group of collaborative and partnership approaches and initiatives involving many agencies and organisations. These activities involve a common theme of promoting a better quality of life and a better living environment within the District.

The Community Development Group assists in the development of a strong and cohesive district community, encouraging participation and contribution by its residents.

The activity management plan focuses on activities that assist in the achievement of strategic goals as outlined in the Plan.

### Purpose

The purpose of this Activity Management Plan is to state how WDC aims to contribute to the achievement of relevant community outcomes in the area of Community Development.

WDC is committed to providing good quality local infrastructure, public services and regulatory functions at the least possible cost to households and business within the community. WDC is committed to the provision of the Community Development Group to support and encourage Council and community involvement in initiatives that improve social, cultural, economic and environmental aspects of everyday life.

### Link to Community Outcomes

The Community Development Group contributes to the following Community Outcomes:

#### Effective Leadership

**CO8** A place where the development of partnerships for the delivery of programmes and services is encouraged and pursued.

#### Vibrant Communities

**CO1** A place where the multicultural values of all its people and, in particular, Maori heritage and culture is recognised and valued.

**CO2** A place where all age groups have the opportunity to enjoy social, cultural and sporting activities within our District.

**CO3** A place where young people have access to education, training and work opportunities.

**CO4** A place where young people feel valued and have opportunities for input into the decisions for the District.

**CO5** A place where we preserve the natural environment for future generations, ensuring that natural resources are used in a sustainable manner.

#### Prosperous District

**CO6** A place that attracts more people who want to live, work and play, and raise a family.

**CO7** A place where wealth and employment are created through local businesses and tourism opportunities and facilities are developed, facilitated and encouraged.



## **Rationale for Service Delivery**

The Community Development Group exists to provide a dedicated resource for collaborating with the community. It facilitates access to many opportunities and resources available within and beyond the District in support of community outcomes.

Activities within the Community Development Group include:

### **Community Support**

Community Support seeks to improve social outcomes within Waitomo District by working closely with the District community. The Community Support Goals are to:

- Create a better quality of life for our community.
- Create a better living environment for our community through community safety and appropriate infrastructure.
- Encourage active engagement by improving communication and trust between Council and our community.
- Help local groups with local opportunities and solutions.

These goals are assisted through making grants to the community, Sister City Relationships and Youth initiatives.

### **Tourism Development and District Promotion**

Tourism is a partnership between central government, local government and the visitor industry. This activity includes; Cultural and Environmental Tourism, Regional Tourism, District Promotion and Events.

The Tourism Development and District Promotion Goals are to:

- Recognise that economic, social, cultural and environmental outcomes must be mutually reinforcing.
- Maintain a high quality environment
- Recognise the District's dependence on tourism, primary production and utilisation of the landscape and culture, as visitor attractions
- Provide an excellent visitor experience to those travelling to our district
- Make smart strategic decisions to support Regional Tourism outcomes within our District
- Grow the economy through visitor spend in our District

### **District Development**

District Development involves the facilitation and support of initiatives that will enhance the District's economic sustainability including:

- Marketing Waitomo as a vibrant District where people want to live, work and play
- Identifying opportunities for economic development initiatives within the District
- Facilitating projects that benefit the District
- Promoting Waitomo as a visitor friendly destination where visitors can experience a variety of unique experiences
- Working with key stakeholders on urban infrastructure projects
- Developing business training opportunities to support the needs of the Districts business community
- Providing business establishment advice and assistance
- Identifying skill gaps and labour shortages within the District and working with training providers to better align training to business needs

### **Te Kuiti i-SITE Visitor Information Centre**

The Te Kuiti i-SITE prides itself on providing a free, friendly and objective information service to visitors and the local community. The i-SITE also plays a key role in the promotion of Te Kuiti, the community and the Waitomo District.



The Te Kuiti i-SITE Goals are to provide:

- A vibrant and customer focused information service that welcomes, informs and entertains the resident of, and visitors to the Waitomo District
- Skilled staff, trained to answer questions, give impartial advice and share information about what makes the District special with visitors and locals alike
- Flexibility and choice by also providing a range of WDC Customer Services
- Promoting the Waitomo District as a place to live, work and play

### **Library Services**

Public libraries provide connections to knowledge, ideas and works of the imagination, anytime, anywhere, enabling individuals to turn knowledge into value, participate as citizens and strengthen their communities.

The Waitomo District Libraries goals are to:

- Engage the Community
- Enable On-Line access to the Digital World
- Spark Creativity
- Focus on Added Value
- Collect, Create and make available Local History

### **Customer Services**

Customer Services involves service delivery and support to customers across 3 sites; Council's Administration Building (Queen Street), Waitomo District Library (Taupiri Street) and Te Kuiti i-SITE (Rora Street).

### **Strategic Goals**

The strategic goals for the Community Development Group are:

- To support and foster a district that is caring and inclusive and provides a safe, healthy and friendly place to live, work or visit and raise a family.
- To support the growth of economy through strategic partnerships that ensure the effective promotion of District attractions to domestic and international markets.
- To facilitate, advocate and promote sustainable economic development within the District.

## Effects of Service

Activities undertaken by the Community Development Group have a number of effects on the local community.

**Figure S.1: Effects of Service**

Positive effects	Negative effects
<ul style="list-style-type: none"> <li>• Provides positive leadership within the community</li> <li>• Provides funding support to enables community organisations to operate</li> <li>• Assists with improving social issues within the community</li> <li>• Encourage community participation in social initiatives</li> <li>• Provides support for community events</li> <li>• Supports an increased variety of activities available within the District</li> <li>• Support to local museums, galleries and libraries</li> <li>• Promote strong partnerships with Iwi</li> <li>• Promote and raise awareness of cultural events via WDC funding</li> <li>• Supports sustainable tourism practices within the District</li> <li>• Increased visitors due to District's attractions results in increased spending</li> <li>• Provision of district events e.g. The Great NZ Muster which attracts approximately 8,000 visitors to the District annually</li> <li>• Support Economic Development within the community</li> </ul>	<ul style="list-style-type: none"> <li>• Potential for groups to become reliant on WDC funding support</li> <li>• Insufficient funding support could limit the support to community led initiatives</li> </ul>

## Levels of Service

Levels of Service (LOS) are determined by WDC's understanding of community need as established through regular interaction with the community. The Community Development Group includes a diverse range of activities; therefore, considerable engagement is required to determine community expectations, a necessary process in the development of the LOS.

The current LOS have been set with the overarching objectives of ensuring that adequate Community Development services are provided to the district's communities; meeting the required LOS in the most cost effective way, and encouraging community involvement.

Figure S.2: Levels of Service for Community Development

Link to Community Outcomes	LOS Statement	Type of Measure	Performance Measure	Performance Measure and Targets				Performance measurement Procedure
				2015-2016	2016-2017	2017-2018	2018-2019	
<b>Vibrant Communities</b> CO1, CO2, CO3  <b>Effective Leadership</b> CO8	Provide assistance for community support activities	KPI	Advertisement and administration of all WDC Funding Rounds as per the Community Development Fund Policy	100% Compliance	100% Compliance	100% Compliance	100% Compliance	Annual reports
<b>Vibrant Communities</b> CO1  <b>Effective Leadership</b> CO8	Support the positive development of youth within the District	KPI	Youth Council makes 1 submission to Council per Year	1 per annum	1 per annum	1 per annum	1 per annum	Review of submissions to documents under community consultation
		KPI	Youth Council undertakes two youth related projects per year	2 per annum	2 per annum	2 per annum	2 per annum	Review of Project Evaluations
<b>Vibrant Communities</b> CO1, CO2  <b>Effective Leadership</b> CO8	Provision of comprehensive library facilities for the community	KPI	Percentage of community satisfied with the quality of the library facility and service in the annual resident satisfaction survey.	= >85%	= >85%	= >85%	= >85%	Annual Resident Satisfaction Survey
<b>Vibrant Communities</b> CO1, CO2  <b>Effective Leadership</b> CO8	Promote the use of the Library facility	Management Tool	Accurate statistical reporting including visitor numbers, book issues, APNK users, Wi-Fi connections and Library programmes	Monthly	Monthly	Monthly	Monthly	Monthly Reports

Link to Community Outcomes	LOS Statement	Type of Measure	Performance Measure	Performance Measure and Targets				Performance measurement Procedure
				2015-2016	2016-2017	2017-2018	2018-2019	
<b>Prosperous District CO6, CO7</b>  <b>Effective Leadership CO8</b>	i-SITE will deliver effective and efficient services to visitors	Management Tool	Accurate volume and statistical trends on visitor numbers are recorded and reported to management level	Monthly	Monthly	Monthly	Monthly	Monthly Reports
<b>Vibrant Communities CO1</b>  <b>Prosperous District CO6</b>  <b>Effective Leadership CO8</b>	Council will support major District events that build community pride and raise the District's profile	KPI	Number of major District events held on time and to budget	One Major event (the Muster) and one minor event (the Christmas Parade)	One Major event (the Muster) and one minor event (the Christmas Parade)	One Major event (the Muster) and one minor event (the Christmas Parade)	One Major event (the Muster) and one minor event (the Christmas Parade)	Annual Report
<b>Prosperous District CO6, CO7</b>  <b>Effective Leadership CO8</b>	Council through its membership of the Hamilton and Waikato Regional Tourism Organisation will ensure enhanced presence in national and international markets for the District	KPI	Number of District Promotion opportunities taken in key publications and industry events	> 4	> 4	> 4	> 4	Reports from the Hamilton and Waikato Regional Tourism Organisation

Link to Community Outcomes	LOS Statement	Type of Measure	Performance Measure	Performance Measure and Targets				Performance measurement Procedure
				2015-2016	2016-2017	2017-2018	2018-2019	
<b>Prosperous District CO6, CO7</b>  <b>Effective Leadership CO8</b>	Council will encourage and support business expansion and sustainable economic development opportunities within the District	KPI	Economic Development Action Plan developed and implemented	Economic Development Action Plan implemented by July 2015 and actions advanced as per plan timelines	Actions implemented as per Economic Development Action Plan timeline	Actions implemented as per Economic Development Action Plan timeline	Actions implemented as per Economic Development Action Plan timeline	Review of actions taken against the identified programme

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## Key Programmes to Achieve and Maintain Levels of Service

WDC is implementing a number of projects to achieve the LOS. These are a range of service improvement, community engagement and strategic projects.

The projects are split into two categories:

- Key Programmes to achieve and maintain LOS; and
- Key Strategies affecting future LOS.

The table below summarises the major projects, their forecasted total cost to WDC and an assessment of the confidence in the projections. All of the key programmes and key strategies below are linked to initiatives outlined in the strategy and policy documents (Community Development Strategy 2015-2018, Waitomo District Library Strategy 2015-2018 - adopted by Council 29 October 2014, Community Development Fund Policy – adopted by Council 26 August 2014).

**Figure S.3: Key Programmes to Achieve and Maintain Levels of Service**

Trend	Project	Key Service Criteria	Forecasted Total Cost	Confidence Level in Projections	Estimated Timeline for Project Completion
Economic	Promote and support sustainable economic development in the Waitomo District	Quality Sustainability	\$25,000 2015-2016 \$50,000 2016-2017 2017-2018 \$75,000 pa ongoing	B	Ongoing
Social	Support of Youth Council and Youth Liaison	Quality Sustainability	\$6,000 pa	A	Ongoing
Economic	Involvement in Hamilton & Waikato RTO	Economic Sustainability	\$60,000 pa	B	Ongoing
Social Cultural	Administering of grant funding as per Community Development Fund Policy	Economic Sustainability	\$400,000 pa	A	Ongoing
Social Cultural	Commitment to a high standard of customer service, consistently	Quality	Budget requirements reflected in Information Services Cost Centre	B	Ongoing
Social	Support of the ODDB Youth Support Programme	Quality Sustainability	\$15,000	A	Ongoing
Social Cultural Economic	Library system upgrade	Quality	\$10,000	A	2015-2016
Economic	i-SITE Point of Sale System	Quality	\$2,600 pa	A	Ongoing

**Figure S.4: Key Strategies that may affect Future Levels of Service**

Trend	Project	Key Service Criteria	Forecasted Total Cost	Confidence Level in Projections	Estimated Timeline for Project Completion
Economic Social Cultural	Economic Development Action Plan developed and implemented by July 2015	Economic Sustainability	Ongoing operational costs are included within existing Direct Expenditure budgets	B	Ongoing
Social Cultural	Customer Service Strategy (adopted)	Quality Sustainability	Strategy developed in-house. Ongoing operational costs are included within existing Direct Expenditure budgets	B	Ongoing
Social Cultural	Waitomo District Library Strategy (adopted)	Quality Sustainability	Strategy developed in-house. Ongoing operational costs are included within existing Direct Expenditure budgets	A	Ongoing
Economic Social Cultural	Community Development Strategy (adopted)	Quality Sustainability	Strategy developed in-house. Ongoing operational costs are included within existing Direct Expenditure budgets	A	Ongoing
Economic	Shared Services Investigations	Quality Satisfaction	No identified costs to date	D	Ongoing

**Figure S.5: Capital Programmes to Meet Growth and Enhance Facilities**

Trend	Project	Key Service Criteria	Forecasted Total Cost	Confidence Level in Projections	Estimated Timeline for Project Completion
Leisure	Upgrade library shelving	Quality	\$30,000	B	2017-2018
	Library furniture renewal	Quality/Satisfaction	\$15,000 (split over 3 yrs) – Budget requirements reflected in Corporate Services Cost Centre	B	2017-2018
	Book replacement programme	Quality/Satisfaction	\$460,000 (10yrs)  (\$50,000 annually reducing to \$42,000 by year 10)	A	2024-2025
	Library technology programme	Quality/Satisfaction	\$60,000 (10 yrs)  (Cyclic - \$10,000 yr1 / \$2,000 yr 2) Budget requirements reflected in Information Services Cost Centre	B	2024-2025
Social Economic	Door Counter installed at the i-SITE	Quality	\$1,500	B	2015-2016
	i-SITE/Hub furniture renewal	Quality/Satisfaction	\$7,000 (over 2 yrs) Budget requirements reflected in Corporate Services Cost Centre	B	2017-2018
	i-SITE/Hub technology programme	Quality/Satisfaction	\$11,000 (10 yrs)  (\$5,000 in 2016 \$2,000 in 2019/ 2022/2025) Budget requirements reflected in Corporate Services Cost Centre	B	2024-2025



## Identified Risks

Risk management is about limiting the consequences of failure in our services and limiting the likelihood of this failure.

Risk is also about WDC's ability to meet future demand and changes. WDC believes that the proposals for Community Development contained in the various proposals and strategies will meet future demand.

**Figure S.6: Identified Risks**

Asset Affected	Failure Mode	Description	Risk Rating	Current Mitigation	Managed Risk Rating
Community Development- Customer Services	Communication Breakdown	Loss of ICT including phones and computers	Moderate	Divert to afterhours services	Low
Community Development- Customer Services	Staffing Availability	Staff unavailable due to sickness or unexpected circumstance	Moderate	Resource from other Customer Services sites	Low
Community Development - Grants	Grant Misuse	Grant monies used for any purpose other than that it was funded	Low	Auditing an accountability criteria	Low
Community Development - Events	Public Injury	Public injury during WDC events	Low	Safety monitoring  Safety information provided to all registrations  Safety checks for compliance  Event Plans prepared	Low
Community Development - Events	Property Damage	Damage to public or private property during events	Low	Safety monitoring and Procedures  Traffic Management Plans prepared	Low

## The Services we Deliver

WDC Community Development is made up of the following activities:

- Customer Services
- Community Support
- Tourism Development and District Promotion
- District Development
- Te Kuiti i-SITE Visitor Information Centre
- Library Services

The following section will provide an overview of each of the activities of WDC's Community Development Group.

### Customer Services

Customer Service delivery is at the core of the Community Development Group. Customer Services are the front face of the organisation, and the team across all Customer Services sites aim to provide exceptional customer services and information to our customers.

WDC sites that are considered in this category are:

- Queen Street Office
- Waitomo District Library
- Te Kuiti i-SITE

Daily activity at each of these sites is governed by standard operating procedures and existing strategy documents.

### Community Support Activity

Community Support aims to support WDC's Social and Cultural Community Outcomes. The key goals that underpin Community Support are to:

- Create a better quality of life for our community
- Create a better living environment for our community, through community safety and appropriate infrastructure
- Encourage active engagement by improving communication and trust between Council and our community
- Help local groups with local opportunities and solutions

### Tourism Development and District Promotion

This activity includes; Cultural and Environmental Tourism, Regional Tourism, District Promotion and Events. The goals that underpin WDC's involvement in this activity are to:

- Recognise that economic, social, cultural and environmental outcomes must be mutually reinforcing.
- Maintain a high quality environment
- Recognise the District's dependence on tourism, primary production and utilisation of the landscape and culture, as visitor attractions
- Provide an excellent visitor experience to those travelling to our district
- Make smart strategic decisions to support Regional Tourism outcomes within our District
- Grow the economy through visitor spend in our District

### District Development

District Development involves the facilitation and support of initiatives that will enhance the District's economic sustainability. Goals that underpin WDC's involvement in this activity are:

- Marketing Waitomo as a vibrant District where people want to live, work and play
- Identifying opportunities for economic development initiatives within the District
- Facilitating projects that benefit the District

- Promoting Waitomo as a visitor friendly destination where visitors can experience a variety of unique experiences
- Working with key stakeholders on urban infrastructure projects
- Developing business training opportunities to support the needs of the Districts business community
- Providing business establishment advice and assistance
- Identifying skill gaps and labour shortages within the District and working with training providers to better align training to business needs

### **Management of the Te Kuiti i-SITE Visitor Information Centre**

WDC provides a Visitor Information facility within the CBD of Te Kuiti. The i-SITE is used to promote the attractions of the District as well as providing travel information to the community and visitors. The goals that underpin WDC's involvement in this activity are to provide:

- A vibrant and customer focused information service that welcomes, informs and entertains the resident of, and visitors to the Waitomo District
- Skilled staff, trained to answer questions, give impartial advice and share information about what makes the District special with visitors and locals alike
- Flexibility and choice by also providing a range of WDC Customer Services
- Promoting the Waitomo District as a place to live, work and play

### **Library Services**

Public libraries provide connections to knowledge, ideas and works of the imagination, anytime, anywhere, enabling individuals to turn knowledge into value, participate as citizens and strengthen their communities. The goals that underpin WDC's involvement in this activity are to provide:

- Promote the library as a key community facility – welcoming, relevant and an innovative environment.
- Discover, access, create and share digital content
- Foster creativity, innovation and learning.
- Strengthen Customer Relationships
- Collect, preserve and provide material that embodies our local history.

### **Financial Summary**

The included budgets relate to the provision of WDC's Community Development Group.

Figures that are included are:

- Direct Costs
- Revenue
- Asset Renewal Costs
- Capital Expenditure
- Indirect Expenditure

## Specific Improvements Projects 2015-2018

The purpose of an Activity Management (AM) improvement programme is to improve the current management practices for AM processes, information systems and data, by implementing an improvement programme that brings current management practices in to line with desired management practices.

The success of improvement programmes lies in concentrating on specific, one off, sections of work. The improvement plan will provide for the staged improvement of AM practices to an appropriate level for AMP preparation, process improvements, information system development, and data collection and recording.

Specific improvement projects that relate to the Community Development AMP for the 2015-2018 period are detailed below. Timeframes, resource requirements and estimated costs are detailed. The confidence level of the estimated resources and costs is graded as a B.

The table below details specific improvements projects for the Community Development Group 2015-2018.

**Figure S.7: Specific Improvement Projects 2015-2018**

Specific Improvement Projects 2015-2018				
Project	Year	Resource		Estimated Cost
		WDC Staff	External	
Targeted customer satisfaction surveys	2015-2018	Yes	No	Internal administration costs only
i-SITE Point of Sale system	2015-2018	Yes	No	\$2,600 pa budgeted
Business Continuity Plan for Customer Services sites	2015-2016	Yes	No	Internal administration costs only
Comprehensive database of grant applications, recipients, funding levels and funding trends maintained	2015-2018	Yes	No	Internal administration costs only
Operations manuals reviewed – all customer service sites	2015-2016	Yes	No	Internal administration costs only

## Assumptions

The following key assumptions relate to the Community Development AMP:

- It is assumed that the population data from the current census is correct
- The AMP for WDC's Community Development activity will be progressively updated as more complete information becomes available over time.
- Best practice and current knowledge has been used in formulating information regarding services in this Activity Plan. This information is not well supported by solid historical data. It is assumed that this information is correct.
- Actions and programmes included in the Strategy and Policy documents adopted by Council (WDC Customer Service Strategy, Community Development Strategy, Waitomo District Library Strategy and Community Development Fund Policy) are deemed appropriate by Council.

## 1.0 Introduction

### 1.1 WDC's Commitment to its Community

Waitomo District Council's (WDC) Vision for the 2015-25 Long Term Plan is:

**"Creating a better future with vibrant communities and thriving business"**

WDC is committed to providing good quality local infrastructure, public services and regulatory functions at the least possible cost to households and business within the community. WDC is committed to the provision of the Community Development Group to support and encourage Council and community involvement in initiatives that improve social, cultural, economic and environmental aspects of everyday life.

### 1.2 Why Council Provides the Service – Rationale for Service Delivery

The Community Development Group exists to provide a dedicated resource for collaborating with the community. It facilitates access to many opportunities and resources available within and beyond the District in support of community outcomes.

Activities within the Community Development Group include:

#### Community Support

Community Support seeks to improve social outcomes within Waitomo District by working closely with the District community. The Community Support Goals are to:

- Create a better quality of life for our community.
- Create a better living environment for our community through community safety and appropriate infrastructure.
- Encourage active engagement by improving communication and trust between Council and our community.
- Help local groups with local opportunities and solutions.

These goals are assisted through making grants to the community, Sister City Relationships and Youth initiatives.

#### Tourism Development and District Promotion

Tourism is a partnership between central government, local government and the visitor industry. This activity includes; Cultural and Environmental Tourism, Regional Tourism, District Promotion and Events.

The Tourism Development and District Promotion Goals are to:

- Recognise that economic, social, cultural and environmental outcomes must be mutually reinforcing.
- Maintain a high quality environment
- Recognise the District's dependence on tourism, primary production and utilisation of the landscape and culture, as visitor attractions
- Provide an excellent visitor experience to those travelling to our district
- Make smart strategic decisions to support Regional Tourism outcomes within our District
- Grow the economy through visitor spend in our District

#### District Development

District Development involves the facilitation and support of initiatives that will enhance the District's economic sustainability including:

- Marketing Waitomo as a vibrant District where people want to live, work and play
- Identifying opportunities for economic development initiatives within the District
- Facilitating projects that benefit the District
- Promoting Waitomo as a visitor friendly destination where visitors can experience a variety of unique experiences
- Working with key stakeholders on urban infrastructure projects
- Developing business training opportunities to support the needs of the Districts business community
- Providing business establishment advice and assistance

- Identifying skill gaps and labour shortages within the District and working with training providers to better align training to business needs

### **Te Kuiti i-SITE Visitor Information Centre**

The Te Kuiti i-SITE prides itself on providing a free, friendly and objective information service to visitors and the local community. The i-SITE also plays a key role in the promotion of Te Kuiti, the community and the Waitomo District.

The Te Kuiti i-SITE Goals are to provide:

- A vibrant and customer focused information service that welcomes, informs and entertains the resident of, and visitors to the Waitomo District
- Skilled staff, trained to answer questions, give impartial advice and share information about what makes the District special with visitors and locals alike
- Flexibility and choice by also providing a range of WDC Customer Services
- Promoting the Waitomo District as a place to live, work and play

### **Library Services**

Public libraries provide connections to knowledge, ideas and works of the imagination, anytime, anywhere, enabling individuals to turn knowledge into value, participate as citizens and strengthen their communities.

The Waitomo District Libraries goals are to:

- Engage the Community
- Enable On-Line access to the Digital World
- Spark Creativity
- Focus on Added Value
- Collect, Create and make available Local History

### **Customer Services**

Customer Services involves service delivery and support to customers across 3 sites; Council's Administration Building (Queen Street), Waitomo District Library (Taupiri Street) and Te Kuiti i-SITE (Rora Street).

## **1.3 The Role of WDC in the Provision of Community Development**

Community Development is a group of activities where WDC, in a number of diverse roles, is actively involved in 'helping the community to help itself'. Community Development represent a group of collaborative and partnership approaches and initiatives involving many agencies and organisations. These activities involve a common theme of promoting a better quality of life and a better living environment within the District.

The Community Development Group assists in the development of a strong and cohesive district community, encouraging participation and contribution by its residents.

## **1.4 Community Outcomes**

### **Effective Leadership**

**CO8** A place where the development of partnerships for the delivery of programmes and services is encouraged and pursued.

### **Vibrant Communities**

**CO1** A place where the multicultural values of all its people and, in particular, Maori heritage and culture is recognised and valued.

**CO2** A place where all age groups have the opportunity to enjoy social, cultural and sporting activities within our District.

**CO3** A place where young people have access to education, training and work opportunities.

**CO4** A place where young people feel valued and have opportunities for input into the decisions for the District.

**CO5** A place where we preserve the natural environment for future generations, ensuring that natural resources are used in a sustainable manner.

### **Prosperous District**

**CO6** A place that attracts more people who want to live, work and play, and raise a family.

**CO7** A place where wealth and employment are created through local businesses and tourism opportunities and facilities are developed, facilitated and encouraged.

## **1.5 The Role of Other Parties**

Community Development involves a combined and cohesive approach to development within the community, therefore for this Group to be successful the involvement and contribution of agencies, community organisations and local industry is essential.

For a list of parties involved in Community Development, see table 2.3. WDC will work with organisations, where appropriate to achieve the desired outcomes.

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## 1.6 Significant Effects of the Service

Activities undertaken by the Community Development Group have a number of effects on the local community.

**Figure 1.1: Significant Effects**

Positive effects	Negative effects
<ul style="list-style-type: none"> <li>• Provides positive leadership within the community</li> <li>• Provides funding support to enables community organisations to operate</li> <li>• Assists with improving social issues within the community</li> <li>• Encourage community participation in social initiatives</li> <li>• Provides support for community events</li> <li>• Supports an increased variety of activities available within the District</li> <li>• Support to local museums, galleries and libraries</li> <li>• Promote strong partnerships with Iwi</li> <li>• Promote and raise awareness of cultural events via WDC funding</li> <li>• Supports sustainable tourism practices within the District</li> <li>• Increased visitors due to District's attractions results in increased spending</li> <li>• Provision of district events e.g. The Great NZ Muster which attracts approximately 8,000 visitors to the District annually</li> <li>• Support Economic Development within the community</li> </ul>	<ul style="list-style-type: none"> <li>• Potential for groups to become reliant on WDC funding support</li> <li>• Insufficient funding support could limit the support to community led initiatives</li> </ul>



## 1.7 About this AMP

### Document Structure

This document has the following structure to ensure that WDC meets with its legislative requirements to prepare Activity Management Plans for each of its activities. The format of this document is:

- What our customers want and how well we are doing to achieve it
- How we manage the service (Lifecycle Management)
- Planning for the future – demand for the service (Growth)
- What it costs and how we will pay for it (Financial Summary)
- Our commitment to excellence (Management Practice and Improvement Programme)
- Appendices

### Links to Other Plans

Activity Management Plans (AMPs) are a key component of WDC planning process that link to the following documents:

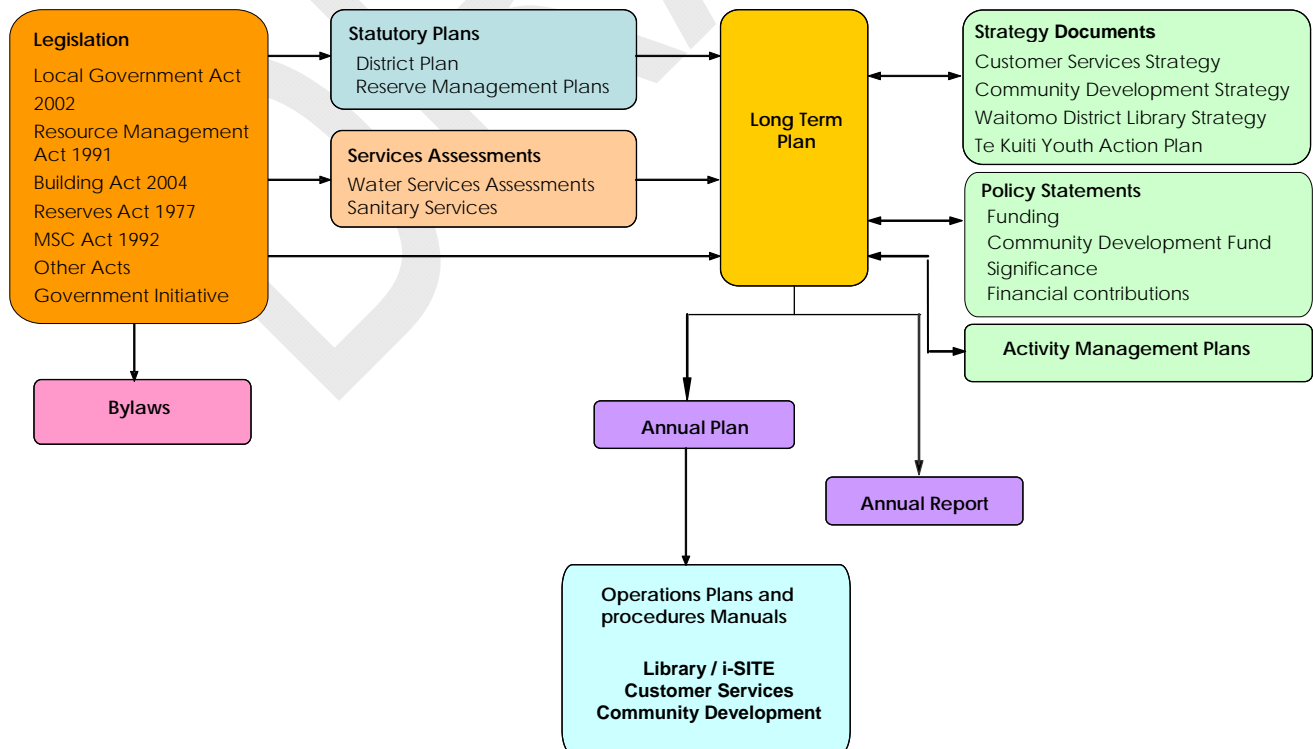
**Long Term Plan (LTP):** Defines the strategic direction for the next 10 years. AMPs are prepared to supplement the information in the LTP and confirm the WDC's role in achieving Community Outcomes.

**Annual Plan (AP):** The works identified in the AMP should become the basis on which future Annual Plans are prepared and identify services to be provided in a particular financial year.

**Strategies (CDS):** The key strategies this plan links to is the Community Development Strategy and the Waitomo District Library Strategy. These documents are updated once every three years as a precursor to the Long Term Plan Process.

**Tactical Plans/Policies:** The key tactical plan that this AMP links to are the Community Development Funding Policy.

The links to other plans are shown in the schematic below:



## **2.0 Levels of Service**

Levels of Service (LOS) are determined by WDC's understanding of community need as established through regular interaction with the community. The Community Development Group includes a diverse range of activities; therefore, considerable engagement is required to determine community expectations, a necessary process in the development of the LOS.

The current LOS have been set with the overarching objectives of ensuring that adequate Community Development services are provided to the district's communities; meeting the required LOS in the most cost effective way, and encouraging community involvement.

## **2.1 How our Services Contribute to Community Outcomes**

The Community Development Group, through its Community Support, Tourism Development and District Promotion, Te Kuiti i-SITE Visitor Information Centre and Customer Services, contributes to the WDC's Community Outcomes and the current and future needs of communities for good quality, local infrastructure and local public services.

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The Community Development Group directly contributes to WDC's Community Outcomes by:

**Figure 2.1: Relevant Community Outcomes for Community Development**

Community Outcomes the Group contributes to	How the Community Development Group contributes	Outcome Effect Indicator
<b>Vibrant Communities</b>		
<b>CO1</b> A place where the multicultural values of all its people and, in particular, Maori heritage and culture is recognised and valued.	<p>By working with Iwi to develop cultural tourism opportunities.</p> <p>By promoting Heritage Trails within the District.</p> <p>By supporting museums, galleries and libraries within the Waitomo District.</p> <p>By actively preserving Heritage Buildings / Sites and promoting partnerships with DOC, Historic Places Trust, Historic Society and the Genealogy Society.</p>	<p>People will be aware of our history.</p> <p>Strong partnerships with external parties focussed on sustainability of our Heritage.</p>
<b>CO2</b> A place where all age groups have the opportunity to enjoy social, cultural and sporting activities within our District	<p>By supporting programmes based on healthy leaving.</p> <p>By forming partnerships and collaborating with key stakeholders.</p> <p>By supporting local initiatives that address local needs and aspirations.</p>	<p>An active community.</p> <p>Waitomo District is recognised as an engaged community.</p>
<b>CO 3</b> A place where young people have access to education, training and work opportunities.	<p>By working with key stakeholders to create development opportunities for youth.</p> <p>By providing a modern library service that supports the education, training and recreation of young people.</p>	<p>Development and training opportunities established.</p>
<b>CO 4</b> A place where young people feel valued and have opportunities for input into the decisions for the District.	<p>By supporting the Waitomo District Youth Council.</p> <p>By supporting the MSD SST initiatives.</p>	<p>Ongoing support for the Waitomo District Youth Council.</p>
<b>CO 5</b> A place where we preserve the natural environment for future generations, ensuring that natural resources are used in a sustainable manner.	<p>By engaging proactively with the community and key stakeholders recognising that cultural and economic outcomes must be mutually reinforcing.</p> <p>By promoting sustainable development and sustainable visitation to the District.</p>	<p>Sustainable economic development initiatives established.</p> <p>Sustainable tourism visitation is promoted.</p>

Community Outcomes the Group contributes to	How the Community Development Group contributes	Outcome Effect Indicator
<b>Prosperous District</b>		
<b>CO 6</b> A place that attracts more people who want to live, work and play, and raise a family.	<p>By working with key stakeholders to develop opportunities for training and employment.</p> <p>By working with key community organisations to address social issues.</p>	Suitable training initiatives developed.
<b>CO 7</b> A place where wealth and employment are created through local businesses and development of tourism opportunities and facilities are developed, facilitated and encouraged.	<p>By actively promoting the District as a tourist destination.</p> <p>By undertaking strategic tourism partnerships at a regional level and ensuring that these partnerships benefit Waitomo at a district level.</p> <p>By supporting economic development within the district.</p> <p>By maintaining strong relationships with development groups within the District.</p>	<p>People recognise the Waikato region as a destination.</p> <p>People recognise Waitomo as a destination.</p> <p>Suitable economic development initiatives delivered in the community.</p> <p>Continued positive relationships with development groups.</p>
<b>Effective Leadership</b>		
<b>CO8</b> A place where the development of partnerships for the delivery of programmes and services is encouraged and pursued	<p>By actively preserving Heritage Buildings / Sites and promoting partnerships with DOC, Historic Places Trust, Historic Society and the Genealogy Society.</p> <p>By forming partnerships and collaborating with key stakeholders.</p> <p>By working with key stakeholders to create development opportunities for youth.</p> <p>By engaging proactively with the community and key stakeholders recognising that cultural and economic outcomes must be mutually reinforcing.</p> <p>By undertaking strategic tourism partnerships at a regional level and ensuring that these partnerships benefit Waitomo at a district level.</p>	<p>Strong partnerships with external parties focussed on sustainability of our Heritage.</p> <p>Strong partnerships with external parties.</p> <p>Development and training opportunities established.</p> <p>Sustainable economic development initiatives established.</p> <p>Suitable economic development initiatives delivered in the community.</p> <p>Continued positive relationships with development groups.</p>

In addition to the outcomes above and through this AMP and other structured documents, WDC will ensure that there is long-term planning in the provision of community development and social services to attract new residents, visitors and event promoters to our District and enhance well-being within our community.

Council has indicated its support of the following activities:

- Support of the Hamilton and Waikato Regional Tourism Organisation (HWRTO)
- The development of an Economic Development Action Plan
- Provision of i-SITE and Events Services
- Investigation into shared service initiatives
- Funding/grant support to the not for profit sector
- A high standard of Customer Service consistently across WDC sites
- Waitomo District Youth Council
- Social Sector Trials – Te Kuiti Youth Action Plan

## 2.2 Strategic Direction

The strategic goals for the Community Development Group are:

- To support and foster a district that is caring and inclusive and provides a safe, healthy and friendly place to live, work or visit and raise a family.
- To support the growth of economy through strategic partnerships that ensure the effective promotion of District attractions to domestic and international markets.
- To facilitate, advocate and promote sustainable economic development within the District.

## 2.3 Legislative Framework

### Local Government Act 2002

The Local Government Act 2002 and associated amendments, requires local authorities to assist and promote opportunities for public participation in local decision-making and to provide good quality local infrastructure, public services and regulatory functions at the least possible cost to households and business.

The Act provides an empowering framework to enable local authorities in collaboration with other organisations, including Central Government, Iwi and community organisations, to promote or achieve its desired outcomes and priorities and make efficient use of local resources to meet local needs.

The Community Development Group provides a dedicated resource for collaborating with the community. It facilitates access to many opportunities and resources available within and beyond the District in support of community outcomes.

## 2.4 Our Customers

In order to provide an efficient level of service, WDC needs to identify its customers. Key customers for the Community Development Group include:

**Figure 2.2: Potential Customers**

External Customers	Internal Customers
<ul style="list-style-type: none"> <li>• Business Groups/sector</li> <li>• Children and Youth</li> <li>• Community groups and organisations</li> <li>• Drivers Licensing applicants</li> <li>• Government Agencies</li> <li>• Iwi</li> <li>• Tourists</li> <li>• Residents and Ratepayers of the Waitomo District</li> </ul>	<ul style="list-style-type: none"> <li>• Elected representatives</li> <li>• WDC staff</li> <li>• WDC service providers</li> </ul>

## Community Expectations

This group includes a diverse range of activities; therefore, considerable effort is required to determine community expectations, a necessary process in the development of meaningful levels of service.

Current knowledge of community expectations is based largely on structured and unstructured surveys which tend to focus on determining overall customer satisfaction, along with feedback received during WDC's formal consultation processes.

In 2014 WDC conducted an in-house Resident Satisfaction Survey in order to where-ever possible identify how well WDC is performing in terms of services offered to the community. The provision to introduce targeted customer satisfaction surveys has been included within this AMP for future years.

The current LOS have been set with the overarching objectives of ensuring that adequate Community Development services are provided to the districts communities; meeting the required LOS in the most cost effective way, and encouraging community involvement.

## Quality of the Library Facilities and Service

**Figure 2.3: Percentage satisfied with the Library Facilities and Service**

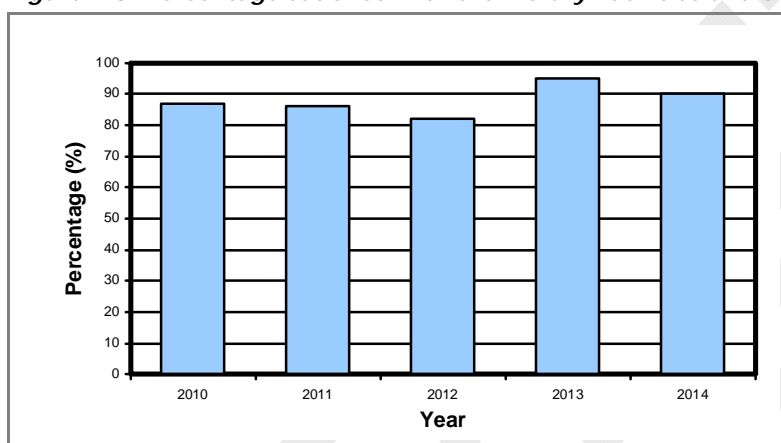


Figure 2.3 shows that the level of satisfaction with the Library facility has largely remained consistent through the 2010 to 2014 years. The level of satisfaction decreased slightly when comparing the 2014 year to the 2013 year, the main reasons for dissatisfaction being library fees too high and the library needs an upgrade.

## Council is moving towards its vision

**Figure 2.4: Percentage satisfied that Council is moving towards its vision**

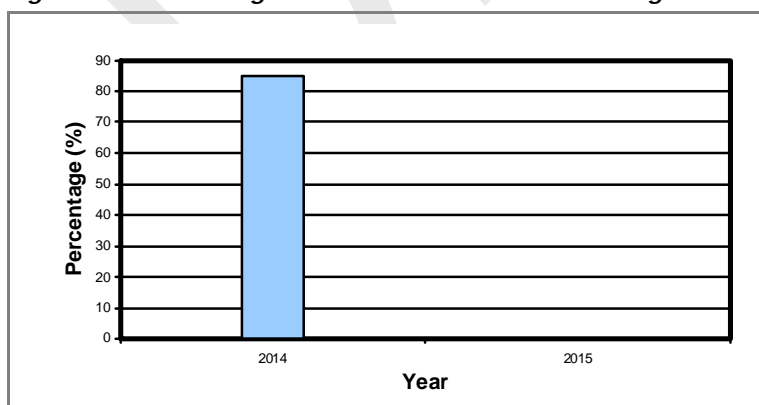


Figure 2.4 shows that the community is confident that Council is moving towards its vision for the Waitomo District (*vibrant communities and thriving business*). This is a new indicator introduced in the 2014 Resident Satisfaction Survey.

## 2.5 Other Stakeholders

In order to provide an efficient level of service, WDC needs to identify its key stakeholders. Due to the collaborative nature of the Community Development Group a large number of stakeholders have been identified. Key Stakeholders for the Community Development Group include:

**Figure 2.4: Stakeholders**

Community Support	District Promotion	Economic Development
<ul style="list-style-type: none"> <li>• Iwi</li> <li>• Government Agencies</li> <li>• NZ Shearing Committee</li> <li>• RSA</li> <li>• Te Kuiti Development Inc</li> <li>• Schools</li> <li>• Community Link</li> <li>• Te Roopu O Waitomo</li> <li>• Maniapoto Family Violence Intervention Network</li> <li>• Mental Health Forum</li> <li>• Community Waikato</li> <li>• Te Kuiti Community House Trust</li> <li>• WRC/Waitomo Clean Air Health Homes working party</li> <li>• Te Wananga O Aotearoa</li> <li>• Wintec</li> <li>• NMMPT Training Agency</li> <li>• Aotearoa Peoples Network Kaharoa</li> <li>• Industry Training Organisation's</li> <li>• Maniapoto Trust Board</li> <li>• AA/NZTA Drivers License Agency</li> <li>• Youth Council</li> <li>• State Sector Youth Services Manager</li> <li>• Te Kuiti Youth Action Plan Governance Group</li> <li>• Mayors Taskforce for Jobs</li> <li>• Ministry of Youth Development</li> <li>• NZ Police</li> <li>• Sport Waikato</li> <li>• Sport New Zealand</li> <li>• Sports Clubs</li> <li>• Healthcare Providers</li> <li>• EECA</li> <li>• Local Aged Care Facilities</li> <li>• Project Piopio Trust</li> <li>• Benneydale Ratepayers Association</li> <li>• Te Kuiti Historical Society</li> <li>• Te Kuiti Genealogical Society</li> <li>• Waitomo Caves Discovery Centre</li> <li>• Mokau Museum</li> <li>• Te Papa</li> <li>• National Library of NZ</li> <li>• Sister City Committee</li> <li>• Tatsuno</li> <li>• Maraeroa C Block</li> <li>• Otorohanga District Development Board</li> <li>• Piopio Community Library Management Committee</li> <li>• TERE Waitomo Community Trust</li> </ul>	<ul style="list-style-type: none"> <li>• Iwi</li> <li>• HWRT0</li> <li>• Vin Incorporated</li> <li>• Waitomo Caves Discovery Centre</li> <li>• Tourism NZ</li> <li>• Ministry Social Development</li> <li>• Ministry of Economic Development</li> <li>• Otorohanga i-SITE</li> <li>• NZ Shearing Committee</li> <li>• Te Kuiti Development Inc</li> <li>• Community Organisations</li> <li>• Muster Stallholders</li> <li>• Media</li> <li>• Tourism Operators</li> <li>• i-SITE Network</li> <li>• Destination Pureora</li> <li>• Destination Waitomo</li> <li>• Department of Conservation</li> </ul>	<ul style="list-style-type: none"> <li>• Iwi</li> <li>• Te Kuiti Development Inc</li> <li>• Project Piopio Trust</li> <li>• Local Industry</li> <li>• Community Link</li> <li>• Training Providers</li> <li>• Ministry of Social Development</li> <li>• Local Employers</li> <li>• North King Country Development Trust</li> <li>• Economic Development Agencies</li> <li>• Ministry of Economic Development</li> <li>• Te Puni Kokiri</li> <li>• Te Kuiti Development Inc</li> <li>• Funders</li> <li>• Training Providers</li> <li>• Local Industry</li> <li>• Schools</li> <li>• Department of Conservation</li> <li>• TERE Waitomo Community Trust</li> </ul>

## 2.6 Service Delivery Options Considered

Levels of Service (LOS) in this AMP are determined by WDC's understanding of community needs as understood through regular interaction with key community and key stakeholders.

WDC has entered into agreements with community groups for the provision of services now and in the future. Some examples of these are, or could be:

- Provision of services arrangement with Sports Waikato around the support of participation in recreational sport (shared service initiative).
- Contributing to the Hamilton & Waikato Regional Tourism Organisation for the provision of District and Regional Promotion services.
- Provision of services arrangement with the Waitomo Caves Discovery Centre around the support of i-SITE and public toilet facilities in Waitomo Village.
- Opportunities for Shared Services delivery as they occur.
- Partnership with the Ministry of Social Development for the provision of Social Sector Trials related services.
- Partnership with the Te Kuiti Genealogical Society for the provision of District genealogy resources at the Library.
- Partnership with Health Waikato for the provision of a Web Health Kiosk within the Library complex.
- Partnership with Electronic Purchasing in Collaboration (EPIC) to provide electronic library databases.
- Partnership with Novel Consortium when purchasing electronic library resources.
- Partnership with the Syndicated Services Agreement for Library Materials and Additional Services consortium.
- Partnership with the Government funded Aotearoa Peoples Network Kaharoa (APNK) Network for the provision of broad band computer and Wi-Fi facilities within the Library complex.
- Partnership with the rural library outlets, working towards a closer relationship.



## 2.7 Levels of Service

**Strategic Goal:** To support and foster a district that is caring and inclusive and provides a safe, healthy and friendly place to live, work or visit and raise a family.

*Figure 2.5: Levels of Service*

Link to Community Outcomes	LOS Statement	Type of Measure	Performance Measure	Performance Measure and Targets				Performance measurement Procedure
				2015-2016	2016-2017	2017-2018	2018-2019	
<b>Vibrant Communities</b> CO1, CO2, CO3  <b>Effective Leadership</b> CO8	Provide assistance for community support activities	KPI	Advertisement and administration of all WDC Funding Rounds as per the Community Development Fund Policy	100% Compliance	100% Compliance	100% Compliance	100% Compliance	Annual reports
<b>Vibrant Communities</b> CO1  <b>Effective Leadership</b> CO8	Support the positive development of youth within the District	KPI	Youth Council makes 1 submission to Council per Year	1 per annum	1 per annum	1 per annum	1 per annum	Review of submissions to documents under community consultation
		KPI	Youth Council undertakes two youth related projects per year	2 per annum	2 per annum	2 per annum	2 per annum	Review of Project Evaluations
<b>Vibrant Communities</b> CO1, CO2  <b>Effective Leadership</b> CO8	Provision of comprehensive library facilities for the community	KPI	Percentage of community satisfied with the quality of the library facility and service in the annual resident satisfaction survey.	= >85%	= >85%	= >85%	= >85%	Annual Resident Satisfaction Survey
<b>Vibrant Communities</b> CO1, CO2  <b>Effective Leadership</b> CO8	Promote the use of the Library facility	Management Tool	Accurate statistical reporting including visitor numbers, book issues, APNK users, Wi-Fi connections and Library programmes	Monthly	Monthly	Monthly	Monthly	Monthly Reports

**Strategic Goal:** To support the growth of economy through strategic partnerships that ensure the effective promotion of district attractions to domestic and international markets

**Figure 2.6: Levels of Service**

Link to Community Outcomes	LOS Statement	Type of Measure	Performance Measure	Performance Measure and Targets				Performance measurement Procedure
				2015-2016	2016-2017	2017-2018	2018-2019	
<b>Prosperous District CO6, CO7</b>  <b>Effective Leadership CO8</b>	i-SITE will deliver effective and efficient services to visitors	Management Tool	Accurate volume and statistical trends on visitor numbers are recorded and reported to management level	Monthly	Monthly	Monthly	Monthly	Monthly Reports
<b>Vibrant Communities CO1</b>  <b>Prosperous District CO6</b>  <b>Effective Leadership CO8</b>	Council will support major District events that build community pride and raise the District's profile	KPI	Number of major District events held on time and to budget	One Major event (the Muster) and one minor event (the Christmas Parade)	One Major event (the Muster) and one minor event (the Christmas Parade)	One Major event (the Muster) and one minor event (the Christmas Parade)	One Major event (the Muster) and one minor event (the Christmas Parade)	Annual Report
<b>Prosperous District CO6, CO7</b>  <b>Effective Leadership CO8</b>	Council through its membership of the Hamilton and Waikato Regional Tourism Organisation will ensure enhanced presence in national and international markets for the District	KPI	Number of District Promotion opportunities taken in key publications and industry events	> 4	> 4	> 4	> 4	Reports from the Hamilton and Waikato Regional Tourism Organisation

**Strategic Goal:** To facilitate, advocate and promote sustainable economic development within the District.

**Figure 2.7: Levels of Service**

Link to Community Outcomes	LOS Statement	Type of Measure	Performance Measure	Performance Measure and Targets				Performance measurement Procedure
				2015-2016	2016-2017	2017-2018	2018-2019	
<b>Prosperous District CO6, CO7</b>  <b>Effective Leadership CO8</b>	Council will encourage and support business expansion and sustainable economic development opportunities within the District	KPI	Economic Development Action Plan developed and implemented	Economic Development Action Plan implemented by July 2015 and actions advanced as per plan timelines	Actions implemented as per Economic Development Action Plan timeline	Actions implemented as per Economic Development Action Plan timeline	Actions implemented as per Economic Development Action Plan timeline	Review of actions taken against the identified programme

It is to be noted that the indicators shown as AMP performance measure or management tools are for internal management use only. They are not designed to be reported publicly as part of the performance of the Community Development Group.

They are not designed to be audited to any of the standards and requirements, which pertain to performance measures, which are used to report to WDC and the community. WDC considers that these indicators are valuable for internal management purposes, but for various reasons they are not suitable for reporting at Council nor community level.

Reasons for this may include concerns (sometimes marginal) around:

- Relevance
- Realism/ability for WDC to control
- Verifiability
- Neutrality
- Robustness
- Perverse incentives

Metadata issues including:

- Collection methods
- Monitoring frequency
- Data storage
- Quality assurance systems
- Intended use

## 2.8 Key Performance Indicators

WDC monitors the achievement in the Key Service Criteria identified in section 2.7 (figures 2:4, 2:5 and 2:6) above, through the analysis of the data produced by the different reports, correspondence and publications as they relate to the specific activities.

The Key Performance Indicators (KPI's) directly relate to meeting the target Levels of Service are measured using the Performance Measures identified.

The achievement of the target Levels of Service is linked to the successful completion of the programmes and projects identified in this AMP.

## 2.9 Trends Impacting on Level of Service (possible future changes/service level review)

### Environmental

There is a trend for the public to be more quality conscious in relation to the environment. In particular, environmental tourism is a growing industry.

Visitor Information Incorporated (VIN Inc) and Qualmark monitor Te Kuiti i-SITE practices for sustainable environmental practices and the Hamilton and Waikato Regional Tourism Organisation work with Waitomo Tourism operators to promote sustainable environmental practices and the development of environmental tourism opportunities.

### Economic

Any future growth in tourism and events will lead to increasing expectations relating to the quality of services provided.

An aging population will determine the type of health and social services provided and drive the demand to provide improved access to aged care services e.g. housing, hospitals.

There is an ongoing requirement to develop programmes to meet the needs of the youth in our District. It is recognised that young people living in small towns do not have access to a wide range of training and employment opportunities.

Changing work patterns mean that people have to regularly retrain and seek alternative employment opportunities, increasing the pressure on community development to provide services and resources, which support career development, or retraining.

## Social

Concerning social statistics as such youth crime, family violence and health within the Waitomo District contribute to the importance of WDC working with key stakeholders, agencies and the community to develop local solutions for social issues.

There is an increasing trend for the availability of on-line material for library services. WDC can assist by developing digital literacy in the community.

## Cultural

The Waitomo District has a higher than average Maori population (39.5%), this combined with an increasing awareness of Maori culture within the community could lead to demand for a different range of services, in particular, an increased recognition of cultural performing arts e.g. kapahaka and cultural tourism development and support.

The resurgence of Maori culture and growing significance of other ethnic groups in New Zealand has an impact on library services. In recent years there has been increased interest in family research, Whakapapa, and identity. The development of Wananga has seen significantly increased demand for Maori resources and storage "protocol" for Maori information and archives in the library.

The Library is reasonable accessible to the people of Te Kuiti Township, however with limited public transport and rising costs of travel the access to facilities is limited for those outside of Te Kuiti except for the areas with community libraries. This is being addressed via the Books On-line service.

## Confidence Levels and Assumptions for Stated Trends

Refer to Section 6.2 for Grading Definitions.

**Figure 2.8: Data Confidence Levels**

Trend	Confidence Level
National Demographic trends – sourced from National Institute of Demographic and Economic Analysis August 2014	A
Youth Trends – Sourced from the Te Kuiti Youth Action Plan	A
Other trends	C

## 2.10 Key Programmes to Achieve Levels of Service

WDC is implementing a number of projects to achieve the LOS. These are a range of service improvement, community engagement and strategic projects.

The projects are split into two categories:

- Key Programmes to achieve and maintain LOS; and
- Key Strategies affecting future LOS.

The table below summarises the major projects, their forecasted total cost to WDC and an assessment of the confidence in the projections. All of the key programmes and key strategies below are linked to initiatives outlined in the strategy and policy documents (Community Development Strategy 2015-2018, Waitomo District Library Strategy 2015-2018 - adopted by Council 29 October 2014, Community Development Fund Policy – adopted by Council 26 August 2014).

## Key Programmes to Achieve Levels of Service

Figure 2.9: Key Programmes to Achieve and Maintain Levels of Service

Trend	Project	Key Service Criteria	Forecasted Total Cost	Confidence Level in Projections	Estimated Timeline for Project Completion
Economic	Promote and support sustainable economic development in the Waitomo District	Quality Sustainability	\$25,000 2015-2016  \$50,000 2016-2017 2017-2018  \$75,000 pa ongoing	B	Ongoing
Social	Support of Youth Council and Youth Liaison	Quality Sustainability	\$6,000 pa	A	Ongoing
Economic	Involvement in Hamilton & Waikato RTO	Economic Sustainability	\$60,000 pa	B	Ongoing
Social Cultural	Administering of grant funding as per Community Development Fund Policy	Economic Sustainability	\$400,000 pa	A	Ongoing
Social Cultural	Commitment to a high standard of customer service, consistently	Quality	Budget requirements reflected in Information Services Cost Centre	B	Ongoing
Social	Support of the ODDB Youth Support Programme	Quality Sustainability	\$15,000	A	Ongoing
Social Cultural Economic	Library system upgrade	Quality	\$10,000	A	2015-2016
Economic	i-SITE Point of Sale System	Quality	\$2,600 pa	A	Ongoing

### Description of Key Programmes

All key programmes to achieve levels of service within this AMP link to actions within the Community Development, Customer Service and Library Strategies.

### Economic Development

Implementation of the Economic Development Action Plan will serve to encourage, promote and support business expansion and sustainable economic development by:

- Marketing Waitomo as a vibrant district where people want to live, work, play and raise a family.
- Identifying opportunities for economic development initiatives within the district, and facilitating projects that benefit Waitomo.
- Promoting Waitomo as a visitor friendly destination where visitors can experience a variety of unique experiences, both above and below ground.
- Working with WDC and community on urban infrastructure projects.
- Developing business training opportunities to support the needs of the districts business community.
- Providing business establishment advice and assistance.

- Identifying skill gaps and labour shortages within the district and working with training providers to better align training to business needs.

This AMP proposes the Economic Development Action Plan implementation will have commenced by July 2015, with actions advanced as per Plan timelines.

### **Youth Council and Youth Liaison Participation**

The overall aim of the Youth Council is to enable and support youth leadership within the community and to foster a sense of community pride and ownership in our youth.

WDC will ensure that the Youth Council's membership is inclusive and representative of the diverse range of young people within our district.

The agreed aims and objectives of the Waitomo District Youth Council are:

- To engage the youth of our District
- To create a communication channel between youth and decision makers within our community
- Assist in the development of community awareness within our youth
- Advocate for youth issues to improve the quality of life for young people within our community
- To support and mentor youth leaders, creating confident leaders to guide future generations
- To encourage active youth participation in the community
- Deliver positive outcomes for youth
- Deliver a range of activities and projects to enhance well being within the community
- To support the Te Kuiti Action Plan (Social Sector Trials)

The Youth Council works to strengthen social cohesion within our community, and link wherever possible to community youth initiatives to create a well informed and joined up approach.

The Waitomo District Youth Council is now recognised as an action supporting collaboration, coordination and communication within the Te Kuiti Youth Action Plan, a government initiative aimed at improving outcomes for youth within Te Kuiti including:

- Reducing truancy rates
- Reducing offending by young people
- Reducing young peoples use of alcohol and drugs
- Increasing the numbers of young people in training, education and employment

A small budget is allocated to the Youth Council. This budget allows the Youth Council to undertake community and youth related projects that assist in the achievement of positive community outcomes.

### **Hamilton and Waikato Regional Tourism Organisation**

The Hamilton and Waikato Regional Tourism Organisation acts as the primary Tourism and promotion organisation within the Waikato Region. The Hamilton and Waikato Regional Tourism Organisation is supported by 7 Waikato Councils, with contributions from Waikato Tourism operators and businesses.

The role of HWT is to promote and develop the Hamilton and Waikato region as an attractive visitor destination to international and domestic visitors in order to grow visitor expenditure in the region to provide sustainable economic, environmental, social and cultural benefits to local communities.

### **Administering of Grant Funding**

WDC is committed to annually allocating funds and resources to support community initiatives. The Community Development Fund Policy aims to ensure that projects undertaken make a positive contribution to achieving the Community Outcomes.

### **Community Development Fund**

WDC supports the community via a number of different funds. The following grants collectively make up the Community Development Fund.

- Discretionary Grants
- Triennial Grants
- Provision of Services Grants
- Community Partnership Fund



These grants are managed in accordance with their respective section of the Community Development Fund Policy through WDC's Community Development Group.

### **Sport Waikato**

It is commonly recognised that an active and fit community is a healthy one, and WDC support the promotion of participation in recreational sport within the community.

WDC, via its support of Sports Waikato, has actively promoted participation in recreational sport.

The annual schedule of services details the range of sport and recreation activities to be undertaken throughout the District.

### **Waitomo Caves Discovery Centre**

WDC via Provision of Service Grants (POS) supports the Waitomo Caves Discovery Centre (and the i-SITE). This grant supports the provision of i-SITE, information and public toilet facilities within the Waitomo Village.

### **Special Grants**

There are two special grants administered by WDC on behalf of central government;

- Creative Communities New Zealand ; and
- Sport New Zealand Rural Travel Fund.

Central government provides funding for both of these funds and each is administered by WDC in alignment with their own specific criteria. These grants are not included within WDC Budgets.

WDC also administers the DC Tynan Fund which is a generous bequest left by the late Daniel Circuit Tynan to the Borough of Te Kuiti for the purpose of supporting organisations within the Te Kuiti Urban Ward that are involved with social, cultural, educational or recreational activities. Forgeson Law administers the funds of the Trust and WDC provides the administrative support associated with the funding application process. Applications are invited annually to this fund. These grants are not included within WDC budgets.

### **Rates Remissions**

Rates remissions are available to the community, as WDC would like to ensure that certain land use situations that, fall outside of what is defined in the Local Government Rating Act, are eligible for remissions. The owner or occupier of the rating unit(s) has the facility to access the rate remission arrangements by way of an annual application to WDC.

As community awareness of rates remissions grows, allocation to remissions has increased. Rates Remissions are included in WDC's budgets in the Community Support category.

### **WDC Customer Service**

WDC engages with people and communities in many ways through its consultation, communication, community development and customer services. WDC also engages and interacts with customers through the provision of a range of everyday services such as water, roading, parks and playgrounds, libraries, environmental health services, building control services and animal control as examples.

All of these transactions are important in building a high level of trust and connectivity between customers and the WDC.

### **Otorohanga District Development Board (ODDB)**

The ODDB Youth Support Program was established in 2005 to address issues of young people leaving the District to take up pre-employment qualifications and study elsewhere.

Specific courses have been developed to train school leavers in skills that local employers need.

Via the Draft Exceptions Annual Plan 2013/2014 process Council confirmed agreement to include a funding capacity of \$15k per annum for 3 years. A Service Level Agreement was developed outlining required service deliverables and performance measures.



## Library System Upgrade

Waitomo District Library services exist to provide high quality library services that meet the needs of the District's communities and to contribute to recreational, educational and information needs of the residents and visitors of the Waitomo District.

By making knowledge and ideas conveniently available to Waitomo District residents, we:

- Support formal and informal learning and enrich the cultural life of the District
- Contribute to economic and social development
- Assist library members to become active participants in a collaborative knowledge community
- Provide opportunities for people to develop digital literacy skills

Upgrading of the library system will introduce a range of virtual services to enhance the customer experience by providing a user friendly electronic interface to the libraries systems and catalogues.

## i-SITE Point of Sale System

Implementation of an integrated Point of Sale system to provide central repository for operator and product data, management of retail and ticket sales, statistical reporting and enhanced customer service delivery.

**Figure 2.10: Key Strategies that may affect Future Levels of Service**

Trend	Project	Key Service Criteria	Forecasted Total Cost	Confidence Level in Projections	Estimated Timeline for Project Completion
Economic Social Cultural	Economic Development Action Plan developed and implemented by July 2015	Economic Sustainability	Ongoing operational costs are included within existing Direct Expenditure budgets	B	Ongoing
Social Cultural	Customer Service Strategy (adopted)	Quality Sustainability	Strategy developed in-house. Ongoing operational costs are included within existing Direct Expenditure budgets	B	Ongoing
Social Cultural	Waitomo District Library Strategy (adopted)	Quality Sustainability	Strategy developed in-house. Ongoing operational costs are included within existing Direct Expenditure budgets	A	Ongoing
Economic Social Cultural	Community Development Strategy (adopted)	Quality Sustainability	Strategy developed in-house. Ongoing operational costs are included within existing Direct Expenditure budgets	A	Ongoing
Economic	Shared Services Investigations	Quality Satisfaction	No identified costs to date	D	Ongoing

## Description of Key Strategies

### Economic Development Action Plan

The Waitomo District Economic Development Action Plan will be developed and implemented by July 2015. The Plan will serve to identify initiatives and actions that will promote and support sustainable economic development within the Waitomo District.

### Customer Services Strategy

The Waitomo District Council Customer Service Strategy was adopted by Council on 27 May 2014. Any immediate actions to maintain existing levels of service are included in section 2.10 of this AMP.

All other ongoing costs relating to this strategy are included within existing direct expenditure budgets.

#### **Waitomo District Library Strategy**

The Waitomo District Library Strategy was adopted by Council on 29 October 2014. Any immediate actions to maintain existing levels of service are included in section 2.10 of this AMP.

All other ongoing costs relating to this strategy are included within existing direct expenditure budgets.

#### **Community Development Strategy**

The Waitomo District Community Development Strategy 2015 – 2018 was adopted by Council on 29 October 2014. Any immediate actions to maintain existing levels of service are included in section 2.10 of this AMP.

All other ongoing costs relating to this strategy are included within existing direct expenditure budgets.

#### **Shared Service Investigations**

WDC will consider opportunities to participate in shared services delivery with other local authorities as they present. Within the 2015-2019 period these are likely to provide WDC with efficiencies of service delivery, not direct cost savings.

### 3.0 Growth - Planning for the Future and Demand for the Service

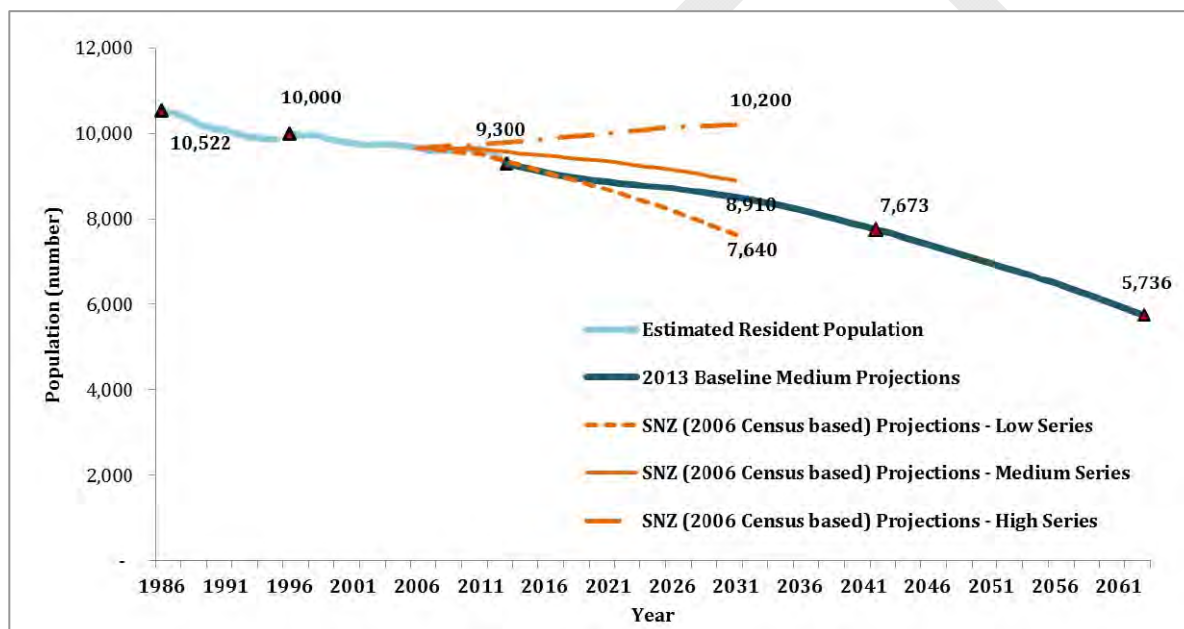
#### 3.1 Population Growth and Structure

The following information has been sourced from a paper prepared by the National Institute of Demographic and Economic Analysis (Waikato University) for the Waikato Regional Council in August 2014. Council has chosen to use these population forecasts for the 2015-2025 LTP as Statistics New Zealand Forecasts for the planning period are not available until 2015.

The graph below presents the 2013-base medium population projection for Waitomo District to 2063, along with historical population estimates from Statistics New Zealand back to 1991. The 2006-base Statistics New Zealand (SNZ) high, medium and low projections (October 2012 update) are also included for comparison.

The NIDEA projections show a continuing trend of declining population for Waitomo District with a projected population of 8,743 in 2025. These projections follow the recent trend in the District's population reasonably closely, with annualised population decline over the period 2013-2025 of 0.5% per year (base year projection is different to actual).

**Figure 3.1: Baseline Medium Population Projections for Waitomo District and Comparison with Statistics NZ (2012) Subnational Projections**



#### 3.2 Current Pattern of Building and Subdivisional Development

As in the previous section the population growth for the District is projected to be static and/or in decline. Historic trends of pockets of sub divisional and building activity in the form of modest lifestyle development around Te Kuiti, Waitomo Village, Mokau, and Awakino are also slowing. The subdivisional activity that was occurring in and around the Te Waitere area has slowed in recent years.

Over the last five years there has been an average of 12 new dwellings constructed per year. In terms of subdivisions the average number of lots created over the same period has been 3. Whilst 151 new lots were consented over the last five years only 63 new dwellings were actually consented.

While this is partly due to the delay between subdivision approval and building construction, there is also a backlog of undeveloped lots in the District which need to be factored into planning considerations

#### 3.3 Future Subdivisional Activity

From a recent, informal, desktop planning exercise, drawing from development proposals which are known to officers and/or are in the early stages of consent processing, it has been identified that further growth is unlikely to place pressure on the provision of Council services.

Indications are the recent trends of relatively slow development are likely to continue in to the foreseeable future.

The demographic and development trends show that there is no demand for growth related infrastructure at the present time or in the foreseeable future. For the past few years Council has been working on improving the condition of its core infrastructure assets, particularly in the Water Supply and Sewerage activity areas, in order to support public health outcomes and to meet its Resource consent and other legislative requirements.

The growth and development trends support an approach which continues to upgrade and maintain existing assets as opposed to the development of new capacity driven infrastructure. There is currently enough capacity in the infrastructure network to allow for minimal growth should it occur.

Council does not anticipate any significant land-use changes during the period of this LTP.

**Figure 3.2: Impact of Population Growth**

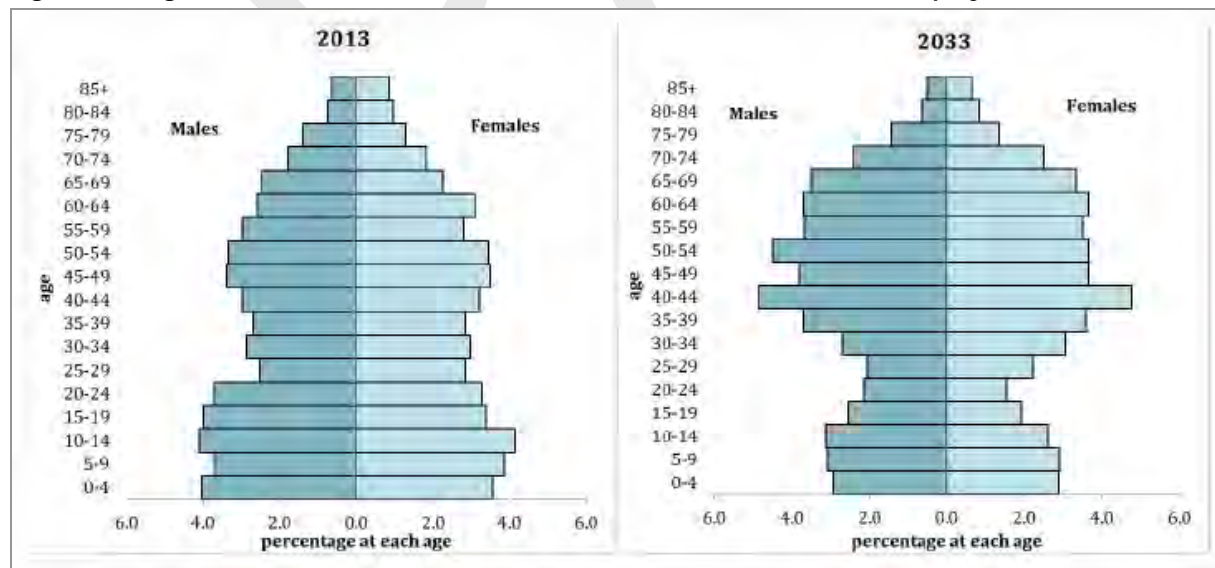
Assumption 8	Level of Uncertainty	Impact on Integrity of LTP
The impact of population growth and structure has been adequately provided for in the financial estimates.	Low	Low

### 3.4 Potential societal change factors

The age structure of the Waitomo District is among the more youthful in the Waikato Region (fourth-youngest in 2013) and experiences the least degree of population ageing. In 2013, 14.2 percent of the population is aged 65 years and over, and this is projected to increase to 19.4 percent by 2043.

The proportion of the population under 65 years of age is relatively high at 85.8 percent in 2013, 82.8 percent in 2033 and 68.7 by 2063. The ratio of elderly persons to children increases slightly from 0.61 in 2013 to 0.98 in 2033, before increasing markedly to 2.71 in 2063.

**Figure 3.3: Age-Sex structure for Waitomo District, 2013 and 2033 (medium projection)**



The District's population characteristics, which include a high proportion of Maori, can be expected to translate into demand for compatible services, e.g. community infrastructure in the form of increased recreational and cultural facilities. Council considers these changes have been adequately catered for in its 2015-25 LTP. Any departure from this assumption can be addressed during the 3-yearly review of the Plan.

**Figure 3.4: Impact of Societal Changes**

Assumption 9	Level of Uncertainty	Impact on Integrity of LTP
The impacts of societal changes and population structure have been adequately provided for in the financial estimates.	Low	Low

### 3.5 Ability of Community Development to develop programmes to meet LOS

An expected impact identified is an increase in the demand for economic development activities. To manage this demand WDC will think strategically in the consideration of social and economic trends in order to meet the changing needs of the community. Programmes to meet demand have been considered and included in the Community Development, Library Services and Customer Service strategies.

### 3.6 Demand Management

The objective of demand management is to modify community demands for services in order to maximise utilisation of existing service provision. This can be achieved by focusing planning on maximising benefits to community rather than on maximising the outputs from service.

The following strategies enable this objective to be met:

- Involving the community in policy and service development, and where practical establishing collaborative partnerships with key stakeholders for service delivery.
- By supporting the Youth Council, WDC will be in a strong position to understand and develop policy that favourably addresses youth issues.
- By adopting a strategic position in relation to Shared Services, WDC recognises the efficiencies of consolidation to address future demand.
- A combined service centre, as outlined in the Community Development Strategy has the potential to provide efficiencies in service delivery that would assist in meeting any future demand.
- A strategic relationship with the Hamilton and Waikato Regional Tourism Organisation leverages the expertise of the specialist RTO staff and board, in relation to Tourism and promotion delivery. By working at a regional level, WDC also maximises opportunities to promote Waitomo within national and international markets.
- By providing funding to the community, WDC assists with capacity building within the local not for profit sector. By helping the community to help itself, WDC, while supporting the community, is encouraging the development of skills required in a strong and capability community and organisation.

### 3.7 Key Programmes to Meet Demand

#### Strategy

WDC's Community Development Strategy, Customer Service Strategy and Library Strategy assess trends and look at the impact on existing services to identify opportunities for service improvement.

This AMP identifies the following key programmes to meet growth:

- The development and implementation of an Economic Development Action Plan
- Ongoing strategic partnership with Hamilton and Waikato Regional Tourism Organisation

- Ongoing investigation of Shared Services

For a full description of these programmes and strategies, see section 2.10 of this AMP.

### Tactics

WDC's intention is to practise good demand management in order to maximise utilisation of existing services to meet the different types of growth.

### Capital Programmes to Meet Demand and Enhance Facilities

**Figure 3.5: Capital Programmes to Meet Demand and Enhance Facilities**

Trend	Project	Key Service Criteria	Forecasted Total Cost	Confidence Level in Projections	Estimated Timeline for Project Completion
Leisure	Upgrade library shelving	Quality	\$30,000	B	2017-2018
	Library furniture renewal	Quality/Satisfaction	\$15,000 (split over 3 yrs) Budget requirements reflected in Corporate Services Cost Centre	B	2017-2018
	Book replacement programme	Quality/Satisfaction	\$460,000 (10yrs) (\$50,000 annually reducing to \$42,000 by year 10)	A	2024-2025
	Library technology programme	Quality/Satisfaction	\$60,000 (10 yrs) (Cyclic - \$10,000 yr1 / \$2,000 yr 2) Budget requirements reflected in Information Services Cost Centre	B	2024-2025
Social Economic	Door Counter installed at the i-SITE	Quality	\$1,500	B	2015-2016
	i-SITE/Hub furniture renewal	Quality/Satisfaction	\$7,000 (over 2 yrs) Budget requirements reflected in Corporate Services Cost Centre	B	2017-2018
	i-SITE/Hub technology programme	Quality/Satisfaction	\$11,000 (10 yrs) (\$5,000 in 2016 \$2,000 in 2019/ 2022/2025) Budget requirements reflected in Information Services Cost Centre	B	2024-2025



### 3.8 Confidence Levels and Assumptions

The population trends derived from a paper prepared in August 2014 by the National Institute of Demographic and Economic Analysis (Waikato University) are inherently inexact results and approximations. They rely on the robustness of the original collection methodology and base data, as well as that of the statistical manipulation.

This analysis assumes that the base information is accurate. Confidence in data contained in this AMP is B.

### 3.9 Risk Management

Risk management is all about limiting the consequences of failure in our services and limiting the likelihood of this failure.

Risk is also about WDC's ability to meet future demand and changes. WDC believes that the proposals for Community Development contained in the various proposals and strategies will meet future demand.

#### Risk approach

$$\text{Risk} = (\text{failure consequence} \times \text{likelihood of failure})$$

A pragmatic approach has been taken to risk management, in identifying risk events they have been grouped into:

- Natural events, where there is no real control over the timing or extent of the event, although probabilities may be understood, e.g. floods, lightning strikes, earthquakes.
- External impacts, where other service providers are not providing services, which impact on the organisation or individuals, e.g. power supply failures, material supply failures.
- Operational risks, where management of the asset or asset management activities may affect adversely on the asset.

These risk events, while affecting directly on the group, have other consequences on such things as:

- Repair costs – financial
- Loss of income
- Loss of service
- Third party loss
- Loss of image

#### Risk Matrix

The following table explains the risk-rating matrix used to assess the risks tabulated below for the Community Development Group. Risk is assessed as the product of Consequence and Probability, thus a high likelihood of the event occurring with a major consequence leads to an extreme risk that requires immediate action.

Figure 3.6: Risk Rating

Event	Consequence				
	1 Negligible	2 Minor	3 Moderate	4 Major	5 Catastrophic
9-10 Almost Certain	Moderate	High	High	Extreme	Extreme
7-8 Likely	Moderate	Moderate	High	Extreme	Extreme
5-6 Moderate	Low	Moderate	Moderate	High	Extreme
3-4 Unlikely	Low	Low	Moderate	High	Extreme
0-2 Rare	Low	Low	Moderate	High	High

## Community Development Identified Risks

High risks are shown in this abbreviated summary table.

**Figure 3.7: Identified Risks**

Asset Affected	Failure Mode	Description	Risk Rating	Current Mitigation	Managed Risk Rating
Community Development- Customer Services	Communication Breakdown	Loss of ICT including phones and computers	Moderate	Divert to afterhours services	Low
Community Development- Customer Services	Staffing Availability	Staff unavailable due to sickness or unexpected circumstance	Moderate	Resource from other Customer Services sites	Low
Community Development - Grants	Grant Misuse	Grant monies used for any purpose other than that it was funded	Low	Auditing an accountability criteria	Low
Community Development - Events	Public Injury	Public injury during WDC events	Low	Safety monitoring Safety information provided to all registrations Safety checks for compliance Event Plans prepared	Low
Community Development - Events	Property Damage	Damage to public or private property during events	Low	Safety monitoring and Procedures Traffic Management Plans prepared	Low

## Mitigation Measures

All Community Development risks have been identified as low and are managed via routine procedures.



## 4.0 The Services We Deliver

### 4.1 Description of Community Development Services

WDC Community Development is made up of the following activities:

- Customer Services
- Community Support
- Tourism Development and District Promotion
- District Development
- Te Kuiti i-SITE Visitor Information Centre
- Library Services

The following section will provide an overview of each of the activities of WDC's Community Development Group.

#### Customer Services

Customer Service delivery is at the core of the Community Development Group. Customer Services are the front face of the organisation, and the team across all Customer Services sites aim to provide exceptional customer services and information to our customers.

WDC sites that are considered in this category are:

- Queen Street Office
- Waitomo District Library
- Te Kuiti i-SITE

Daily activity at each of these sites is governed by standard operating procedures and existing strategy documents.

#### Community Support Activity

Community Support aims to support WDC's Social and Cultural Community Outcomes. The key goals that underpin Community Support are to:

- Create a better quality of life for our community
- Create a better living environment for our community, through community safety and appropriate infrastructure
- Encourage active engagement by improving communication and trust between Council and our community
- Help local groups with local opportunities and solutions

Community Support contains 13 key priority areas. A brief description of each priority is outlined in the table below:

**Figure 4.1: Community Support Priority Areas**

Priority Area	Definition	Key Community Stakeholders
<b>Community Development Fund</b>	Providing assistance to the community through a fund supporting community development, targeted at supporting community groups who provide services and activities that benefit local residents.	<ul style="list-style-type: none"> <li>• Not for Profit Community Organisations</li> </ul>
<b>Information Provider</b>	Accurate information is critical to the development of community organisations and their activities. Information resources can support community groups and individuals that have a passion to make a difference in the district. Provision of community information identifies the value and importance that WDC sees in community cooperation and cohesion.	<ul style="list-style-type: none"> <li>• Not for Profit Organisations</li> <li>• Government Agencies</li> </ul>

Priority Area	Definition	Key Community Stakeholders
<b>Community Events</b>	Community events foster a positive community image. Events have the ability to focus the community on key projects. WDC is currently involved in providing events that are interrelated with the District Promotion activity.	<ul style="list-style-type: none"> <li>• NZ Shearing Committee</li> <li>• RSA</li> <li>• Te Kuiti Development Inc</li> <li>• Schools</li> <li>• Community Organisations</li> </ul>
<b>Community Health</b>	WDC involvement in community groups, committees, and working parties that participate in finding solutions to issues that impact on the well-being and health of the local community is important. WDC staff and elected representatives can offer expertise by actively participating in groups that address health issues.	<ul style="list-style-type: none"> <li>• Maniapoto Family Violence Intervention Network</li> <li>• Mental Health Forum</li> <li>• Community Waikato</li> <li>• Te Kuiti Community House Trust</li> <li>• WRC/ Waitomo Clean Air Health Homes</li> <li>• EECA</li> </ul>
<b>Education Liaison</b>	An educated community widens life's options and increases a communities' capacity to earn and enjoy life. Through the adoption of a facilitative approach, WDC has the opportunity to ensure that community education skill and capability objectives are achieved through local education providers.	<ul style="list-style-type: none"> <li>• Schools</li> <li>• Te Wananga O Aotearoa</li> <li>• Wintec</li> <li>• NMNPT Training Agency</li> <li>• Aotearoa Peoples Network</li> <li>• Industry Training Organization's</li> </ul>
<b>Maori Liaison</b>	By strengthening relationships and establishing formal partnerships with local Iwi, WDC can actively support Maori contribution to the Local Government decision-making processes. Through the utilisation of tangata whenua knowledge of sustainability and protocol, WDC will enhance its opportunity to foster the four areas of wellbeing within the community.	<ul style="list-style-type: none"> <li>• Maniapoto Trust Board</li> </ul>
<b>Central Government Agency Liaison</b>	Communities depend on the activities of Government both politically and administratively. To maintain equity with the rest of New Zealand our community requires the opportunity to access government services locally. Many Council's approach this by advocating on a communities behalf over services and service issues, and in some cases operating agency services.	<ul style="list-style-type: none"> <li>• AA/NZTA Drivers License Agency</li> </ul>
<b>Youth Liaison and Participation</b>	Youth Development and Liaison is about supporting and encouraging the healthy development of young people within our community and assisting them in the development of the skills and attitudes they need to take a positive part in society, now and in the future. This can be achieved through working with organisations and individuals to ensure they have the skills to work alongside young people.	<ul style="list-style-type: none"> <li>• High Schools and Training Agencies</li> <li>• Youth Council</li> <li>• State Sector Youth Services Manager</li> <li>• Te Kuiti Youth Action Plan Governance Group</li> <li>• Mayors Taskforce for Jobs</li> <li>• Ministry of Youth Development</li> <li>• ODDB youth Support Program</li> </ul>
<b>Safer Communities</b>	Communities depend on networking groups that are well-supported and focused on supporting community safety initiatives targeting crime reduction and improving the co-ordination of services.	<ul style="list-style-type: none"> <li>• NZ Police</li> <li>• Not for Profit Community Organisations</li> </ul>

Priority Area	Definition	Key Community Stakeholders
<b>Participation in Recreational Sports</b>	WDC has the ability to foster and support participation in sports and active living. Through financial support WDC can contribute to increasing the number of people taking part in sport, help strengthen the infrastructure of sport, provide training opportunities for volunteers and offer hands-on coaching to participants.	<ul style="list-style-type: none"> <li>• Sport Waikato</li> <li>• Sport New Zealand</li> <li>• Sports Clubs</li> </ul>
<b>Care for the Elderly</b>	New Zealand has an increasing ageing population. Over the next 50 years, the rate of population growth within New Zealand will gradually slow. Currently 13.5% of Te Kuiti's population is over 65 years of age. With the population of older people set to increase, the demand for accessible, affordable and appropriate services, will increase.	<ul style="list-style-type: none"> <li>• Healthcare Providers</li> <li>• EECA</li> <li>• Local Aged Care Facilities</li> </ul>
<b>Culture and Heritage</b>	Museums, galleries, libraries and other heritage centres are the "front porch" of the community. Welcoming visitors, giving them an overview of what is special and unique about a place. They display aspects of the history of a place, person, and cultural tradition and encourage people to think differently about their relationship to others, or to the world.	<ul style="list-style-type: none"> <li>• Te Kuiti Historical Society</li> <li>• Te Kuiti Genealogical Society</li> <li>• Waitomo Caves Discovery Centre</li> <li>• Mokau Museum</li> <li>• Te Papa</li> <li>• National Library of NZ</li> <li>• Iwi</li> </ul>
<b>Sister Cities</b>	WDC's Sister-City relationship is with Tatsuno, in the Nagano Province, Japan. The concept of Sister Cities is to increase global co-operation at a local level. The aim is to foster international understanding and friendship, to encourage community exchange of education, culture and sport, and to promote, where possible, tourism and trade.	<ul style="list-style-type: none"> <li>• Sister City Committee</li> <li>• Tatsuno</li> </ul>

### Tourism Development and District Promotion

This activity includes; Cultural and Environmental Tourism, Regional Tourism, District Promotion and Events. The goals that underpin WDC's involvement in this activity are to:

- Recognise that economic, social, cultural and environmental outcomes must be mutually reinforcing.
- Maintain a high quality environment
- Recognise the District's dependence on tourism, primary production and utilisation of the landscape and culture, as visitor attractions
- Provide an excellent visitor experience to those travelling to our district
- Make smart strategic decisions to support Regional Tourism outcomes within our District
- Grow the economy through visitor spend in our District

**Figure 4.2: Tourism Development and District Promotion Priority Areas**

Priority Area	Definition	Key Community Stakeholders
<b>Cultural and Environmental Tourism</b>	Cultural tourism denotes many different types of experiences. It involves learning about different cultures and includes such things as; natural wonders, physical outdoor activities, wildlife activities, learning about the way of life of people from a different culture, experiencing a country's local cuisine, sites that are important to a country's history, sites that are important to a country's indigenous people, historic buildings, local art trails and exhibitions of national history.	<ul style="list-style-type: none"> <li>• RTO</li> <li>• Iwi</li> <li>• Tourism Operators</li> <li>• Tourism NZ</li> <li>• i-SITE Network</li> </ul>
<b>District Promotion</b>	District Promotion fits with the cultural tourism activities and is required to raise the awareness of the Waitomo District. District promotion is often about branding and the promotion of that brand to the target audiences. It also includes a range of promotional material such as brochures, signage, and website information, and ensuring wide distribution of this material.	<ul style="list-style-type: none"> <li>• RTO</li> <li>• i-SITE Network</li> <li>• Local Operators</li> </ul>
<b>Regional Tourism</b>	Tourism at a regional level is about promotion of a "region" as a tourism destination and not as specific districts or specific areas within that region. Promotion at a regional level targets growth of the domestic and international visitor expenditure in a region.	<ul style="list-style-type: none"> <li>• RTO</li> <li>• Vin Incorporated</li> <li>• Tourism NZ</li> <li>• Local Operators</li> <li>• Ministry Social Development</li> <li>• Ministry of Economic Development</li> </ul>
<b>Events</b>	Events are often used as a marketing tool to create additional awareness of a destination. Events, when successful, also generate significant economic benefits for a town/city.	<ul style="list-style-type: none"> <li>• Local businesses</li> <li>• Event sponsors</li> <li>• Stallholders</li> <li>• Entertainers</li> <li>• Activity operators</li> <li>• i-SITE Network</li> <li>• RTO</li> <li>• NZ Shearing Committee</li> <li>• TKDI</li> <li>• Community Organisations</li> <li>• Media</li> </ul>

### District Development

District Development involves the facilitation and support of initiatives that will enhance the District's economic sustainability. Goals that underpin WDC's involvement in this activity are:

- Marketing Waitomo as a vibrant District where people want to live, work and play
- Identifying opportunities for economic development initiatives within the District
- Facilitating projects that benefit the District
- Promoting Waitomo as a visitor friendly destination where visitors can experience a variety of unique experiences
- Working with key stakeholders on urban infrastructure projects
- Developing business training opportunities to support the needs of the Districts business community
- Providing business establishment advice and assistance
- Identifying skill gaps and labour shortages within the District and working with training providers to better align training to business needs

Priority areas will be identified and included in the Economic Development Action Plan.

## Management of the Te Kuiti i-SITE Visitor Information Centre

WDC provides a Visitor Information facility within the CBD of Te Kuiti. The i-SITE is used to promote the attractions of the District as well as providing travel information to the community and visitors. The goals that underpin WDC's involvement in this activity are to provide:

- A vibrant and customer focused information service that welcomes, informs and entertains the resident of, and visitors to the Waitomo District
- Skilled staff, trained to answer questions, give impartial advice and share information about what makes the District special with visitors and locals alike
- Flexibility and choice by also providing a range of WDC Customer Services
- Promoting the Waitomo District as a place to live, work and play

**Figure 4.3: Visitor Information Centre Priority Areas**

Priority Area	Definition	Key Community Stakeholders
<b>Information Services</b>	A visit to an i-SITE should always deliver things you require, including excellent service by a knowledgeable and friendly team, but an increasing number of people look to i-SITE staff for recommendations and information about "local secrets" or "hidden treasures".	<ul style="list-style-type: none"> <li>• Vin Incorporated</li> <li>• Waitomo Caves Discovery Centre</li> <li>• RTO</li> <li>• DOC</li> <li>• Destination Waitomo</li> <li>• Destination Pureora</li> <li>• Timber Trail Advisory Committee</li> <li>• Local operators and providers</li> </ul>
<b>Booking Facilities</b>	i-SITE's provide a range of booking services for visitors and the local community including accommodation, attractions and activity bookings. Most visitor centres also act as a booking agent for public transport operators. This service is primarily used by the local community especially those that do not want to, or are unable to use internet or phone booking services.	<ul style="list-style-type: none"> <li>• Vin Incorporated</li> <li>• RTO</li> <li>• Tourism NZ</li> <li>• Local operators and providers</li> </ul>
<b>Staff Capacity and Capability</b>	The skill-set required over the next 10 years is different to the last 10 years which tended to rely on people who simply responded passively to information requests. i-SITE staff will increasingly need excellent sales skills and ability to use fast changing desktop and mobile systems and social media tools. This has to be balanced with maturity, the ability to engage with people of various cultures and superior local knowledge.	<ul style="list-style-type: none"> <li>• Vin Incorporated</li> <li>• RTO</li> <li>• Training providers</li> <li>• Tourism NZ</li> </ul>
<b>Community Engagement</b>	The Te Kuiti i-SITE assists community groups and organisations by displaying pamphlets and maintaining a community database. The i-SITE also helps with promoting and selling tickets for fundraising events or programmes these organisations run.	<ul style="list-style-type: none"> <li>• Community groups and organisations</li> </ul>
<b>Collaboration</b>	With a small rating base the effective use of limited resources is not an option for the Te Kuiti Visitor Information Centre, it is a necessity. Working with, and extending the networks that the Te Kuiti i-SITE forms part of, will assist staff with streamlining and improving services to our community and its visitors.	<ul style="list-style-type: none"> <li>• Vin Incorporated</li> <li>• RTO</li> <li>• Tourism NZ</li> <li>• Local operators and providers</li> </ul>
<b>Location Advantage</b>	The Te Kuiti i-SITE is strategically located between major tourist attractions. Opportunities exist for the Te Kuiti i-SITE to be the gateway of information and booking services for visitors experiencing the Districts Attractions.	<ul style="list-style-type: none"> <li>• Vin Incorporated</li> <li>• Waitomo Caves Discovery Centre</li> <li>• RTO</li> <li>• DOC</li> <li>• Destination Waitomo</li> <li>• Destination Pureora</li> <li>• Local operators and providers</li> </ul>

Priority Area	Definition	Key Community Stakeholders
<b>Promotion</b>	The i-SITE plays a key role in promoting the Waitomo District to visitors and the local community. Successful promotion of our District to a variety of audiences is key to ensuring long term prosperity.	<ul style="list-style-type: none"> <li>• Vin Incorporated</li> <li>• RTO</li> <li>• Tourism NZ</li> <li>• Local operators and providers</li> </ul>
<b>The Hub Concept</b>	<p>The Te Kuiti i-SITE fulfils an important function in the town, supporting both visitors and the local community with a range of products and services, information and advice.</p> <p>Council is revitalising the Te Kuiti Railway buildings to create a vibrant Hub in the centre of Te Kuiti. i-SITE services will be extended to include management and oversight of the 'Community Space' section of the complex and provision of a 'multi-function / multi-purpose facility providing i-SITE and WDC customer service functions'</p>	<ul style="list-style-type: none"> <li>• Vin Incorporated</li> <li>• RTO</li> <li>• AA/NZTA Drivers License Agency</li> <li>• Government organisations</li> </ul>

### Library Services

Public libraries provide connections to knowledge, ideas and works of the imagination, anytime, anywhere, enabling individuals to turn knowledge into value, participate as citizens and strengthen their communities. The goals that underpin WDC's involvement in this activity are to provide:

- Promote the library as a key community facility – welcoming, relevant and an innovative environment.
- Discover, access, create and share digital content
- Foster creativity, innovation and learning.
- Strengthen Customer Relationships
- Collect, preserve and provide material that embodies our local history.

**Figure 4.4: Library Services Priority Areas**

Priority Area	Definition	Key Community Stakeholders
<b>Engage the Community</b>	The Council's strategic direction is pointed towards creating a community that people want to live, work and play in. Working collaboratively with key stakeholders, community groups and individuals enables the library to leverage its limited resources to achieve outcomes that can not be achieved alone.	<ul style="list-style-type: none"> <li>• Education centres/providers</li> <li>• Sport Waikato</li> <li>• Community Clubs and Organisations</li> <li>• Te Kuiti Historical Society</li> <li>• Genealogy Society</li> <li>• LIANZA</li> <li>• National Library of NZ</li> </ul>
<b>Enable Online Access to the Digital World</b>	<p>Developments in information and communication technology (ICT) are responsible for the rapid changes in the way we live and organise our lives.</p> <p>Access to ICT is not equal and some parts of our community do not have access to a computer. The provision of ICT resources enables people to access content and resources that are digitally available, fulfilling the library's purpose to provide access to information and support for lifelong learning.</p>	<ul style="list-style-type: none"> <li>• APNK community</li> <li>• On-line community</li> <li>• Education centres/providers</li> </ul>
<b>Spark Creativity</b>	People are inspired by what they see, hear, think and experience. Creative and vibrant space invites endless possibilities for engaging the imagination.	<ul style="list-style-type: none"> <li>• Education centres/providers</li> <li>• Sport Waikato</li> <li>• Community Clubs and Organisations</li> </ul>



Priority Area	Definition	Key Community Stakeholders
	The library can contribute to this by improving access to information and ideas through creative collection building and by providing enhanced internet access.	
<b>Focus on Added Value</b>	<p>With limited resources and a strong community mandate to building customer relationships, the Library needs to concentrate on making the best use of its skills and strengths.</p> <p>The Library staff will focus on increased levels of customer service, readers advisory and user education.</p>	<ul style="list-style-type: none"> <li>• Education centres/providers</li> <li>• Sport Waikato</li> <li>• Community Clubs and Organisations</li> <li>• Te Kuiti Historical Society</li> <li>• Genealogy Society</li> <li>• LIANZA</li> <li>• National Library of NZ</li> </ul>
<b>Collect, Create and make available Local History</b>	<p>Public libraries continue to play a role in collecting and preserving the documentary heritage of the district. This is an area of unique value for public libraries by ensuring local content is created, collected, kept safe for the longer term and made accessible to the world.</p> <p>Knowledge of community history and local stories can make a significant contribution to the development of strong and cohesive communities.</p>	<ul style="list-style-type: none"> <li>• Te Kuiti Historical Society</li> <li>• Genealogy Society</li> <li>• National Library of NZ</li> <li>• Archives NZ</li> <li>• Kete King Country</li> </ul>

## 5.0 How we Manage these Services

The management of services within the Community Development Group is undertaken by Waitomo District Council. WDC has signalled a strategic policy to form strategic partnerships or investigate shared service delivery options where possible.

WDC also encourages active community involvement in Community Development by establishing strong working relationships with development groups within the district. This is in accordance with the objectives for this AMP noted in Section 1.

WDC is directly responsible for the delivery of Community Development services where administration is 100% with the administering body. Other services such as the support of the Hamilton and Waikato Regional Tourism Organisation, Sport Waikato and the Waitomo Caves Discovery Centre are managed in accordance with service level agreements with other organisations.

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## **6.0 Financial Commitment – What it costs and how we will pay for it**

### **6.1 Financial Forecasts**

The included budgets relate to the provision of WDC's Community Development Group.

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Figure 6.1: 10-Year Expenditure Forecast Community Development

Community Development	EAP 2014/15	LTP 2016	LTP 2017	LTP 2018	LTP 2019	LTP 2020	LTP 2021	LTP 2022	LTP 2023	LTP 2024	LTP 2025
<b>Operating Income</b>											
Community Support	5	2	2	2	2	2	2	2	2	3	3
Sister City	0	2	2	2	2	2	2	2	2	3	3
District Development	54	34	35	36	37	38	39	41	42	44	45
Agencies	19	19	23	23	24	25	25	26	27	28	29
<b>Total Operating Income</b>	<b>78</b>	<b>57</b>	<b>62</b>	<b>63</b>	<b>65</b>	<b>67</b>	<b>68</b>	<b>71</b>	<b>73</b>	<b>78</b>	<b>80</b>
<b>Operating Expenditure</b>											
Community Support	622	576	579	596	613	633	654	677	702	728	756
Sister City	5	10	10	10	10	12	12	12	12	13	13
District Development	440	567	595	622	652	678	695	755	744	774	799
Agencies	31	30	31	31	32	33	34	35	36	37	39
<b>Total Operating Expenditure</b>	<b>1,098</b>	<b>1,183</b>	<b>1,215</b>	<b>1,259</b>	<b>1,307</b>	<b>1,356</b>	<b>1,395</b>	<b>1,479</b>	<b>1,494</b>	<b>1,552</b>	<b>1,607</b>
<b>Net Operating Cost/(Surplus)</b>	<b>1,020</b>	<b>1,126</b>	<b>1,153</b>	<b>1,196</b>	<b>1,242</b>	<b>1,289</b>	<b>1,327</b>	<b>1,408</b>	<b>1,421</b>	<b>1,474</b>	<b>1,527</b>
<b>Capital Expenditure</b>											
District Development	0	7	0	0	2	0	0	2	0	0	3
<b>Total Capital Expenditure</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>3</b>
<b>Net Expenditure</b>	<b>1,020</b>	<b>1,133</b>	<b>1,153</b>	<b>1,196</b>	<b>1,244</b>	<b>1,289</b>	<b>1,327</b>	<b>1,410</b>	<b>1,421</b>	<b>1,474</b>	<b>1,530</b>
<b>Funded By</b>											
Internal Loans	0	0	0	0	0	0	0	0	0	0	0
Reserves	52	155	120	90	85	62	47	32	11	(10)	(30)
General Rates	346	518	549	588	616	654	682	739	755	798	839
UAGC	447	258	273	291	310	324	334	347	359	372	387
Target Rate - Service &/or Retail Businesses	0	0	0	0	0	0	0	0	0	0	0
Targeted Rate - District Development	174	200	209	226	232	248	261	292	295	316	335
<b>Total Funding</b>	<b>1,019</b>	<b>1,131</b>	<b>1,151</b>	<b>1,195</b>	<b>1,243</b>	<b>1,288</b>	<b>1,324</b>	<b>1,410</b>	<b>1,420</b>	<b>1,476</b>	<b>1,531</b>

## 6.2 Confidence Levels

The confidence in the activity data used as a basis for the financial forecasts has been assessed using the following grading system from the NZWWA NZ Guidelines for Infrastructure Asset Grading Standards, final draft, August 1998.

**Figure 6.1: Confidence Grading Scale**

Confidence Grade	General Meaning
A	<b>Highly Reliable</b> Data based on sound records, procedures, investigations and analysis, which is properly documented and recognised as the best method of assessment.
B	<b>Reliable</b> Data based on sound records, procedures, investigations, and analysis which is properly documented but has minor shortcomings' for example the data is old, some documentation is missing and reliance is placed on unconfirmed reports or some extrapolation.
C	<b>Uncertain</b> Data based on sound records, procedures, investigations or analysis, which is incomplete or unsupported, or extrapolation from a limited sample for which grade A or B data is available.
D	<b>Very uncertain</b> Data is based on unconfirmed verbal reports and/or cursory inspection and analysis

Overall, the confidence level is B in relation to the Activity data.

### Key Assumptions

The following key assumptions relate to the Community Development AMP:

- It is assumed that the population data from the current census is correct
- The AMP for WDC's Community Development activity will be progressively updated as more complete information becomes available over time.
- Best practice and current knowledge has been used in formulating information regarding services in this Activity Plan. This information is not well supported by solid historical data. It is assumed that this information is correct.
- Actions and programmes included in the Strategy and Policy documents adopted by Council (WDC Customer Service Strategy, Community Development Strategy, Waitomo District Library Strategy and Community Development Fund Policy) are deemed appropriate by Council.

## 7.0 Our Commitment to Excellence – Management Practice and Improvement

This section of the AMP firstly describes the current activity management practices under the headings of processes, systems and data. The gap between current and desired activity management practices in particular is described.

Note: Selective improvement items are scheduled for the three years leading up to the scheduled 2018 LTP review. These are factored into the improvement programme and included in the overall AM budgets.

### 7.1 Assessment of Current Practice

This section outlines the decision-making practices that WDC currently use to determine long-term levels of service and expenditure requirements for Community Development. Current practice is summarised three broad areas of activity:

1. Processes and Procedures: The processes, analysis and evaluation techniques needed for activity management.
2. Information Systems: The information support systems used to store and manipulate the data.
3. Data: Information available for manipulation by the systems to produce the required outputs.

The following sections detail 'current management practices' and describe the 'desired management practices' WDC intends to develop over time.

#### Processes and Procedures

*Figure 7.1: Activity Management Process and Procedures – Current and Desired Practice*

Current Management Practices	Desired Management Practices
<b>Operations</b>	
<ul style="list-style-type: none"> <li>• Customers Services Procedures</li> <li>• i-SITE Procedures</li> <li>• Library Procedures Manual</li> <li>• Library Collection Management Policy</li> <li>• Community Development Fund Policy</li> <li>• Community Development Strategy</li> <li>• Waitomo District Library Strategy</li> <li>• Customer Service Strategy</li> <li>• Event Project Plans</li> </ul>	<ul style="list-style-type: none"> <li>• Operational activities identified and documented in 'controlled' manuals available to the organisation via the intranet</li> <li>• Operational activities optimised to minimise lifecycle costs</li> </ul>
<b>Performance Monitoring</b>	
<ul style="list-style-type: none"> <li>• Performance standards fully documented</li> <li>• Performance reported to customers through Key Performance Indicators</li> <li>• Benchmarking via i-SITE NZ and Public Library Statistics</li> </ul>	<ul style="list-style-type: none"> <li>• Continuous monitoring and reporting of performance against measures</li> <li>• Evaluation of Public Programmes, Events and Grants annually</li> </ul>
<b>Project Management</b>	
<ul style="list-style-type: none"> <li>• Project Plans developed for all Major group projects</li> <li>• Project Plans developed for Major and Minor District Events annually</li> </ul>	<ul style="list-style-type: none"> <li>• Project Plans and implementation timelines developed for all group projects</li> <li>• Projects developed in line with relevant industry best practice</li> </ul>

Current Management Practices	Desired Management Practices
<b>Quality Assurance</b>	
<ul style="list-style-type: none"> <li>• Deloitte's annually audits performance measures reported in Annual Plan</li> <li>• Community comment forms at i-SITE and Library</li> <li>• Annual Resident Satisfaction Survey</li> <li>• Accountability forms from all grant recipients</li> <li>• Qualmark Evaluation for i-SITE</li> </ul>	<ul style="list-style-type: none"> <li>• Continuous improvement evident in all AM processes</li> <li>• Formal evaluations undertaken for all group programmes, projects and grants</li> </ul>
<b>Accounting and Economics</b>	
<ul style="list-style-type: none"> <li>• NCS financial system for expenditure and revenue records</li> <li>• Accountability forms from all grant recipients</li> </ul>	<ul style="list-style-type: none"> <li>• Point of sale systems at i-SITE and Library</li> <li>• Database of all grant recipients</li> </ul>
<b>Levels of Service</b>	
<ul style="list-style-type: none"> <li>• Annual Resident Satisfaction Survey results</li> <li>• Quarterly monitoring of KPI's and reported to Council</li> </ul>	<ul style="list-style-type: none"> <li>• LOS based on customer research and reviewed regularly</li> </ul>

## Information Systems

*Figure 7.2: Activity Management Information Systems – Current and Desired Practice*

Current Management Practices	Desired Management Practices
<b>Financial Systems</b>	
<ul style="list-style-type: none"> <li>• Manual financial/ banking systems at Customer Service Sites</li> <li>• NCS Database used to record costs against individual budgets</li> <li>• Spreadsheets used to keep a manual record of daily takings at i-SITE and library</li> <li>• Library administration package auto calculated fees and charges</li> </ul>	<ul style="list-style-type: none"> <li>• Integrated point of sale system at customer services sites</li> <li>• Integrated point of sale system that connects to the Library administration package</li> </ul>
<b>Grant Allocations</b>	
<ul style="list-style-type: none"> <li>• Basic register of grant recipients included in a spreadsheet</li> <li>• Hummingbird document management system for all correspondence</li> <li>• Humming bird document management system to save all necessary documentation and spreadsheets</li> </ul>	<ul style="list-style-type: none"> <li>• Database for all grant applicants, recipients and value and frequency of all grants allocated</li> </ul>

<b>Customer Services</b>	
<ul style="list-style-type: none"> <li>• Hummingbird document management system for all correspondence</li> <li>• Hummingbird document management system to save all necessary documentation and spreadsheets</li> <li>• Palmerston North After Hours Services</li> <li>• Monitoring of telephone reports</li> <li>• NCS to record service requests and financial transactions</li> </ul>	<ul style="list-style-type: none"> <li>• Continuous improvement to Customer Services procedures</li> </ul>
<b>i-SITE Systems</b>	
<ul style="list-style-type: none"> <li>• Visitor and sales data manually recorded then transferred to spreadsheet</li> <li>• Online and Manual booking system</li> <li>• Hummingbird document management system for all correspondence</li> <li>• Hummingbird document management system to save all necessary documentation and spreadsheets</li> </ul>	<ul style="list-style-type: none"> <li>• Integrated point of sales system that records sale data</li> <li>• Door counter to record visitor numbers</li> <li>• Integrated online booking system</li> </ul>
<b>Events</b>	
<ul style="list-style-type: none"> <li>• WDC webpage used to promote events</li> <li>• Hummingbird document management system for all correspondence</li> <li>• Hummingbird document management system to save all necessary documentation and spreadsheets</li> </ul>	<ul style="list-style-type: none"> <li>• Continuous improvement to Events procedures</li> </ul>
<b>Library</b>	
<ul style="list-style-type: none"> <li>• Symphony Library Management System for recording collection and borrowing information</li> <li>• Overdrive eBook and Talking book database</li> <li>• EPIC electronic resource database</li> <li>• King Country Kete for collecting historical information in digital format</li> <li>• Aotearoa Peoples Network Kaharoa computers</li> <li>• WDC Website</li> <li>• Hummingbird document management system for all correspondence</li> <li>• Hummingbird document management system to save all necessary documentation and spreadsheets</li> </ul>	<ul style="list-style-type: none"> <li>• Proprietary Library Management System in place</li> </ul>
<b>Business Continuity</b>	
<ul style="list-style-type: none"> <li>• Business Continuity Plan for Customer Services Sites</li> </ul>	<ul style="list-style-type: none"> <li>• Disaster recovery and Business Continuity Plan for Customer Services Sites integrated with the Corporate Business Continuity Plan</li> </ul>

## Activity Management Data

**Figure 7.3: Activity Management Data – Current and Desired Practice**

<b>Future Prediction Data</b>	
<ul style="list-style-type: none"> <li>Limited current future prediction data available</li> <li>Census results used to predict future demand</li> </ul>	<ul style="list-style-type: none"> <li>Actual versus predicted growth monitored</li> </ul>
<b>Levels of Service</b>	
<ul style="list-style-type: none"> <li>LOS recorded in AMP and contracts/ Service Level Agreements where appropriate</li> </ul>	<ul style="list-style-type: none"> <li>Regularly monitor and recorded current level of service against performance measures</li> <li>LOS tested within the Community</li> </ul>
<b>Activity Management Plans</b>	
<ul style="list-style-type: none"> <li>First draft AMP for Community Development completed 2011</li> </ul>	<ul style="list-style-type: none"> <li>AMP used as basis for forward planning</li> <li>AMP adopted by Council</li> </ul>

## Planned Improvements

The development of this AMP is based on current Levels of Service, Group information and the knowledge of WDC staff. The AMP will be regularly reviewed, monitored and updated to improve the quality of AM planning and accuracy of financial projections.

This process is dependent upon improved knowledge of customer expectations, further developed AM practices, data to optimise decision making, review of outputs, development of strategies and further planning. Reviews will be dependent on the availability of resources to undertake the review.

## Improvement Programme

The purpose of an AM improvement programme is to improve the current management practices for AM processes, information systems and data, by implementing an improvement programme that brings current management practices in to line with desired management practices.

The success of improvement programmes lies in concentrating on specific one off sections of work. The improvement plan will provide for the staged improvement of AM practices to an appropriate level for AMP preparation, process improvements, information system development, and data collection and recording.

The overall improvement programme tasks to be completed over time are shown in Figure 7.4 below. Specific one off tasks are identified for the next three years before the 2018 review.

**Figure 7.4: Specific Improvement Projects 2015-2018**

Specific Improvement Projects 2015-2018				
Project	Year	Resource		Estimated Cost
		WDC Staff	External	
Targeted customer satisfaction surveys	2015-2018	Yes	No	Internal administration costs only
i-SITE Point of Sale system	2015-2018	Yes	No	\$2,600 pa budgeted
Business Continuity Plan for Customer Services sites	2015-2016	Yes	No	Internal administration costs only
Comprehensive database of grant applications, recipients, funding levels and funding trends maintained	2015-2018	Yes	No	Internal administration costs only
Operations manuals reviewed – all customer service sites	2015-2016	Yes	No	Internal administration costs only

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**Draft**

**Regulatory Services  
Activity Management Plan**

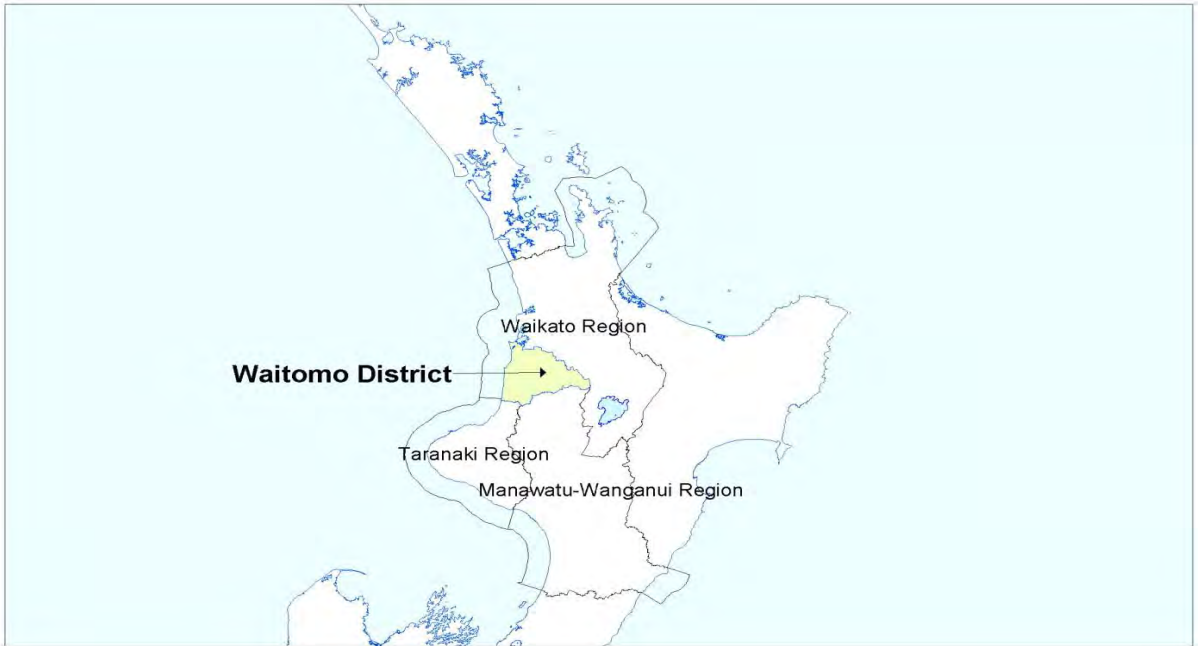
**2015**

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Prepared by: John Moran, Manager – Regulatory Services, Waitomo District Council

Developed: September 2011

Reviewed: 2015



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## Executive Summary: Regulatory Services

This Activity Management Plan (AMP) for Regulatory Services relates to both the Regulation and Safety and the Resource Management Groups detailed in Council's Long Term plan. This plan therefore links to the overall strategy direction for the Council and provides a summary of Council's approach for delivering regulatory services under a number of statutes.

### Purpose

Council is required by Central Government to effectively administer and where appropriate enforce legislation which has been promulgated to ensure the health and safety of all our residents. There is public expectation that buildings will be safely constructed and that food offered for sale in the District's food premises will be safe to consume. In addition Council has a responsibility to make and enforce bylaws to regulate behaviour in public places and to establish a safe and nuisance free environment.

Regulatory Services comprises the following activities:

**Figure S.1: Regulatory Services Activities**

Regulation and Safety	Resource Management
Building Control	Issue resource consents for land use and subdivisions
Alcohol Licensing	Monitor contents for compliance with conditions
Environmental Health	
Bylaw Administration	
Animal Control	
Emergency Management*	
Rural Fire*	

*\*Although these activities are within the Regulation and Safety Group, details in relation to how the services are provided is contained within the Public Amenities Activity Management Plan*

### Link to Community Outcomes

The Regulation and Safety Group contributes to the following Community Outcomes:

#### Prosperous District

**CO6** A place that attracts more people who want to live, work and play, and raise a family.

**CO7** A place where wealth and employment are created through local businesses and tourism opportunities and facilities are developed, facilitated and encouraged.

#### Effective Leadership

**CO8** A place where the development of partnerships for the delivery of programmes and services is encouraged and pursued.

The Resource Management Group contributes to the following Community Outcomes:

#### Vibrant Communities

**CO5** A place where we preserve the natural environment for future generations, ensuring that natural resources are used in a sustainable manner.

#### Prosperous District

**CO6** A place that attracts more people who want to live, work and play, and raise a family.

#### Effective Leadership

**CO8** A place where the development of partnerships for the delivery of programmes and services is encouraged and pursued.

## **Strategic Goals**

### **Regulation and Safety**

The strategic goals for the Regulation and Safety Group are:

- a) To ensure health and safety is protected by effectively and efficiently administering statutes regulations and bylaws including environmental health, alcohol control and noise control.
- b) To protect the health and safety of building users by effectively and efficiently administering the provisions of the Building Act 2004.
- c) To ensure that animals, particularly dogs, are controlled so that people can enjoy the benefits of dog ownership without adversely affecting other members of the community.

### **Resource Management**

The strategic goal for the Resource Management Activity is:

- a) To provide a safe and sustainable environment by effectively and efficiently administering and enforcing the provisions of the Resource Management Act 1991 and the Waitomo District Plan.

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Figure S.2: Levels of Service for the Regulation and Safety Group

Link to Community Outcomes	LOS Statement	Type of Measure	Performance Measure	Performance Measurement and Targets				Performance Measurement Procedure
				2015-2016	2016-2017	2017-2018	2018-2019	
<b>Prosperous District CO6, CO7</b>  <b>Effective Leadership CO8</b>	All food and alcohol retail premises will be inspected and appropriately registered and licensed	KPI	Percentage of registration or licensing of food and alcohol retail premises	100%	100%	100%	100%	Analysis of inspection records
<b>Prosperous District CO6, CO7</b>  <b>Effective Leadership CO8</b>	Provision of an effective environmental health service for the community	KPI	Annual Resident Satisfaction Survey rating on Environmental Health Service	> 50%	> 50%	>50%	>50%	Annual Resident Satisfaction Survey results
<b>Prosperous District CO6, CO7</b>  <b>Effective Leadership CO8</b>	Building consents and project information memoranda issued within 15 working days	KPI	Percentage of building consents and project information memoranda issued within 15 working days	90%	90%	90%	90%	Analysis of inspection records
<b>Prosperous District CO6, CO7</b>  <b>Effective Leadership CO8</b>	Council will process, inspect and certify buildings works in the Waitomo District	KPI	WDC maintains building control systems and processes to meet IANZ Audit requirements	Accreditation Maintained	Accreditation Achieved	Accreditation Maintained	Accreditation Achieved	BCA Accreditation achieved every 2 years
<b>Prosperous District CO6, CO7</b>  <b>Effective Leadership CO8</b>	Provision of an effective building control service to the community	KPI	Annual Resident Satisfaction Survey rating on Building Control	>50%	>50%	>50%	>50%	Annual Resident Satisfaction Survey results



Link to Community Outcomes	LOS Statement	Type of Measure	Performance Measure	Performance Measurement and Targets				Performance Measurement Procedure
				2015-2016	2016-2017	2017-2018	2018-2019	
Prosperous District CO6, CO7  Effective Leadership CO8	Recovery of administration costs from applicants	Management Tool	Percentage of total administration cost recovered from applicants	>50%	>50%	>50%	>50%	Analysis of budgets
Prosperous District CO6, CO7  Effective Leadership CO8	Dog owners' properties will be inspected to ensure compliance with the Dog Control Act 1996 and Council's bylaws	KPI	Percentage of dog owners' properties inspected per year	Urban – 100%  Rural - 10%	Urban-100%  Rural-15%	Urban-100%  Rural-20%	Urban-100%  Rural-20%	Analysis of inspection records
Prosperous District CO6, CO7  Effective Leadership CO8	Immediate response by WDC to public safety complaints	KPI	Response time to the incident	<1 hour for more than 30% of complaints	<1 hour for more than 30% of complaints	<1 hour for more than 30% of complaints	<1 hour for more than 30% of complaints	Analysis of complaint records
Prosperous District CO6, CO7  Effective Leadership CO8	High level of customer satisfaction with animal control service	KPI	Annual Resident Satisfaction survey rating on Animal Control	= >50% good or above	= >50% good or above	= >50% good or above	= >50% good or above	Annual Resident Satisfaction Survey results
Prosperous District CO6, CO7  Effective Leadership CO8	Dog Owners are well informed of their responsibilities and WDC support.	KPI	Number of Dog/Owner Education initiatives	= >2	= >2	= >2	= >2	Education Material available and distributed.

Figure S.3: Levels of Service for the Regulation and Safety Group

Key Service Criteria	LOS Statement	Type of Measure	Performance Measure	Performance Measurement and Targets				Performance Measurement Procedure
				2015-2016	2016-2017	2017-2018	2018-2019	
Vibrant Communities CO5 Prosperous District CO6 Effective Leadership CO8	Council will ensure that resource consents are processed in a timely and customer friendly manner so as to facilitate district wide development		Percentage of notified consents processed within 80 working days of receipt	90%	90%	90%	90%	Analysis of consent processing times
			Percentage of non-notified consents processed within 20 working days	90%	90%	90%	90%	Analysis of consent processing times
Vibrant Communities CO5 Prosperous District CO6 Effective Leadership CO8	All premises where resource consent have been issued will be monitored at least biennially to ensure compliance		Percentage of consented premises visited each year	50%	50%	50%	50%	Analysis of consent files

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## Effects of Service

Regulatory Services has a number of effects on the social, environmental, economic and cultural well-beings of the community.

**Figure S.4: Significant Effects of the Service**

Positive effects	Positive effects
<ul style="list-style-type: none"> <li>• Health and well-being</li> <li>• Bylaw enforcement reduces anti social behaviour</li> <li>• Statutes and bylaws may be seen by some members of the community as restrictive</li> <li>• District Plan rules promote responsible economic development</li> <li>• Building and resource consents processed promptly</li> <li>• There is a cost to the community in enforcing regulatory responsibilities</li> </ul>	<ul style="list-style-type: none"> <li>• Health and safety protected</li> <li>• Improved amenity values provides protection for the District natural environment</li> <li>• Promote retention of District character</li> <li>• Maintain heritage landscapes</li> <li>• Protects district waterways</li> </ul>

## Levels of Service

Levels of Service (LOS) for both the Regulation and Safety Group and Resource Management Group are determined by Council understanding and meeting its legal obligations and whilst also being aware of customer needs and expectations.

The activities cover a range of regulatory functions and therefore considerable effort is required to determine customer expectations, a necessary process in the development of LOS. Current knowledge of customer expectations is based largely on structured and unstructured surveys which tend to focus on determining overall customer satisfaction rather than gathering qualitative data on the aspects of the activities that are important and highly valued.

The current LOS have been set with the overarching objectives of meeting legislative requirements while providing a range of regulatory services and resource management in a timely, customer focused and cost effective manner.

There does however appear to be a growing expectation within the community for WDC to focus more on enforcement of bylaws and statutes.

WDC is currently under resourced in this area and if more proactive enforcement regime is necessary additional staff resources will be required with the obvious funding implications.

As yet, Council has not carried out any formal consultation with customers on LOS options. Until tested it is assumed that the current LOS for the Regulation and Safety Group and the Resource Management Group is what is expected by the community. It is planned to initiate more formal interaction with our customers who use both the regulatory and resource management activities. This task will be included in the improvement programme contained with this AMP.

## Future Demand

Council has analysed recent population trends and indicators and has assumed that the District's population will remain relatively static over the next 10 years.

Subject to the government not imposing a range of additional regulatory responsibilities and costs on local government Council's staffing capacity for the regulatory activity is marginally adequate. Where staffing levels

are inadequate consultants are used to bridge gaps with Council still maintaining legal responsibility for its entire regulatory role.

So as to ensure that Council is well placed to manage the potential effects of any development that may occur, Council is proposing to review and potentially update the subdivision requirements contained in the Operative Waitomo District Plan. The outcome of this process will be requirement for a formal plan change process in relation to the Operative District Plan.

## Regulatory Function Identified Risks

**Figure S.5: Identified Risks**

Activity	Risk Description	Risk Rating	Current Mitigation	Managed Risk Rating
Building Control Animal Control Resource Management Alcohol Licensing Environment Health	The shortage of people from some professions in the country affect the ability of Council to attract and retain suitably qualified and experienced professional and technical staff.	High	Council will seek to develop shared service arrangements in the region to ensure that adequate staffing resources are available to effectively administer and enforce all legislative requirements.	Low
Building Control	Council will not maintain accreditation as a Building Consent Authority.	Moderate	Council regularly carries out detailed audits of building control processes to ensure compliance with Council's quality assurance manual.	Low
Building Control	Legal proceedings will be initiated against Council by a building owner for failing to correctly administer the Building Act and Building Code.	Moderate	Council's Building Control staff attend a range of training programmes and routinely have their competency assessed.	Low
Regulatory (general)	The Government will impose additional regulatory responsibilities on Council without the provision of adequate funding.	Moderate	Wherever possible Council should advocate against such changes if funding is not provided.	Moderate

## Existing Situation Described

Regulatory Services is a term that encompasses a large number of Council activities from building Control to bylaw administration. It involves Council's role in overseeing the administration and implementation of various local regulations (bylaws) and central government legislation.

While Council does not have a choice about providing regulatory services, there is some discretion over the manner and degree to which the functions are delivered. The rationale for Council's involvement has been influenced by whether:

1. The community has confidence in the service provided by the Council.
2. The Council already provides the service and to change the mode of delivery would be more costly and less effective.
3. The community expects the Council to play a role in the provision of the service.

## **Maintenance and Operations**

### **Building Control**

The Building Act the New Zealand Building Code set out the statutory framework for controlling building development within the district. In order to ensure that WDC maintains consistently high standards in all aspects of building control, WDC joined the Waikato Building Consents Group in 2013. This coalition of local authorities works collaboratively to ensure that a consistent quality assurance programme is implemented and routinely followed.

Waitomo District Council is an accredited Building Consent Authority under the Building Act 2004 and is responsible for processing applications for building consent, certificates of acceptance, code compliance certificates and associated inspections. Further detail is available in the Waikato Building Consents Group Quality Assurance Manual.

As a Building Consent Authority, Council is responsible for enforcing compliance with the Building Act. This involves administering annual warrants of fitness for buildings which have particular attributes (eg. lifts, escalators, air conditioning systems etc). WDC is also obliged to ensure that those contemplating building are aware of the location of services and that areas of natural hazard are identified.

These responsibilities are delegated to WDCI's Regulatory Services Team. WDC issues around 200 -300 consents a year.

### **Alcohol Licensing**

In New Zealand the sale of alcohol is controlled by the Sale and Supply of Alcohol Act 2012. The object of the Act is that the sale, supply and consumption of alcohol should be undertaken safely and responsibly and the harm caused by excessive or inappropriate consumption should be minimised.

WDC oversees the administration of the Act at a local level by way of the Waitomo District Licensing Committee which considers all alcohol licence application and applications for manager's certificates.

The activity is carried out under a share service arrangement with Waipa District Council.

There are links between this activity and the planning and building activities that require coordination. This cooperation factor allows licence applications to be processed in a timely and efficient manner.

### **Public Health**

Council is obliged to ensure that premises that prepare and sell food comply with hygiene regulations, these premises are inspected at least annually. Council also ensures that camping ground, mortuaries, hairdressers, clubs and other premises are monitored to ensure they meet health standards. The activity is also charged with investigating notifiable infectious diseases, insanitary housing and other environmental health matters.

This activity is also carried out under a shared services arrangement with the Waipa District Council.

### **Bylaw Administration**

Council has in place a range of bylaws which allow WDC to manage issues associated with community nuisance, protect public health and manage Councils assets.

Regulatory Services administer and where appropriate enforce the bylaws with the activity carried out under the shared services arrangement with Waipa District Council.

### **Animal Control**

WDC administers the Dog Control Act 1996 and the Dog Control Bylaw which require that dogs are registered, cared for and kept under adequate control dog control responsibilities mostly entail investigation of complaints about unregistered dogs, nuisances caused by dogs, e.g. barking and aggressive behaviour by dogs. Such complaints are generally resolved through education and if necessary enforcement. WDC is also responsible for the administration of the Impounding Act which allows Council to control wandering stock.

The Animal Control Activity was previously carried out under contract; however the delivery of the service is now carried out in-house. WDC now employs an Animal Control Officer together with a Pound Manager who is responsible for both the dog and stock pounds.

## **Resource Management**

The Resource Management Activity involves the administration, application and enforcement of the provisions of the Waitomo District Plan. Key tasks include but are not limited to issuing resource consents for land use and subdivisions, monitoring consents for compliance with conditions and when necessary making amendments to the District Plan.

This activity is primarily carried out in-house, however for more complex resource management issues suitably qualified planning consultants are engaged.

## **Renewals**

Not Applicable

## **Current Asset Management Practice**

Not Applicable

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## Specific Improvement Projects 2015-2018

Figure S.6: Specific Improvement Projects 2015 – 2018

Specific Improvement Projects 2015 - 2018				
Project	Year	Resource		Estimated Cost
		WDC Staff	External	
Quality Assurance Manuals developed for Resource Management, Environmental Health and Alcohol Licensing	2015 2018	Yes	No	In-house
Customer services questionnaire reviewed and implemented for Building Control	2015	Yes	No	In-house

### Key Assumptions

The most significant assumptions which underpin the approach taken herein are:

- A reasonable degree of reliability can be placed on the population data that has been used in this plan, however much of the information is merely a projection and needs to be carefully tracked to ensure that it remains accurate.
- It is possible that income from fees and charges may not be as great (or may be greater) than what has been projected. Any variation from the forecast in that area may force Council to review the manner in which a particular service is delivered.
- Regulatory Services may be the target for a Government review. No allowances have been made for changes in legislation with the assumption being "business as usual".

## 1.0 Introduction

### 1.1 WDC's Commitment to its Community

Council is committed to ensuring that the community's health and safety is protected by effectively and efficiently administering statutes, regulations and bylaws including environmental health, building control, liquor control and animal control.

Council also acknowledges that it plays a key role in providing a safe and sustainable district environment by administering and enforcing the provisions of the Resource Management Act 1991 and the Waitomo District Plan.

### 1.2 Why Council Provides the Service

One of the purposes of the Local Government Act 2002 is to meet the current and future needs of the community for good-quality local infrastructure, local public services and performance of regulatory functions in a way that is most cost effective for households and businesses. Regulatory Services contributes to the provision of good quality regulatory functions by:

- promoting community confidence and trust in the regulatory procedures and decisions;
- providing competent staff to ensure that regulatory functions are effectively implemented; and
- applying fairness and sound judgement to all decisions.

Furthermore Regulatory Services contributes to the sustainable development of the District and the well-being of residents by ensuring that actions or non-actions taken by resource users are lawful, sustainable and safe.

#### Regulation and Safety

This activity exists to help ensure the health and safety of the community, in terms of building and food safety and in terms of regulating behaviour, and creating a nuisance free family and investment friendly environment.

#### Resource Management

This activity exists to promote sustainable development of natural and physical resource by establishing policies and plans which aim in part to make the district vibrant and prosperous.

### 1.3 The Role of WDC in the Provision of Regulatory Services Activity

As has been mentioned elsewhere in this document the Regulatory Services Activity is carried out primarily in response to central government legislation.

The activity consists of the following core functions:

#### Building Control

The Building Act the New Zealand Building Code set out the statutory framework for controlling building development within the district. In order to ensure that WDC maintains consistently high standards in all aspects of building control, WDC joined the Waikato Building Consents Group in 2013. This coalition of local authorities works collaboratively to ensure that a consistent quality assurance programme is implemented and routinely followed.

Waitomo District Council is an accredited Building Consent Authority under the Building Act 2004 and is responsible for processing applications for building consent, certificates of acceptance, code compliance certificates and associated inspections. Further detail is available in the Waikato Building Consents Group Quality Assurance Manual.

As a Building Consent Authority, Council is responsible for enforcing compliance with the Building Act. This involves administering annual warrants of fitness for buildings which have particular attributes (eg. lifts, escalators, air conditioning systems etc). WDC is also obliged to ensure that those contemplating building are aware of the location of services and that areas of natural hazard are identified.

These responsibilities are delegated to WDC's Regulatory Services Team. WDC issues around 200 -300 consents a year.



## **Alcohol Licensing**

In New Zealand the sale of alcohol is controlled by the Sale and Supply of Alcohol Act 2012. The object of the Act is that the sale, supply and consumption of alcohol should be undertaken safely and responsibly and the harm caused by excessive or inappropriate consumption should be minimised.

WDC oversees the administration of the Act at a local level by way of the Waitomo District Licensing Committee which considers all alcohol licence application and applications for manager's certificates.

The activity is carried out under a share service arrangement with Waipa District Council.

There are links between this activity and the planning and building activities that require coordination. This cooperation factor allows licence applications to be processed in a timely and efficient manner.

## **Public Health**

WDC is obliged to ensure that premises that prepare and sell food comply with hygiene regulations, these premises are inspected at least annually. WDC also ensures that camping ground, mortuaries, hairdressers, clubs and other premises are monitored to ensure they meet health standards. The activity is also charged with investigating notifiable infectious diseases, insanitary housing and other environmental health matters.

This activity is carried out under a shared services arrangement with the Waipa District Council.

## **Bylaw Administration**

Council has in place a range of bylaws which allow WDC to manage issues associated with community nuisance, protect public health and manage Councils assets.

Regulatory Services administer and where appropriate enforce the bylaws with the activity carried out under the shared services arrangement with Waipa District Council.

## **Animal Control**

WDC administers the Dog Control Act 1996 and the Dog Control Bylaw which require that dogs are registered, cared for and kept under adequate control dog control responsibilities mostly entail investigation of complaints about unregistered dogs, nuisances caused by dogs, e.g. barking and aggressive behaviour by dogs. Such complaints are generally resolved through education and if necessary enforcement. WDC is also responsible for the administration of the Impounding Act which allows Council to control wandering stock.

The Animal Control Activity was previously carried out under contract, however the delivery of the service is now carried out in-house. WDC now employs an Animal Control Officer together with a Pound Manager who is responsible for both the dog and stock pounds.

## **Resource Management**

The Resource Management Activity involves the administration, application and enforcement of the provisions of the Waitomo District Plan. Key tasks include but are not limited to issuing resource consents for land use and subdivisions, monitoring consents for compliance with conditions and when necessary making amendments to the District Plan.

This activity is primarily carried out in-house, however for more complex resource management issues suitably qualified planning consultants are engaged.

### **1.4 The Role of Other Parties**

Regulatory Services collaborates with a wide range of agencies and organisations at a local, regional and national level in order to provide wherever possible a credible, consistent and pragmatic approach to the administration and enforcement of legislation.

The activity has an extensive customer base with most of the district's population having some level of interaction with Regulatory Services directly or indirectly.

## 1.5 Significant Effects of the Service

Significant effects of the Regulatory Services Activity and the local community are outlined below.

**Figure 1.1: Significant effects of the service**

Positive effects	Positive effects
<ul style="list-style-type: none"> <li>• Health and well-being</li> <li>• Bylaw enforcement reduces anti social behaviour</li> <li>• Statutes and bylaws may be seen by some members of the community as restrictive</li> <li>• District Plan rules promote responsible economic development</li> <li>• Building and resource consents processed promptly</li> <li>• There is a cost to the community in enforcing regulatory responsibilities</li> </ul>	<ul style="list-style-type: none"> <li>• Health and safety protected</li> <li>• Improved amenity values provides protection for the District natural environment</li> <li>• Promote retention of District character</li> <li>• Maintain heritage landscapes</li> <li>• Protects district waterways</li> </ul>

## 1.6 About This Plan

### Document Structure

This document has the following structure to ensure that WDC meets with its legislative requirements to prepare Activity Management Plans for each of its activities. The format of this document is:

- What our customers want and how well we are doing to achieve it
- How we manage the service (Lifecycle Management)
- Planning for the future – demand for the service (Growth)
- What it costs and how we will pay for it (Financial Summary)
- Our commitment to excellence (Management Practice and Improvement Programme)
- Appendices

### Links to Other Plans

Activity Management Plans (AMPs) are a key component of WDC planning process that link to the following documents:

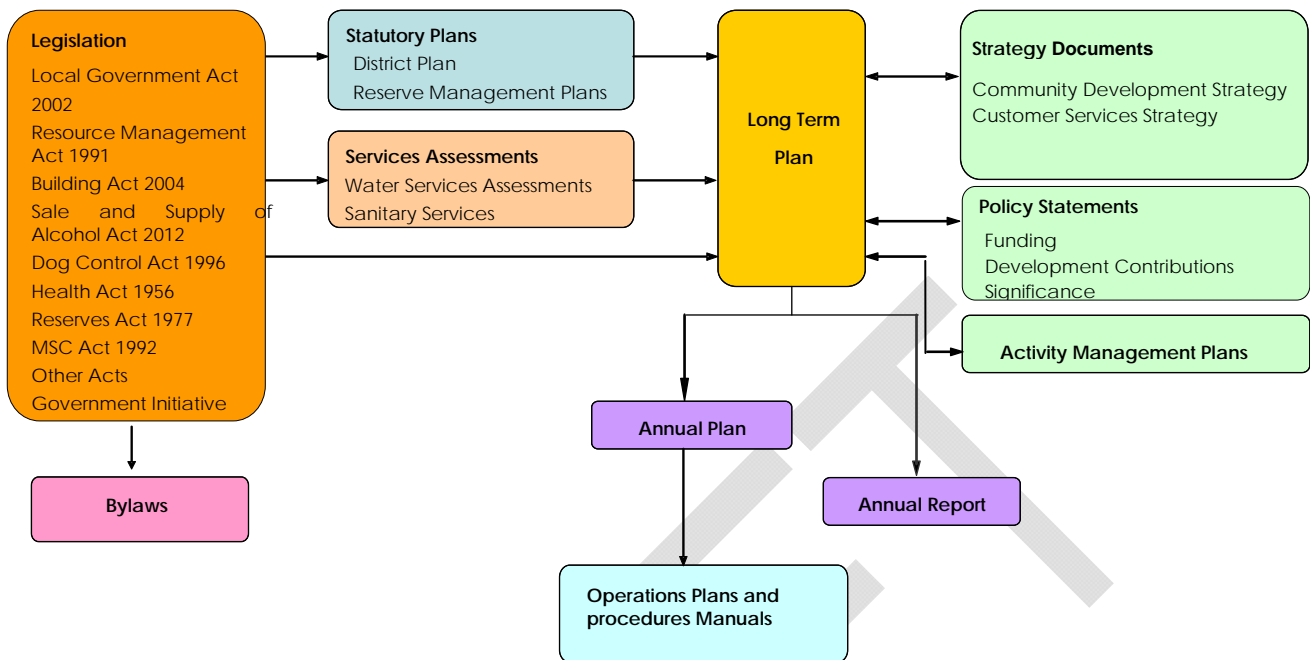
**Long Term Plan (LTP):** Defines the strategic direction for the next 10 years. AMPs are prepared to supplement the information in the LTP and confirm the WDC's role in achieving Community Outcomes.

**Annual Plan (AP):** The works identified in the AMP should become the basis on which future Annual Plans are prepared and identify services to be provided in a particular financial year.

**District Plan:** Defines Councils responsibilities in terms of the Resource Management Act 1991 and establishes rules for the sustainable use and development of land.

**Statutes, Bylaws, Standards and Policies:** Council is obliged to administer and enforce central government legislation, national standards and bylaws.

The links to other plans is shown in the schematic below:



## 2.0 Levels of Service

Levels of Service (LOS) for both the Regulation and Safety Activity and Resource Management Activity are determined by Council understanding and meeting its legal obligations and whilst also being aware of customer needs and expectations.

The current LOS have been set with the overarching objectives of meeting legislative requirements while providing a range of regulatory services and resource management in a time, customer focused and costs effective manner.

### 2.1 How our Services Contribute to Community Outcomes

The Regulation and Safety Activity promotes various well-beings and contributes to these Community Outcomes by:

*Figure 2.1: Relevant Community Outcomes for Regulation and Safety*

Community Outcomes the Group contributes to:	How the Regulation and Safety Activity contributes	Outcome Effect Indicator
<b>Prosperous District</b>		
<b>CO 6</b> A place that attracts more people who want to live, work and play, and raise a family.	By ensuring that statutes and bylaws are fairly and efficiently enforced in a timely and consistent manner.	People will view the district as a clean, safe and well maintained environment which they are attracted to.
	Council will continue to provide information to facilitate consenting and process consents and licences in a efficient and timely manner.	People will perceive that the district is business friendly and willing to work with those initiating new development.
<b>CO 7</b> A place where wealth and employment are created through local businesses and development of tourism opportunities and facilities are developed, facilitated and encouraged.	Council will work with groups organising activities in order to adequately address any regulatory issues in the early planning stage.	The district is perceived as welcoming with a can-do approach where holding an event is not hindered by bureaucracy.
<b>Effective Leadership</b>		
<b>CO8</b> A place where the development of partnerships for the delivery of programmes and services is encouraged and pursued.	Council will work with groups organising activities in order to adequately address any regulatory issues in the early planning stage.	The district is perceived as welcoming with a can-do approach where holding an event is not hindered by bureaucracy.

**Figure 2.2: Relevant Community Outcomes for Resource Management**

Community Outcomes the Group contributes to:	How the Resource Management Activity contributes	Outcome Effect Indicator
<b>Vibrant Communities</b>		
<b>CO 5</b> A place where we preserve the natural environment for future generations, ensuring that natural resources are used in a sustainable manner.	Council will ensure that the District Plan rules are administered and enforced in a way that ensures that the districts natural environment is protected.	The district will be seen as a special place with an attractive environment and outstanding natural landscapes.
<b>Prosperous District</b>		
<b>CO 6</b> A place that attracts more people who want to live, work and play, and raise a family.	Councils District Plan will contain rules which while protecting the environment will afford people a wide range of development opportunities.	The district will be seen as a place where difficulties can be resolved in developing new businesses and lifestyle opportunities.
<b>Effective Leadership</b>		
<b>CO8</b> A place where the development of partnerships for the delivery of programmes and services is encouraged and pursued.	Councils District Plan will contain rules which while protecting the environment will afford people a wide range of development opportunities.	<p>The district will be seen as a special place with an attractive environment and outstanding natural landscapes.</p> <p>The district will be seen as a place where difficulties can be resolved in developing new businesses and lifestyle opportunities</p>

## 2.2 Strategic Direction

The strategic goals for the Regulation and Safety Activity are:

- To ensure health and safety is protected by effectively and efficiently administering statutes regulations and bylaws including environmental health, liquor control and noise control.
- To protect the health and safety of building users by effectively and efficiently administering the provisions of the Building Act 2004.
- To ensure that animals, particularly dogs, are controlled so that people can enjoy the benefits of dog ownership without adversely affecting other members of the community.

The strategic goal for the Resource Management Activity is:

- To provide a safe and sustainable environment by effectively and efficiently administering and enforcing the provisions of the Resource Management Act 1991 and the Waitomo District Plan.

## 2.3 Legislative Framework

Although local government is involved in a myriad of legislation the key statutes impacting on the Regulation and Safety Activity are:

### Local Government Act 2002

This Act gives Council power of general competence to undertake any business or activity. Provided the activity is consistent with the object of the Act and the community has been consulted in a meaningful way, this can include the making of a range of bylaws to protect assets and to manage public nuisance.

### Building Act 2004

The purpose of this Act is to provide for the regulation of building work and the setting of performance standards for buildings to ensure that people who use buildings can do so safely and without endangering their health.

### Health Act 1956

The purpose of this Act is to ensure that every territorial authority is responsible for the improvement, promotion and protection of public health within the District.

### Sale and Supply of Alcohol Act 2012

The object of the Act is that the sale, supply and consumption of alcohol should be undertaken safely and responsibly and the harm caused by excessive or inappropriate consumption should be minimised.

### Dog Control Act 1996

The Act seeks out to make better provision for the care and control of dogs by requiring their registration and imposing on the owners of dogs obligations designed to ensure that dogs do not cause a nuisance and do not cause danger or distress.

The key legislation influencing the Resource Management Activity is:

### Resource Management Act 1991

This Act requires Council to manage the use, development and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic and cultural well-being and for their health and safety. WDC must also sustain the potential of natural and physical resources to meet the reasonable foreseeable needs of future generations and to avoid, remedy or mitigate any adverse effect of activities on the environment.

## 2.4 Our Customers

### Who Our Customers Are

In order to provide an efficient level of service, Council needs to identify its potential customers. For Regulatory Services the key customer groups include:

**Figure 2.2: Potential Customers**

External	Internal
• District community at large	• Council staff and contractors
• Property owners	• Elected representatives
• Trades people	
• Architects	
• Engineers	
• Planning consultants	
• Surveyors	
• Dog owners	
• Local Iwi	
• Developers	
• Business owners	
• Government agencies	
• Network Utility Operators	

### Customer Expectations

This group includes a diverse range of activities, therefore considerable effort is required to determine customer expectations, a necessary process in development of meaningful levels of service. Current knowledge of customer expectations is based largely on structured and unstructured surveys which tend to focus on determining overall customer satisfaction rather than gathering qualitative data on the aspects of the service that are important to customers and that they value highly.

In 2014 WDC conducted an in-house survey in order to where ever possible identify how well WDC is performing in terms of services offered to the community. Further targeted surveys will be introduced in 2015 to measure customer satisfaction.

### Building Consent Process

**Figure 2.3: Percentage Satisfied with the Building Consent Process**

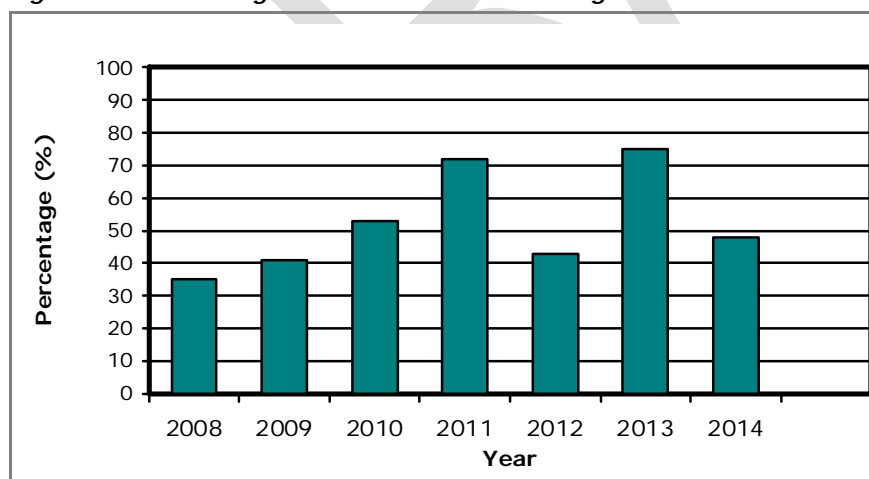


Figure 2.3 shows that the level of satisfaction with the building consent process has significantly reduced with users of the service claiming the application form (which must be completed in full to comply with Building Regulations) is difficult to complete.

## Animal Control

Figure 2.4: Percentage Satisfied with Animal Control Services

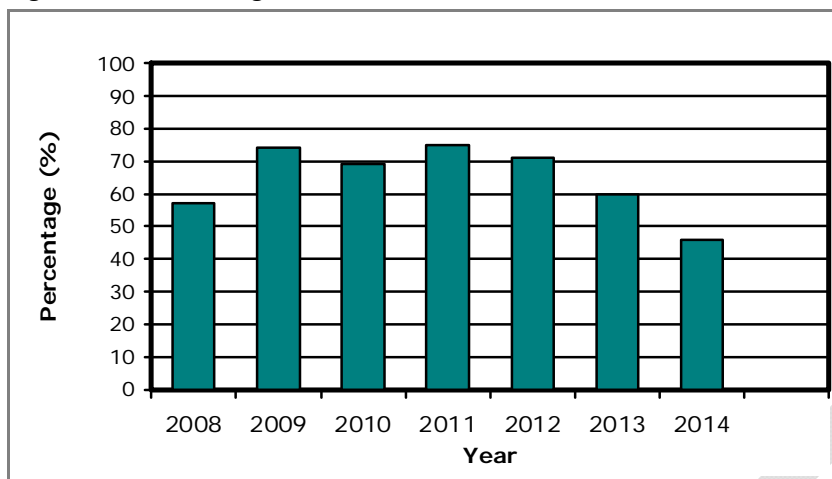


Figure 2.4 gives residents satisfaction data for Animal Control Services. The level of satisfaction with this service has dropped reflecting community concerns associated with wandering and unregistered dogs.

## Environment Health

Figure 2.5: Percentage Satisfied with Environmental Health

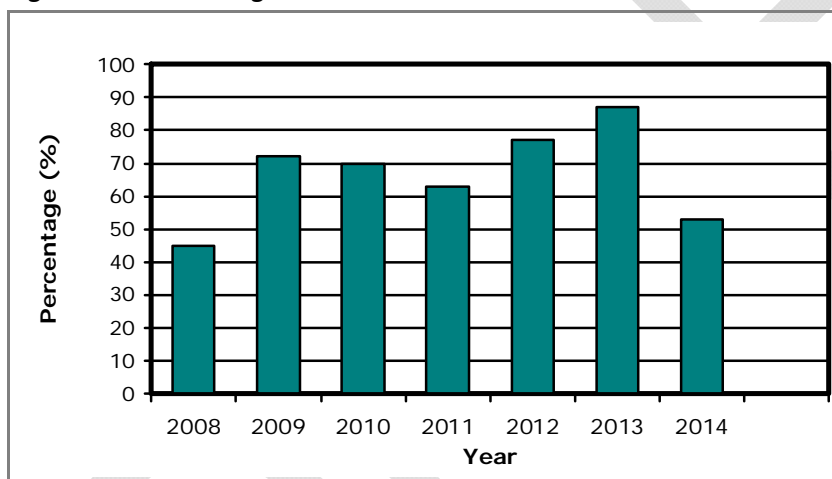


Figure 2.5 shows the level of satisfaction with environmental health service has dropped significantly since 2013. The main reason given for dissatisfaction with the provision of an effective environmental health service is that too many alcohol outlets exist.



## 2.5 Other Stakeholders

In order to provide an efficient Level of Service, Council needs to identify its potential stakeholders. For Regulatory Services the stakeholders include:

**Figure 2.6: Other Stakeholders**

Building Control	Alcohol Licensing	Environmental Health	Resource Management	Bylaw Administration	Animal Control
Property Owners Builders Architects Tradesmen Department of Building and Housing Waikato Building Consents Group	Proprietors of Licensed Premises NZ Police Waikato District Health Board NZ Fire Service Training Providers	Department of Health Waikato District Health Board Business Operators NZ Food Safety Authority	Ministry for the Environment Iwi Developers Surveyors Planning Consultants Property Owners Waikato Regional Council	Waikato District Health Board Waikato Regional Council Dog Owners Farmers Business Operators	Dog Owners SPCA Department of Internal Affairs Farmers

## 2.6 Service Delivery Options Considered

Levels of Service (LOS) are determined by Councils understanding of customer needs as determined through regular interaction with a wide range of customers and key stakeholders. As yet Council has not carried out formal consultation with customers on LOS other than at a very generic level through the annual plan consultation process.

Council's role in the provision of regulatory services has been and will generally continue to be carried out in house where the skills needed to do the job are available in the local community. Shared service arrangements with Waipa District Council have proved helpful when appropriately qualified staff were not available locally.

From time to time Council's regulatory responsibilities will change; amendments to statutes or new legislative requirements may require Council to carry out different regulatory duties or implement new procedures for current regulatory activities. In such circumstances Council will consider all service delivery options.

## 2.7 Current/Target Levels of Service

**Strategic Goal:** To ensure health and safety is protected by effectively and efficiently administering statutes regulations and bylaws including environmental health, liquor control and noise control.

**Figure 2.7: Levels of Service**

Link to Community Outcomes	LOS Statement	Type of Measure	Performance Measure	Performance Measurement and Targets				Performance Measurement Procedure
				2015-2016	2016-2017	2017-2018	2018-2019	
<b>Prosperous District</b> <b>CO6,</b> <b>CO7</b>  <b>Effective Leadership</b> <b>CO8</b>	All food and alcohol retail premises will be inspected and appropriately registered and licensed	KPI	Percentage of registration or licensing of food and alcohol retail premises	100%	100%	100%	100%	Analysis of inspection records
<b>Prosperous District</b> <b>CO6,</b> <b>CO7</b>  <b>Effective Leadership</b> <b>CO8</b>	Provision of an effective environmental health service for the community	KPI	Annual Resident Satisfaction Survey rating on Environmental Health Service	> 50%	> 50%	>50%	>50%	Annual Resident Satisfaction Survey results

**Strategic Goal:** To protect the health and safety of building users by effectively and efficiently administering the provisions of the Building Act 2004.

**Figure 2.8: Levels of Service**

Link to Community Outcomes	LOS Statement	Type of Measure	Performance Measure	Performance Measurement and Targets				Performance Measurement Procedure
				2015-2016	2016-2017	2017-2018	2018-2019	
Prosperous District CO6, CO7  Effective Leadership CO8	Building consents and project information memoranda issued within 15 working days	KPI	Percentage of building consents and project information memoranda issued within 15 working days	90%	90%	90%	90%	Analysis of inspection records
Prosperous District CO6, CO7  Effective Leadership CO8	Council will process, inspect and certify buildings works in the Waitomo District	KPI	WDC maintains building control systems and processes to meet IANZ Audit requirements	Accreditation Maintained	Accreditation Achieved	Accreditation Maintained	Accreditation Achieved	BCA Accreditation achieved every 2 years
Prosperous District CO6, CO7  Effective Leadership CO8	Provision of an effective building control service to the community	KPI	Annual Resident Satisfaction Survey rating on Building Control	>50%	>50%	>50%	>50%	Annual Resident Satisfaction Survey results
Prosperous District CO6, CO7  Effective Leadership CO8	Recovery of administration costs from applicants	Management Tool	Percentage of total administration cost recovered from applicants	>50%	>50%	>50%	>50%	Analysis of budgets

**Strategic Goal:** To ensure that animals, particularly dogs, are controlled so that people can enjoy the benefits of dog ownership without adversely affecting other members of the community.

**Figure 2.9: Levels of Service**

Link to Community Outcomes	LOS Statement	Type of Measure	Performance Measure	Performance Measurement and Targets				Performance Measurement Procedure
				2015-2016	2016-2017	2017-2018	2018-2019	
Prosperous District CO6, CO7 Effective Leadership CO8	Dog owners' properties will be inspected to ensure compliance with the Dog Control Act 1996 and Council's bylaws	KPI	Percentage of dog owners' properties inspected per year	Urban – 100% Rural - 10%	Urban–100% Rural-15%	Urban–100% Rural-20%	Urban–100% Rural-20%	Analysis of inspection records
Prosperous District CO6, CO7 Effective Leadership CO8	Immediate response by WDC to public safety complaints	KPI	Response time to the incident	<1 hour for more than 30% of complaints	<1 hour for more than 30% of complaints	<1 hour for more than 30% of complaints	<1 hour for more than 30% of complaints	Analysis of complaint records
Prosperous District CO6, CO7 Effective Leadership CO8	High level of customer satisfaction with animal control service	KPI	Annual Resident Satisfaction survey rating on Animal Control	=>50% good or above	=>50% good or above	=>50% good or above	=>50% good or above	Annual Resident Satisfaction Survey results
Prosperous District CO6, CO7 Effective Leadership CO8	Dog Owners are well informed of their responsibilities and WDC support.	KPI	Number of Dog/Owner Education initiatives	=>2	=>2	=>2	=>2	Education Material available and distributed.

**Strategic Goal:** To provide a safe and sustainable environment by effectively and efficiently administering and enforcing the provisions of the Resource Management Act 1991 and the Waitomo District Plan.

**Figure 2.10: Levels of Service**

Key Service Criteria	Link to Community Outcomes	LOS Statement	Performance Measure	Performance Measurement and Targets				Performance Measurement Procedure
				2015-2016	2016-2017	2017-2018	2018-2019	
<b>Vibrant Communities CO5</b>	Council will ensure that resource consents are processed in a timely and customer friendly manner so as to facilitate district wide development		Percentage of notified consents processed within 80 working days of receipt	90%	90%	90%	90%	Analysis of consent processing times
<b>Prosperous District CO6</b>			Percentage of non-notified consents processed within 20 working days	90%	90%	90%	90%	Analysis of consent processing times
<b>Effective Leadership CO8</b>	All premises where resource consent have been issued will be monitored at least biennially to ensure compliance		Percentage of consented premises visited each year	50%	50%	50%	50%	Analysis of consent files
<b>Vibrant Communities CO5</b>								
<b>Prosperous District CO6</b>								
<b>Effective Leadership CO8</b>								

## 2.8 Key Performance Indicators

It is to be noted that the indicators shown as AMP performance measure or management tools are for internal management use only. They are not designed to be reported publicly as part of the performance of the Regulatory and Safety and Resource Management Activities.

They are not designed to be audited to any of the standards and requirements, which pertain to performance measures which are used to report to council and the community. Council considers that these indicators are valuable for internal management purposes, but for various reasons they are not suitable for reporting at Council nor community level.

Reasons for this may include concerns (sometimes marginal) around:

- Relevance
- Realism/ability for council to control
- Verifiability
- Neutrality
- robustness
- Perverse incentives or

Metadata issues including:

- Collection methods
- Monitoring frequency
- Data storage
- Quality assurance systems
- Intended use

## 2.9 Trends Impacting on Level of Service (possible future changes/service level review)

### Environmental

There is a trend for the public to be more quality conscious in relation to the environment. This could well mean that there will be pressure on Council to improve environmental standards with the expectation that stretch environmental targets will be included in a range of planning documents.

Regional Planning Statements and other planning documents are likely to require Council to impose more protection mechanisms around indigenous vegetation and outstanding natural landscapes.

Global warming is inevitably going to lead to gradual sea-level rise. This will in time impact on the district's coastal margins requiring Council to reconsider where future development is allowed.

### Cultural

Council is likely in the future to face increasing pressure to recognise and protect important heritage features and sites of value to the community including waahi tapu and other taonga. This may well require Council to put in place and enforce more rigorously rules protecting heritage sites.

Water quality is particularly important to Maori. It is likely in the coming years that there will be pressure placed on Council to introduce additional land use rules restricting certain activities in order to improve water quality in the district rivers, streams and lakes.

### Economic

The ongoing global recession could mean that development in the district is stymied. With a reduction in development there is a corresponding reduction in a range of consenting requirements (e.g. building, resource consents) which could require Council to review its service delivery options for these activities.

### Social

A lack of economic development in the area would mean that the district's already aging housing stock would further deteriorate. Without new dwellings being constructed in the district the current housing stock could be a significant disincentive to people considering moving to our area, potentially increasing the rate of depopulation.

## Confidence Levels and Assumptions for Stated Trends

Figure 2.11: Data Confidence Levels

Trend	Confidence Level
National Demographic trends – sourced from National Institute of Demographic and Economic Analysis – August 2014	A
Inspection consent records and workload trends – sourced from Council files	C
Consent trend information sourced from Department of Building and Housing and Ministry for the Environment	A

## 2.10 Key Programmes to Achieve Levels of Service

Council is implementing a number of projects to achieve the LOS. The table below summarises the major projects, their forecasted total cost to Council and an assessment of the confidence in the projections:

### Key Programmes

Figure 2.12: Key Programmes to Achieve Levels of Service

Trend	Project	Key Service Criteria	Forecasted Total Cost	Confidence Level in Projections	Estimated Timeline for Project Completion
Economic Environmental Social	Programmed updates and effective implementation of the BCAs Quality Assurance Manual as required by IANZ	Legislative Quality	\$15,000 bi-annual	B	Ongoing
Economic Environmental Social	Review of District Plan and development of Urban Structure Plans	Legislative Economic	\$390,000	C	2015-2019
Economic Environmental Social	Update and review of Compliance Schedules	Legislative Quality	\$35,000	B	2015
Economic Environmental Social	Provision of mobile applications for regulatory field staff	Legislative Quality	Budget requirements reflected in Information Services Cost Centre	B	2015
Environmental Economic	Electronically record all WDC's building consent records	Legislative Quality	Budget requirements reflected in Corporate Services Cost Centre	B	2015-2018

## Key Strategies Impacting on Future Levels of Service

Figure 2.13: Key Strategies that may affect Levels of Service

Trend	Project	Key Service Criteria	Forecasted Total Cost	Confidence Level in Projections	Estimated Timeline for Project Completion
Environmental/ Economic	Ministry of Business, Innovation and Employment may establish either regional centres or a national centre to process all applications for building consents	Legislative	No identified costs to date	D	Ongoing
Economic	Shared service investigation	Quality Satisfaction	No identified costs to date	D	Ongoing

### 2.11 Description of Key Programmes

#### Accreditation as a Building Consent Authority

WDC was reassessed for accreditation as a Building Consent Authority in June 2014. Accreditation allows WDC to process almost all building consents in-house.

In order to maintain accreditation, International Accreditation New Zealand (IANZ) will continue to carry out bi-annual reassessments of WDC building consent processes and inspection procedures. As part of this process WDC must regularly review building consent processes and work with other members of the Waikato Building Consents Group to amend the groups Quality Assurance manual when necessary.

Consultants will be engaged to carry out independent audits of systems and procedures and review the quality assurance manual prior to IANZ bi-annual reassessment.

#### Review of District Plan and Urban Structure Plans

Although not directly related to this Activity Management Plan, it is appropriate to comment on the work streams District Plan Development and development of urban structure plans which fit under the leadership group but at a practical level are closely aligned with Resource Management. It is not intended at this time to develop an Activity Management Plan for Leadership so where appropriate these activities have been attached to this Activity Management Plan.

Council approved the District Plan on 17 February 2009 to become operative on 1 March 2009. However most plan provisions had been in existence for some time as Council initially released its decisions on submissions to the plan in 2002.

The length of the development and approval process of the Plan means that there are amendments necessary in order to bring the plan in line with the current legislative environment, as well as the changed circumstances within the District itself. There is also a need to integrate the second generation plan with other planning instruments such as the Long Term Plan and Asset Management Plans.

Any review of the District Plan must follow a prescribed process. This process includes a number of steps:

- a) Preparation and circulation of issues and options papers.
- b) Preparation and circulation of a draft plan.
- c) Proposed documents are prepared under the Resource Management Act which will be publicly notified. When the document is notified written submissions will be called for. Council will then hold hearings and make decisions on submissions making changes to the Plan as they are deemed necessary.
- d) Council then will release a decisions version of the District Plan. The plans provisions can at this time be challenged in the Environment Court.

Council is of the view that urban structure plans require preparation for those parts of the District which may experience growth e.g. Waitomo and Mokau.



Urban structure plans will integrate the principles of sound planning and future capital infrastructure requirements providing the community with a clear understanding of growth options, a good understanding of the costs associated with each option and once finalised link directly to asset management planning.

It is anticipated at this stage this work stream will not be completed until approximately 2018.

### **Compliance Schedules**

In order to comply with the provisions of the Building Act 2004, building owners who own buildings that contain specified systems e.g. air conditioning units, fire alarms, automatic door and sprinklers must apply to WDC for a compliance schedule.

The compliance schedules, when issued by WDC, list all specified systems for a particular building and details the required maintenance regime. Building owners are then required on an annual basis to issue a Warrant of Fitness (WOF) for their building confirming that specified systems have been maintained and are in good working order.

In the Waitomo District there are currently 170 compliance schedules in place. The Building Amendment Act requires compliance schedules to be updated and amended. This requires WDC to review all compliance schedules, remove systems no longer covered and update and amend where necessary. Currently all 170 compliance schedules are in need of review.

To resolve this processing issue WDC intends to seek assistance from an external service provider. WDC's fees and charges contain a fee to process compliance schedules so addressing the current backlog will be cost neutral for ratepayers.

### **Mobile Applications**

The introduction of mobile technology will provide an invaluable tool for WDC's field staff. Staff will have the ability to maintain and access WDC's databases remotely.

The technology offers significant efficiency gains allowing staff to focus on regulatory enforcement rather than spending valuable time carrying out administrative tasks.

### **Building Consent Records**

All WDC's building consent records and other property related documentation prior to 2007 are paper based and this present a risk to WDC in terms of fire, flood or earthquake.

Over the next 3 years all property records will be recorded electronically to protect property related information and to ensure that the information in future is easily and readily accessible.

## **2.12 Description of Key Strategies that may affect Service Levels**

### **Processing of Building Consents**

Ministry of Business, Innovation and Employment has for sometime advocated for the establishment of either regional centres or a centralised national centre to process all building consents. It is contended that centralising all consent processing will allow systems to be implemented which could allow consents to be processed at a consistently high standard.

If this strategy is implemented it is expected that Councils revenue from building consents would reduce and could possibly impact on staffing levels within the Regulation and Safety Group.

### **Shared Service Investigation**

Within the Regulation and Safety Group opportunities to develop further shared service options with other Councils in the region are regularly tested. To date a suitable business case to develop further shared services options has not been established; however Council will continue to keep its options open in this regard.

### 3.0 Growth - Planning for the Future and Demand for the Service

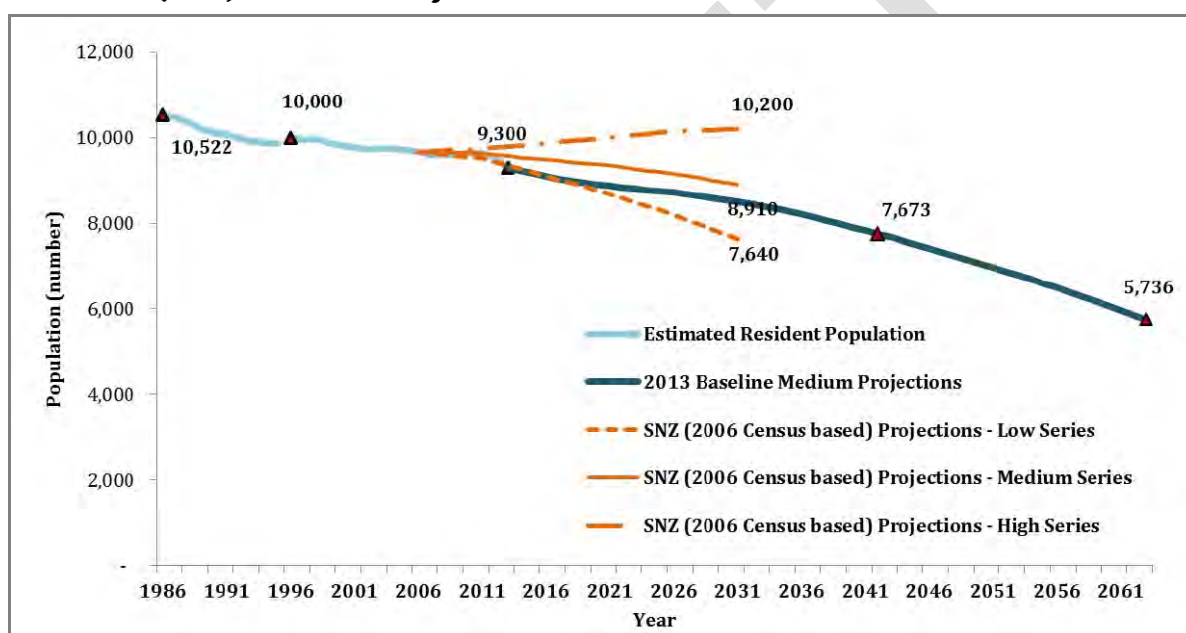
#### 3.1 Population Growth and Structure

The following information has been sourced from a paper prepared by the National Institute of Demographic and Economic Analysis (Waikato University) for the Waikato Regional Council in August 2014. Council has chosen to use these population forecasts for the 2015-2025 LTP as Statistics New Zealand Forecasts for the planning period are not available until 2015.

The graph below presents the 2013-base medium population projection for Waitomo District to 2063, along with historical population estimates from Statistics New Zealand back to 1991. The 2006-base Statistics New Zealand (SNZ) high, medium and low projections (October 2012 update) are also included for comparison.

The NIDEA projections show a continuing trend of declining population for Waitomo District with a projected population of 8,743 in 2025. These projections follow the recent trend in the District's population reasonably closely, with annualised population decline over the period 2013-2025 of 0.5% per year (base year projection is different to actual).

**Figure 3.1 Baseline Medium Population Projections for Waitomo District and Comparison with Statistics NZ (2012) Subnational Projections**



#### 3.2 Current Pattern of Building and Subdivisional Development

As in the previous section the population growth for the District is projected to be static and/or in decline. Historic trends of pockets of sub divisional and building activity in the form of modest lifestyle development around Te Kuiti, Waitomo Village, Mokau, and Awakino are also slowing. The subdivisional activity that was occurring in and around the Te Waitere area has slowed in recent years.

Over the last five years there has been an average of 12 new dwellings constructed per year. In terms of subdivisions the average number of lots created over the same period has been 3. Whilst 151 new lots were consented over the last five years only 63 new dwellings were actually consented.

While this is partly due to the delay between subdivision approval and building construction, there is also a backlog of undeveloped lots in the District which need to be factored into planning considerations

#### 3.3 Future Subdivisional Activity

From a recent, informal, desktop planning exercise, drawing from development proposals which are known to officers and/or are in the early stages of consent processing, it has been identified that further growth is unlikely to place pressure on the provision of Council services.

Indications are the recent trends of relatively slow development are likely to continue in to the foreseeable future.

The demographic and development trends show that there is no demand for growth related infrastructure at the present time or in the foreseeable future. For the past few years Council has been working on improving the condition of its core infrastructure assets, particularly in the Water Supply and Sewerage activity areas, in order to support public health outcomes and to meet its Resource consent and other legislative requirements.

The growth and development trends support an approach which continues to upgrade and maintain existing assets as opposed to the development of new capacity driven infrastructure. There is currently enough capacity in the infrastructure network to allow for minimal growth should it occur.

Council does not anticipate any significant land-use changes during the period of this LTP.

**Figure 3.2: Impact of Population Growth**

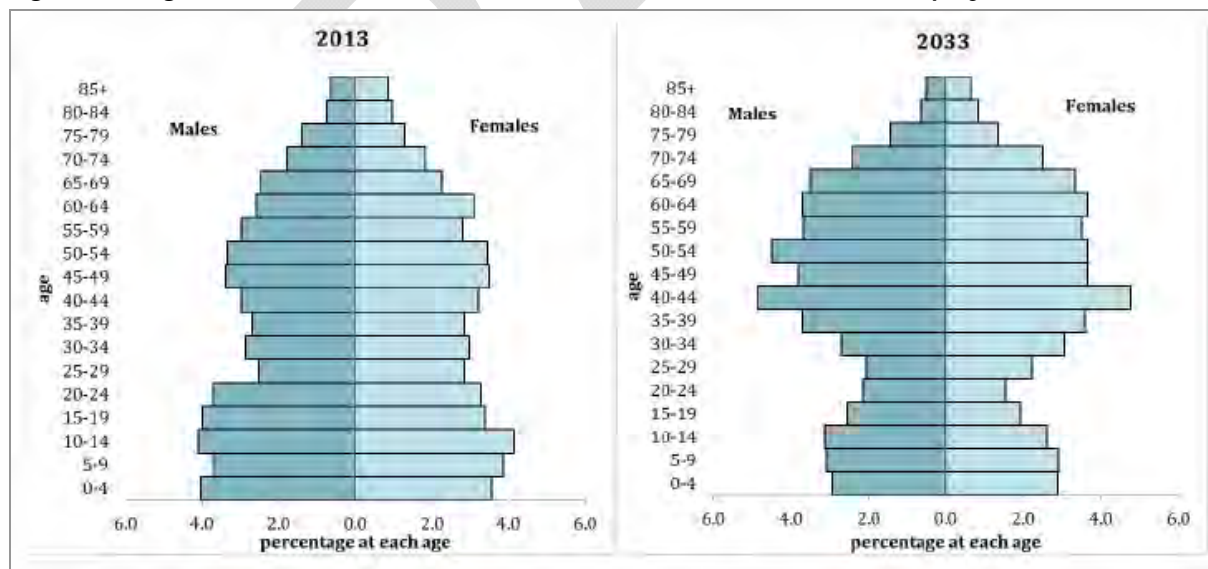
Assumption 14	Level of Uncertainty	Impact on Integrity of LTP
The impact of population growth and structure has been adequately provided for in the financial estimates.	Low	Low

### 3.4 Potential societal change factors

The age structure of the Waitomo District is among the more youthful in the Waikato Region (fourth-youngest in 2013) and experiences the least degree of population ageing. In 2013, 14.2 percent of the population is aged 65 years and over, and this is projected to increase to 19.4 percent by 2043.

The proportion of the population under 65 years of age is relatively high at 85.8 percent in 2013, 82.8 percent in 2033 and 68.7 by 2063. The ratio of elderly persons to children increases slightly from 0.61 in 2013 to 0.98 in 2033, before increasing markedly to 2.71 in 2063.

**Figure 3.3: Age-Sex structure for Waitomo District, 2013 and 2033 (medium projection)**



The District's population characteristics, which include a high proportion of Maori, can be expected to translate into demand for compatible services, e.g. community infrastructure in the form of increased recreational and cultural facilities. Council considers these changes have been adequately catered for in its 2015-25 LTP. Any departure from this assumption can be addressed during the 3-yearly review of the Plan.

**Figure 3.4: Impact of Societal Changes**

Assumption 15	Level of Uncertainty	Impact on Integrity of LTP
The impacts of societal changes and population structure have been adequately provided for in the financial estimates.	Low	Low

### 3.5 Ability of the Regulation and Safety Activity to Respond

In order to respond in a timely and appropriate manner to the changing needs of the community Council will regularly review a range of statistics in order to note trends evolving and from there develop strategies and service delivery options which meet the community's needs.

Many of Council's regulatory responsibilities are delegated to Council by way of new or amended statutes. For that reason Council will often have to be reactive in terms of response mode. In order to manage regulatory change Council closely monitors proposed changes to legislation or other regulatory policy documents so that when necessary user friendly processes and procedures can be implemented in a timely manner.

### 3.6 Demand Management

From a regulatory perspective the objective of demand management is to modify customer demand for development in some areas in order to protect and where necessary preserve the District's natural environment. Council is limited in terms of how this can be reasonably achieved, however District Plan Provisions do allow Council to put in place a range of rules associated with land use.

Council is proposing to review and where necessary update the subdivision requirements contained in the Operative District Plan. As part of this process Council will consider developing District Plan rules which may restrict some coastal development thereby affording more protection to the District's coastal environment.

### 3.7 Key Programmes to meet Growth

#### Strategy

Council's District Plan is an enabling document which currently places the emphasis on controlling the environmental effects of growth. Therefore provided activities do not produce significant adverse effects which impact upon the surrounding environment they can generally be accommodated throughout the District.

#### Tactics

It has been recognised however that the District Plan does require review to bring the plan in line with the current legislative environment as well as changed circumstances within the District itself. As details in 2.10, Council will carry out a staged review of the Plan over several years (2015-2019) so that any growth within the district can be managed in a sustainable manner.

#### Costs

There are no capital works associated with this programme.

### 3.8 Confidence Levels and Assumptions

The population trends derived from a paper prepared in August 2014 by the National Institute of Demographic and Economic Analysis (Waikato University) are inherently inexact results and approximations. They rely on the robustness of the original collection methodology and base data as well as that of statistical manipulation. This analysis assumes that the base information is accurate.

## 4.0 The Assets we Use

### 4.1 Description of Asset Base

Although Council has an extensive range of assets none are controlled or managed by Regulatory Services.

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## **5.0 How We Manage the Services**

### **5.1 Regulation and Safety Activity**

#### **Building Control**

In July 2013 WDC joined the Waikato Building Consent Group. The purpose of this group is to foster collaboration and provide an excellent and consistent service to customers across the Waikato Region.

WDC's Building Control services are managed in house with two Building Control Officers carrying out technical duties and administration support provided by Customer Services.

WDC also has in place a service level arrangement with Hamilton City Council to process larger and more complex building consents on WDC's behalf.

WDC is an accredited Building Consent Authority under the Building Act 2004 and is responsible for processing applications for building consent, certificates of acceptance, code compliance certificates and associated inspections. Further process detail is available in Council's Quality Assurance Manual.

#### **Alcohol Licensing**

The alcohol licensing activity is managed in-house with the service being delivered by way of a shared services arrangement with Waipa District Council. The District Licensing Committee oversees the administration of the Sale and Supply of Alcohol Act 2012. The Licensing Inspector (1 day per week) reports on all licence applications and inspects all licensed premises at least annually.

#### **Environmental Health**

Council manages environmental health services in-house however the service is delivered (1 day per week) under a shared services arrangement with Waipa District Council. In terms of the shared services agreement all food premises that prepare and sell food are inspected at least annually to ensure compliance with the Food Hygiene Regulations. Council also requires all camping grounds, mortuaries, hairdressers and other registered premises to be monitored to ensure public health standards are met.

#### **Bylaw Administration**

Although managed in-house this activity is also carried out under a shared service arrangement with Waipa District Council. Council has in place a suite of bylaws which allow WDC under its shared services arrangement to manage issues associated with community nuisance, the protection of public health and the management of Council's assets.

#### **Animal Control**

WDC manages this activity in-house and employs an Animal Control Officer to enforce the Dog Control Act 1996 and the Dog Control Bylaw which requires that dogs are registered, cared for and kept under adequate control. Dog control responsibilities mostly entail investigation of dog control complaints e.g. barking and aggressive dogs. The Officer is also responsible for the administration of the Impounding Act which allows Council to control wandering stock.

WDC also employs a Pound Manager who manages both the dog and stock pounds. After hours animal control services are carried out by a contractor on behalf of WDC.

### **5.2 Resource Management Activity**

#### **Resource Management**

The Resource Management Activity is also managed in-house. It involves the administration, application and enforcement of the provisions of the Waitomo District Plan.

Internal services such as issuing resource consents for land use and subdivisions, monitoring consent for compliance are attended to by the Manager - Regulatory Services, however for more complex resource management issues suitably qualified planning consultants are engaged.



### 5.3 Managing Risk

While Council has carried out some limited informal risk analysis associated with both Regulation and Safety and Resource Management, to date a risk management plan has not been undertaken. This is a critical matter which will require to be addressed as time and resources permit. It is however been deemed while compiling this AMP that risks relating to Regulation and Safety and Resource Management are generally low.

#### Risk Approach

Risk has been identified as a potential negative outcome to Council and the community arising from action, inaction or an event.

A programme approach has been taken to risk management in identifying risk events for Regulation and Safety and Resource Management. They have been grouped into the following categories:

- **Natural Events**  
Where there is no real control over the timing or extent of the event e.g. floods and earthquakes.
- **External Impacts**  
Where other service providers are not providing services e.g. power supply failure, loss of Information Technology Support.
- **Operational Risks**

Where management and/or performance of an activity may negatively impact on the community.

These risks while impacting directly on service may have other consequences to things such as:

- a) Loss of Income
- b) Loss of Service
- c) Loss of Image
- d) Failure to meet statutory requirements
- e) Third party loss
- f) Health Impacts

#### Risk Management Process

##### Risk Identification

In the identification stage all risks should be noted, however further work is required to identify more specific risks in the Regulation and Safety and Resource Management areas.

##### Risk Evaluation

Evaluation requires that all risks are measured as to the likelihood of them occurring, and then scored allowing a monetary conversion.

##### Risk Management

Management of the risks to Regulation and Safety and Resource Management requires that staff exercise judgement regarding avoidance, reduction or transfer. It is proposed that risk will be avoided, mitigated, reduced or transferred by the following means:

- Avoid risk by - procedures, or equipment and/or no longer provide the service that presents the risk;
- Reduce the risk by - formulating procedural safeguards, such as performance evaluations; and further training to educate staff; and
- Transferring the risk – legal methods to assign risk of potential losses to a third party.

##### Retention of Risk

Council can take on the risk by increasing insurance premiums where possible and appropriate.

## Measures of Likelihood of Risks

Measures of likelihood or probability are explained in the table below.

**Figure 5.1: Probability Table**

Likelihood	Descriptor	Description	100% probability of failure	Probability
9-10	Almost certain	The event is expected to occur in most circumstances	Within 1 year	0.9
7-8	Likely	The event will probably occur in most circumstances	Within 2 years	0.5
5-6	Possible	The event should occur at some time	Within 3 – 10 years	0.15
3-4	Unlikely	The event could occur at some times	Within 11 – 20 years	0.07
1-2	Rare	The event may occur but only in exceptional circumstances	After more than 20 years	0.02

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## Measures of Consequence

Figure 5.2: Measures of Consequence or Impacts

Consequence	Description	Financial	Technical	Personnel Incident or Accident	Social	Political	Commercial
1	Negligible	<\$10,000	Minimal impact to services	First aid treatment Limited lost time	Minimal impact or disruption	Minimal interest	Minimal impact
2	Minor	>\$10,000 <\$50,000	Limited disruption and some loss of services	Medical treatment required Lost time injury	Some disruption to normal access or community systems	Minor impact or interest Questions raised in local forums, local media reports	Claims from business or repairs to other services Customers inconvenienced
3	Moderate	>\$50,000 <\$500,000	Significant impact, services reduced or stopped for up to two weeks	Serious injury Extended medical treatment required	Disruption to public access and other systems. Increased potential for accidents	Community discussion Broad media cover over a regional basis	Significant claims Customers forced to other options Questions from regulator
4	Major	>\$500,000	Disruption and damage to system or incident involving other infrastructure	Serious injury or loss of life	Extensive disruption. Incidents / accidents involving the public	Loss of confidence in Regulation and Safety and Resource Management. Corporate credibility affected	Loss of substantial business opportunity. Rebuke or threat from regulator
5	Catastrophic	Very high. Extensive losses within and beyond the system	Extensive disruption and damage with broad impact on other infrastructure	Loss of more than one life and or extensive injuries	Broad impact on community health or the environment	Public furore and investigations. Management changes demanded	Loss of substantial part of business. Loss of licence for a large area or region

## Risk Matrix

Risks are aligned to: Public Health, Environment, Security of Service, Quality, Asset Protection and Capacity.

The following table explains the risk rating matrix used to assess the risks tabulated below for Regulation and Safety and Resource Management Activities. Risk is assessed as the product of Consequence and Probability, thus a high likelihood of the event occurring with a major consequence leads to an extreme risk that requires immediate action.

**Figure 5.3: Risk Taking**

Event	Consequence				
Likelihood Rating	1 Negligible	2 Minor	3 Moderate	4 Major	5 Catastrophic
9-10 Almost Certain	Moderate	High	High	Extreme	Extreme
7-8 Likely	Moderate	Moderate	High	Extreme	Extreme
5-6 Moderate	Low	Moderate	Moderate	High	Extreme
3-4 Unlikely	Low	Low	Moderate	High	Extreme
0-2 Rare	Low	Low	Moderate	High	High

## Regulation and Safety Identified Risks

High risks are shown in this abbreviated summary table.

**Figure 5.4: Regulation and Safety Identified Risks**

Activity Affected	Failure Mode	Description	Risk Rating	Current Mitigation	Managed Risk Rating
Building Control	Loss of accreditation as a Building Consent Authority	Unable to carry out building consent processes	Moderate	Ensure compliance with quality assurance manual	Low
Building Control	Building not assessed as weather tight	Council required to pay compensation	High	Compliance with approved inspection processes	Low
Regulatory Enforcement	Failure to enforce statutory requirements	WDC not meeting community expectations	Moderate	Employment of Enforcement Officer	Low

## Resource Management Identified Risk

High risks are shown in this abbreviated summary table.

**Figure 5.5: Resource Management Identified Risks**

Activity Affected	Failure Mode	Description	Risk Rating	Current Mitigation	Managed Risk Rating
Resource Management	Council decisions are successfully challenged in the Environment Court	Significant Legal Costs to Council	High	Council obtain appropriate professional advice for all significant planning decisions	Moderate

## Mitigation Measures

Mitigation measures typically include procedural measures to strengthen the ability of the service withstand risk.

When a service has failed or is expected to fail in the future; strategies can then be developed to avoid or react to the failure. If the failure mode of a service is critical to the organisation, failure avoidance is likely to be more effective than reactive activities.

These Strategies can provide a list of works, which may be further broken down into:

- 'Should Do' Complete within 5 years
- 'Could Do' Works which may possibly be deferred for 5 years
- 'Defer' Works which can be deferred for 5 years

Based on the risk rating matrix above, the table below gives some guidance on mitigation measures.

**Figure 5.6: Mitigation Matrix**

<b>Extreme</b>	Immediate action required to reduce risk
<b>High Risk</b>	Treatment options must be reviewed and action taken to manage risk
<b>Moderate Risk</b>	Treatment options reviewed and action taken dependant on treatment cost
<b>Low Risk</b>	Managed by routine procedures

## Critical Asset Identification

A critical service is one that if it fails to provide the required service it will result in a significant impact on the community.

Identification of critical assets involves assessing the service against a series of criteria and allocating a grade. The process involves:

- Listing the main service group
- Assessing and scoring the impact of an event using 0-3 grade
- Summing the scores
- Assets deemed to have a total of 10 or more,, then the service is a critical service.

Regulation and Safety services are assessed below.

**Figure 5.7: Critical Asset Assessments and Identification**

<b>Asset Matrix</b> <i>0= No impact</i> <i>1= Low impact</i> <i>2= Moderate impact</i> <i>3= Severe impact</i>	<b>Direct Costs (Repair, lost revenue, damaged, legal costs)</b>	<b>Effect on Community (loss of supply)</b>	<b>Effect on public safety</b>	<b>Environmental Damage</b>	<b>Image / Public support</b>	<b>Other</b>	<b>Total (sum)</b>
<b>Building Control</b>	2	2	2	0	2		8
<b>Liquor Licensing</b>	1	2	0	0	1		4
<b>Environmental Health</b>	1	1	2	2	1		7
<b>Bylaw Administration</b>	2	2	1	0	2		7
<b>Animal Control</b>	1	1	1	2	1		6

By this method it can be seen that no service areas within Regulation and Safety score the required 10 points to be classified as critical.

## 6.0 Financial Commitment – What it costs and how we will pay for it

### 6.1 Summary of Financial Policies

The focus of this AMP is to provide agreed levels of service by the Regulation and Safety and Resource Management Groups at the optimum or lowest operational cost to the community. The acquisition of funds to achieve this focus is detailed below.

For both regulation and safety a resource management general rates UAGC and wherever possible user charges fund the net costs at these functions.

### 6.2 Capital Works Framework

Neither the Regulation and Safety Activity nor the Resource Management Activity own or maintain any assets and no capital works are planned. For that reason no further comment on capital work issues is required or necessary in this AMP.

### 6.3 Financial Forecasts

The following budgets have been prepared assuming that it will be “business as usual” over the next 10 years. However if circumstances changes i.e; the government delegates additional regulatory responsibilities to Local Government, the financial modelling in this AMP can be reconsidered and if necessary amended when this document is reviewed.

During the next three years the predominant emphasis is based on undertaking the tasks included in the improvement plan and ensuring that levels of service details in this AMP are met or exceeded.

Figure 6.1 identifies funding required over the next 10 years to implement the work strategies contained in this AMP. A financial forecast for each of the activities is shown in dollar value current from 1 July 2015.

More specific comment on financial matters associated with each activity is detailed below.

#### Regulation and Safety Activity

In order to maintain appropriate levels of service and to address risks identified in this AMP the following additional costs have been allowed for:

- Update and review of Compliance Schedules - \$35,000. This work stream will be neutral to WDC as costs of preparing the documents can be recovered by way of fees and charges
- The provision of mobile applications for regulatory field staff - \$15,000
- Electronically record all WDC's building consent records. This project will take three years to complete with an annual cost of \$85,000

#### Resource Management Activity

The spend in the Resource Management Activity reflects the ongoing costs of processing a range of both land use and subdivision consents. Direct costs relate primarily to engaging planning consultants to process more complex consents where currently Council does not have the necessary in-house resources.

Although not directly related to this Activity Management Plan, it is appropriate to comment on the work streams District Plan Development and development of urban structure plans which fits under the leadership group but at a practical level are closely aligned with Resource Management. It is not intended at this time to develop an Activity Management Plan for Leadership so where appropriate these activities have been attached to this Activity Management Plan.

The review of the District Plan is expected to take approximately 3 years to complete with total funding shown in the LTP at \$390,000 over the period 2015-2018.

Figure 6.1: 10-Year Expenditure Forecast Regulatory

Regulation	EAP 2014/15	LTP 2016	LTP 2017	LTP 2018	LTP 2019	LTP 2020	LTP 2021	LTP 2022	LTP 2023	LTP 2024	LTP 2025
<b>Operating Income</b>											
Environmental Health	33	33	34	35	36	37	38	39	40	42	43
Animal and Dog Control	140	168	172	177	182	187	193	199	206	213	221
Building Control Services	160	180	185	190	195	201	207	214	221	229	237
Alcohol Control Services	30	30	31	32	32	33	34	36	37	38	40
<b>Total Operating Income</b>	<b>363</b>	<b>411</b>	<b>422</b>	<b>433</b>	<b>445</b>	<b>458</b>	<b>472</b>	<b>488</b>	<b>504</b>	<b>522</b>	<b>542</b>
<b>Operating Expenditure</b>											
Environmental Health	69	72	73	75	77	79	82	84	87	90	93
Animal and Dog Control	119	252	258	264	271	280	289	298	308	318	329
Building Control Services	429	440	452	517	514	483	480	514	513	549	549
Alcohol Control Services	67	68	71	72	73	76	78	82	83	87	90
<b>Total Operating Expenditure</b>	<b>684</b>	<b>832</b>	<b>854</b>	<b>928</b>	<b>935</b>	<b>918</b>	<b>929</b>	<b>978</b>	<b>991</b>	<b>1,044</b>	<b>1,061</b>
<b>Net Operating Cost/(Surplus)</b>	<b>321</b>	<b>421</b>	<b>432</b>	<b>495</b>	<b>490</b>	<b>460</b>	<b>457</b>	<b>490</b>	<b>487</b>	<b>522</b>	<b>519</b>
<b>Net Expenditure</b>	<b>321</b>	<b>421</b>	<b>432</b>	<b>495</b>	<b>490</b>	<b>460</b>	<b>457</b>	<b>490</b>	<b>487</b>	<b>522</b>	<b>519</b>
<b>Funded By</b>											
Reserves	(117)	(30)	(11)	48	18	(23)	(24)	(25)	(26)	(27)	(28)
General Rates	398	374	365	367	391	398	392	424	419	452	447
UAGC	40	77	79	81	82	85	88	91	94	96	100
<b>Total Funding</b>	<b>321</b>	<b>421</b>	<b>433</b>	<b>496</b>	<b>491</b>	<b>460</b>	<b>456</b>	<b>490</b>	<b>487</b>	<b>521</b>	<b>519</b>

Figure 6.2: 10-Year Expenditure Forecast Resource Management

Resource Management	EAP 2014/15	LTP 2016	LTP 2017	LTP 2018	LTP 2019	LTP 2020	LTP 2021	LTP 2022	LTP 2023	LTP 2024	LTP 2025
<b>Operating Income</b>											
District Plan Administration	80	80	82	84	87	89	92	95	98	102	105
<b>Total Operating Income</b>	<b>80</b>	<b>80</b>	<b>82</b>	<b>84</b>	<b>87</b>	<b>89</b>	<b>92</b>	<b>95</b>	<b>98</b>	<b>102</b>	<b>105</b>
<b>Operating Expenditure</b>											
District Plan Administration	177	179	187	204	209	196	202	208	216	223	231
<b>Total Operating Expenditure</b>	<b>177</b>	<b>179</b>	<b>187</b>	<b>204</b>	<b>209</b>	<b>196</b>	<b>202</b>	<b>208</b>	<b>216</b>	<b>223</b>	<b>231</b>
<b>Net Operating Cost/(Surplus)</b>	<b>97</b>	<b>99</b>	<b>105</b>	<b>120</b>	<b>122</b>	<b>107</b>	<b>110</b>	<b>113</b>	<b>118</b>	<b>121</b>	<b>126</b>
<b>Net Expenditure</b>	<b>97</b>	<b>99</b>	<b>105</b>	<b>120</b>	<b>122</b>	<b>107</b>	<b>110</b>	<b>113</b>	<b>118</b>	<b>121</b>	<b>126</b>
<b>Funded By</b>											
Reserves	(10)	(15)	(9)	2	8	(5)	(5)	(4)	(13)	(13)	(2)
General Rates	70	57	57	58	57	56	57	59	65	67	64
UAGC	36	57	57	58	57	56	57	59	65	67	64
<b>Total Funding</b>	<b>96</b>	<b>99</b>	<b>105</b>	<b>118</b>	<b>122</b>	<b>107</b>	<b>109</b>	<b>114</b>	<b>117</b>	<b>121</b>	<b>126</b>

## 7.0 Our Commitment to Excellence (Management Practice and Improvement Programme)

This section of the AMP firstly describes the current activity management practices for regulation and safety and resource management and outlines the gap between current and desired activity management practices.

The improvements required to close this gap are set out in the improvement programme. The programme also identifies priorities, timetables and resources required for achieving the desired management practices.

### 7.1 Assessment of Current Practice

This section outlines the decision-making practices that WDC currently use to determine long-term levels of service for Regulation and Safety and Resource Management.

The following sections detail current management practices and describe the desired management practices WDC intends to develop over time.

#### Activity Processes

**Figure 7.1: Regulation and Safety - Activity Management Processes and Procedures – Current and Desired Practices**

Regulation and Safety	
Current Management Practices	Desired Management Practices
<b>Operations</b>	
Quality Assurance Manual monitored for Building Control Alcohol Licensing procedures developed	Operational activities identified and documented in controlled manuals
<b>Performance Monitoring</b>	
Small number of performance indicators monitored Internal and external auditing of building control systems Performance reported to customers through Key Performance Indicators	Performance measures and Levels of Service linked Performance standards fully documented More extensive use of external auditors
<b>Quality Assurance</b>	
Annual audit measures reported in Annual Plan Quality Assurance Manual for Building Control reviewed with recommendations for amendment as necessary External audits of Building Control processes and systems carried out	Development of more quality assurance systems for regulatory activities
<b>Accounting and Economics</b>	
NCS financial system for cost records NCS regulatory system used for all regulatory functions	Further more extensive use of NCS financial and statistical information to manage activity
<b>Plans and Records</b>	
All building records and inspection notes kept in hard copy in property related files All correspondence in Document	Building records held electronically and linked to GIS

Regulation and Safety	
Current Management Practices	Desired Management Practices
<b>Operations</b>	
Management System	

**Figure 7.2: Resource Management - Activity Management Processes and Procedures – Current and Desired Practice**

Resource Management	
Current Management Practices	Desired Management Practices
<b>Operations</b>	
No formal procedures documented for processing Resource Consents Some ongoing monitoring of consultants performance to ensure compliance with Resource Management Act	Operation activities identified and documented in procedures manual Consultant performance monitored using specific key performance indicators
<b>Performance Monitoring</b>	
Small number of performance indicators monitored Performance reported to customers through key performance indicators	Performance measures and levels of service linked Performance standards fully documented Continuous monitoring and reporting of performance against measures
<b>Quality Assurance</b>	
Annual audit performance measures reported in annual plan Regular meetings with planning consultants to discuss quality assurance	Quality Assurance Manual developed for resource consent process
<b>Accounting and Economics</b>	
NCS financial system used for cost records All resource management data recorded in NCS system	Further more extensive use of NCS financial and statistical data to manage this activity
<b>Plans and Records</b>	
All resource management recorded in Document Management System and NCS regulatory system	Resource management data linked to NCS

## 7.2 Planned Improvements

The development of this AMP is based on current levels of service and the knowledge of Council staff. The AMP will be reviewed, regularly monitored and updated to improve the quality of AM planning and accuracy of financial projections.

This process is dependent upon improved knowledge of customer expectations, further developed AM practices, data to optimise decision making, review of outputs, development of strategies and further planning. Reviews will be dependant on the availability of resources to undertake the review.



## Improvement Programme

The purpose of an AM improvement programme is to improve the current management practices for AM processes, information systems and data by implementing an improvement programme that brings current management practices in to line with desired management practices.

The improvement programme tasks to be completed are shown in the figure below:

**Figure 7.3: Improvement Programme**

Task
<p><b>AMP Preparation</b></p> <ul style="list-style-type: none"> <li>• Review AMP every 3 years</li> <li>• Review levels of service by testing options within the community</li> <li>• Confirm corporate AM objectives</li> <li>• Conduct external audit of AMP</li> <li>• Link financial forecasts to activity strategies</li> </ul>
<p><b>AM Data Improvements</b></p> <ul style="list-style-type: none"> <li>• <b>Future prediction data</b> Monitor actual versus predicted growth</li> <li>• <b>Levels of service</b> Measure performance in levels of service against targets</li> </ul>
<p><b>AM Process</b></p> <ul style="list-style-type: none"> <li>• <b>Operations</b> Ensure Quality Assurance Systems are developed and implemented for regulation and safety and resource management activities</li> <li>• <b>Performance monitoring</b> Process in place for monitoring, analysing and reporting of performance against levels of service and other performance measures.</li> <li>• <b>Levels of Service</b> Process developed for the review of levels of service (including customer consultation procedures)</li> </ul>

### Specific Improvement Projects 2015 – 2018

Specific improvement projects are recorded below for the 2012–2015 periods that relate to the Regulation and Safety and Resource Management Activities Management Plan. Timeframes, resource requirements and estimated costs are recorded.

**Figure 7.4: Specific Improvement Projects 2015 – 2018**

Specific Improvement Projects 2015 - 2018				
Project	Year	Resource		Estimated Cost
		WDC Staff	External	
Quality Assurance Manuals developed for Resource Management, Environmental Health and Alcohol Licensing	2015 2018	Yes	No	In-house
Customer services questionnaire reviewed and implemented for Building Control	2015	Yes	No	In-house

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**Policy on**  
**Appointment of Directors to**  
**Council Controlled Organisations**

February 2015

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## 1.0 Purpose

- 1.1 This purpose of this policy is to set out, in accordance with Section 57 of the Local Government Act 2002 (the "Act") an objective and transparent process for:
- (a) Identifying and considering the skills, knowledge and experience required of directors of a Council organisation.
  - (b) Appointing directors to a Council organisation.
  - (c) Determining the remuneration of directors of a Council organisation.

## 2.0 Objectives of the Policy

- 2.1 The objectives of this policy are:
- To comply with section 57 of the Local Government Act 2002.
  - To disclose the process and criteria Council will apply to the appointment, removal and setting of remuneration for directors of Council organisations.

## 3.0 Definitions

- 3.1 The term "Council organisation" ("CO") is used as defined in Section 6 of the Act.
- 3.2 The Act also creates two sub-categories of COs – "Council-controlled organisations" ("CCOs") and "Council-controlled trading organisations" ("CCTOs").
- 3.3 The Council currently has interests that fall into the latter category only - (i.e. CCTO).
- 3.4 **Meaning of "Council organisation"**
- In broad terms, a CO is an organisation in which the Council has a voting interest or the right to appoint a director, trustee or manager (however described). This is a wide-ranging definition, covering a large number of bodies.
- 3.5 **Meaning of "Council-controlled organisation"**
- A CCO is a CO in which one or more local authorities control, directly or indirectly, 50% or more of the votes or have the right, directly or indirectly, to appoint 50% or more of the directors, trustees or managers (however described).
- 3.6 **Meaning of "Council-controlled trading organisation"**
- A CCTO is a CCO that operates a trading undertaking for the purpose of making a profit.
- 3.7 **Meaning of "Investment Representative Committee"**
- Investment Representative Committee means a committee appointed by Council consisting of Council staff and elected members.

## 4.0 Scope of Policy

- 4.1 When Council is involved with CCOs and CCTOs under the definitions of Section 6(1) of the LGA, Council will disclose its interests in these organisations in the Long Term Plan.

## **5.0 Criteria for Selecting Directors (General)**

### **5.1 General Criteria**

Council will appoint persons as directors of CCO's and CCTO's under the criteria outlined in Section 57(2) of the LGA, specifically, persons that Council considers have the skills, knowledge and experience to:

- Guide the organisation given the nature and scope of its activities
- Contribute to the achievement of the objectives of the organisation.

### **5.2 Skill Criteria**

Council considers that any person that it appoints to be a director of a CCO or CCTO should clearly demonstrate the following skills/attributes:

- Intellectual ability
- Business experience or other experience, skills or qualifications that are relevant to the activities of the organisation
- Sound judgement
- High standard of personal integrity
- Ability to work as a team member
- Understanding of governance issues

### **5.3 Specific Exclusions from Directorship of a Council Controlled Organisation**

No person shall be appointed as a director of a CCO or CCTO who:

- Has served a jail sentence of three months or longer or has been convicted of a crime that carries such sentence.
- Has been convicted of fraud, theft, robbery or larceny.
- Has been declared bankrupt at any point in time or been the director of a company at the time it was placed in receivership or liquidation.

## **6.0 Procedures for Appointment of Directors (General)**

### **6.1 Appointment Process**

When vacancies arise in the directorship of any CCO or CCTO, Council will follow the following appointment process:

- a) Council will decide whether to advertise a particular vacancy or make an appointment without advertisement, and outline the process for appointment and setting of remuneration including:
  - Recruiting of candidates,
  - Contract development and negotiation,
  - Ongoing performance monitoring.
- b) When taking a decision on this matter, Council will consider:
  - The costs and benefits of any advertisement,
  - The availability of qualified candidates,
  - The urgency of the appointment,
  - The degree of public interest in the issue
- c) Council will consider applications and resolve an appointment in committee (this protecting the privacy of natural persons). Public notice of the appointment will be made as soon as practicable after Council has made its decision.

- d) An elected member who is under consideration to fill a particular vacancy may not be present in the discussion or vote on that appointment.

## **6.2 Length of Tenure**

Council will decide length of tenure prior to appointment.

## **6.3 Remuneration**

Remuneration will be determined on a case by case basis taking in to account the size, form and purpose of the organisation, any previous level of fees paid by the shareholder and any other relevant requirements contained in the organisation's constitution.

## **6.4 Removal of Directors**

Directors appointed to CCO's or CCTO's by Council are in the role at the pleasure preference of Council. Council may terminate a director's appointment at any time by way of written notice.

## **6.5 General**

Council expects that directors appointed to CCO's and CCTO's will avoid situations where their actions could give rise to a conflict of interest. To minimise these situations, Council requires directors to follow the provisions of the Institute of Directors in New Zealand Code of Practice for Directors and the provisions of the Companies Act 1993. All directors are appointed at the pleasure of the Council and may be dismissed for breaches of these stated documents.

# **7.0 Procedures for Appointment of Directors to Inframax Construction Limited**

***NOTE: This section is to be read in conjunction with the Constitution of Inframax Construction Limited.***

## **7.1 Appointment Process**

Directors on the board of Inframax Construction Limited (ICL) will be appointed by way of Council resolution on receipt of advice/recommendation by the Investment Representative Committee. The Investment Representative Committee will provide advice to Council on the following matters:

- a) Whether to advertise a particular vacancy or make an appointment without advertisement, and outline the process for appointment and setting of remuneration including:
- Recruiting of candidates,
  - Contract development and negotiation,
  - Ongoing performance monitoring.
- b) In preparation of this advice the Investment Representative Committee will consider:
- The costs and benefits of any advertisement,
  - The availability of qualified candidates,
  - The urgency of the appointment,
  - The degree of public interest in the issue.
- c) The Investment Representative Committee will select and interview a shortlist of candidates, undertake a structured evaluation and make recommendation to Council for final approval. Council may consider applications and resolve an appointment in committee (this protecting the privacy of natural persons). Public

notice of the appointment will be made as soon as practicable after Council has made its decision.

- d) An elected member who is under consideration to fill a particular vacancy may not be present in the discussion or vote on that appointment and may not continue to be an elected member if appointed as a director of ICL.

## **7.2 Appointment of Temporary Directors**

Temporary directors for ICL will be appointed by the Investment Representative Committee.

## **7.3 Remuneration**

The Council will set ICL directors' remuneration either by resolution at the Annual General Meeting or by way of resolution of Council. The resolution will state whether the remuneration is set as a fixed cap for Board Remuneration, to be allocated by the Board, or specifying the salaries to be paid to the directors and chairperson.

Remuneration for directors will be determined by an analysis of market rates for comparable positions at the time appointment(s) are being made and thereafter assessed every three years.

## **7.4 Removal of Directors**

The Investment Representative Committee may terminate the appointment of an ICL director at any time by way of written notice.

# **8.0 Waitomo District Council Controlled Organisations**

## **8.1 Companies in which Waitomo District Council directly owns the shares**

- Inframax Construction Limited
  - Independent Road Markers Taranaki Limited (Subsidiary of Inframax)

## **8.2 Council Controlled Trading Organisations in which Waitomo District Council holds shares**

- Local Authority Shared Services Ltd (LASS)

## **8.3 Other Entities**

- NZ Local Government Insurance Corporation.

# **9.0 CCOs and CCTOs in which Council has a minority interest**

- 9.1 Where Council has a minority interest in a CCO or CCTO (i.e. where a CCO or CTO is controlled by a number of councils and this Council does not have a majority stake) then the process for the appointment and remuneration of directors will be agreed with other stakeholders (by whatever name) in the CCO or CCTO. As far as practicable, Council's involvement in the process will be consistent with this policy.





**DRAFT**

# **Policy on Remission of Rates**

## **(Including Remissions and Postponements of Rates On Maori Freehold Land)**

February 2015

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## 1.0 Introduction

- 1.1 The Local Government (Rating) Act 2002 (LGRA) authorises Council to set, assess and collect rates to fund its activities.
- 1.2 Section 85 of the LGRA and Section 102 (3) (a) of the Local Government Act 2002 (LGA) provide authority for Council to remit rates and to adopt a rates remission policy. Council sets rates on all rateable land in accordance with its Revenue and Financing Policy (RFP) adopted under Section 102(2) (a) of the LGA and its Funding Impact Statement (FIS) adopted under Section 20, Schedule 10 of the LGA.
- 1.3 The Rates Remission Policy (RRP) documents any exceptions to the application of the Funding Impact Statement, the objectives sought by way of exception and the criteria applied to determine eligibility.
- 1.4 The RRP sets out a policy for the remission of rates under the following headings:
- Remission of Rates for Properties used jointly as a single unit.
  - Remissions for Community Organisations.
  - Remission for Organisations providing Care for the Elderly.
  - Remissions for land owned by Clubs and Societies.
  - Remission of Rates for Council Properties.
  - Remission of Rates on Maori Freehold land.
  - Remission of Penalties
  - Remission of Rates for New Residential Subdivisions.
  - Remission of Rates in Cases of Genuine Financial Hardship.
- 1.5 The RRP is authorised by the LGA. In particular Section 109 of the LGA provides that any **Rates Remission Policy** must address the following;
- (1) *A policy adopted under section 102(3) (a) must state-*
- (a) *The objectives sought to be achieved by the remission of rates;*  
*and*
- (b) *The conditions and criteria to be met in order for rates to be remitted.*
- (2) *In determining a policy under section 102(3) (a), the local authority may consider the matters set out in Schedule 11 LGA [Matters relating to rates relief on Maori freehold land].*
- (3) *For the purposes of this section, the term **rate includes** penalties payable on unpaid rates.*
- 1.6 Section 85 of the LGRA provides that Council may remit rates on the following basis:

- (1) *A local authority may remit all or part of the rates on a rating unit (including penalties for unpaid rates) if-*
  - (a) *The local authority has adopted a remissions policy under section 102 (3) (a) of the Local Government Act 2002; and*
  - (b) *The local authority is satisfied that the conditions and criteria in the policy are met.*
- (2) *The local authority must give notice to the ratepayer identifying the remitted rates.*

## **2.0 Delegation to Operate, Application Process and Review of Decisions**

- 2.1 The Chief Executive is delegated the authority to apply the Rates Remission Policy. Access to the rate remission arrangements is by way of annual application to the Council by the owner or occupier of the rating unit(s) or by staff who may process applications on behalf of owners of undeveloped and unoccupied Maori Freehold Land.
- 2.2 In the event that any applicant, for remission of rates, seeks a review of any decision taken under delegation the following process shall be followed:
  1. Any application for review shall be made in writing, on the prescribed form, outlining the reasons for seeking a review and including appropriate documentation in support.

Note: Additional information may be requested to allow a better understanding of the merits and background of the application.
  2. The application will be investigated and the application together with a report and recommendation thereon will be submitted to a meeting of the Council for its consideration and decision.
- 2.3 The decision of the Council will be final, and the applicant will be notified of the decision within 10 working days.

## **3.0 Remission of Rates for Properties Used Jointly as a Single Unit**

### **3.1 Introduction**

Sections 15(2) and 16 of the LGRA provide that a Uniform Annual General Charge (UAGC) and a Targeted Rate are rates for the purposes of the Act.

The Council's RFP sets out how UAGCs and Targeted Rates are assessed against rateable land.

Section 20 of the LGRA provides that two or more rating units must be treated as one unit for setting a rate if certain criteria are met;

... those units are –

- (a) *owned by the same person or persons; and*
- (b) *used jointly as a single unit; and*
- (c) *contiguous or separated only by a road, railway, drain, water race, river or stream.*

This section of the RRP addresses land ownership and land use situations that fall outside of that limitation defined by Section 20 of the LGRA.

In certain situations Council believes the criteria provided for in Section 20 (a) and (c) of the LGRA does not assist ratepayers where rateable land is used as part of a farm operation.

A remission will be granted in respect of rateable property used for farming purposes where Council is satisfied its objectives are met.

### **3.2 Objectives of the Policy**

- To extend the definitions of ownership and contiguous land as contained in Section 20 (a) and (c).
- To assist the use of rateable land as part of a farming operation where not all the rateable land is contiguous with land owned, or occupied under long term lease, by the same person or persons but is nevertheless used jointly as a single farming unit. The intention being to ensure that the use of such rateable land for farming purposes is not disadvantaged by the obligation to pay multiple UAGCs and other Targeted uniform annual charges – (i.e. all rates other than those charged on the basis of capital value).
- To assist ongoing rural economic development by removing a UAGC and Targeted uniform annual charge liability that might create a cost barrier to the efficient integration of non contiguous land into one farming operation.
- To assist in the utilisation of unoccupied, undeveloped land in township areas to achieve:
  - good land management,
  - an improvement to visual amenity values
  - better environmental outcomes through assisting in weed and pest management
  - reduction of risk of fire hazard and to public health
- By enabling non-contiguous vacant sections that are owned or occupied under long term lease by the same person or persons and used jointly as a single unit that might otherwise be unfairly disadvantaged by way of the obligation to pay multiple UAGCs and other Targeted uniform annual charges.

### **3.3 Conditions and Criteria**

The following categories of land use shall determine whether or not this policy shall apply to rateable land.

#### **1 Rateable Land used for Farming Purposes**

For the purposes of this policy, land used for farming purposes shall be defined as land used for 'pasturage'; being, the business of feeding or grazing livestock. Eligible farming properties are those where:

- a The applicant is the owner or can demonstrate a long term interest in two or more separately rateable rural farm properties and that two or more of those properties are used for farming purposes; and
- b The properties are used jointly as a single farm property for the purpose of carrying out a farming operation; and
- c The property for which the remission is sought does not carry sufficient improvements to allow it to be operated as a separate farming unit; and
- d The land for which the remission is sought is not occupied by a habitable dwelling.

#### **2 Rateable Land located in Townships**

Rateable land located within Waitomo District townships where:

- a The applicant is the owner or holds a written long term interest in two or more separately rateable properties that are not contiguous; and
- b The properties are used jointly as a single property; and
- c The property for which the remission is sought does not carry improvements exceeding \$1,000 in value, and is not occupied by a dwelling.
- d The property for which the remission is sought must be maintained in good order and repair as ascertained by the Council.

Application for remission of rates on properties used jointly as a single unit must be made on an annual basis to ensure continued eligibility for remission.

## **4.0 Remissions for Community Organisations (Schedule 1, Part 1: Land fully non-rateable)**

### **4.1 Introduction**

Schedule 1, Part 1 of the LGRA defines land categorised as non-rateable for the purposes of the LGRA.

Council recognises that Schedule 1, Part 1 of the LGRA limits the authority to set, assess, and collect rates on certain land. However non-rateable properties are

liable for Targeted Rates assessed for the provision of services as contained within the Funding Impact Statement.

The LGRA provides in Schedule 1, Part 1 that the land defined in the following clauses is fully non-rateable:

- (4) *Land used by a local authority-*
- (c) *for a public hall, library, athenaeum, museum, art gallery, or other similar institution.*
- (6) *Land owned or used by, and for the purposes of, -*
- (b) *an education establishment defined as-*
- (iv) *an early childhood centre*
- (9) *Land used solely or principally-*
- (a) *as a place of religious worship*
- (12) *Land that is set apart under s338 of Te Ture Whenua Maori Act 1993 and-*
- (a) *that is used for the purposes of a marae or meeting place and that does not exceed 2 hectares*

Council wishes to limit the liability for Targeted Rates for some properties classified under Schedule 1, Part 1 of the LGRA.

Council also wishes to remit rates on rateable land where the land use is similar to the land uses defined in Schedule 1, Part 1 but which fall outside of the uses defined in the schedule.

This Policy sets out the remissions available to Waitomo arts and heritage groups, pre-schools, marae and churches. This Policy clarifies liability for groups listed under Schedule 1, Part 1, Sections (4) (6) (9) and (12)).

#### **4.2 Objectives of the Policy**

- To extend the arrangement provided for in the LGRA (for arts and heritage groups on Council land), to similar arts and heritage groups on private land.
- To support the development of arts and culture in the Waitomo District.
- To clarify liability for marae, churches and pre-schools' service charges.

#### **4.3 Conditions and Criteria**

- (a) Community halls, art galleries and museums receive a rates remission of 100% of the assessed Rates INCLUDING service charges EXCEPT for a maximum of one Targeted Rate charge, set for each of water, sewerage, solid waste collection services and solid waste management services. Any Community halls, art galleries or museums opting for a private solid waste collection arrangement will not pay the solid waste collection rate, and would not receive a collection service. Community halls are defined as those halls and community centres located on



Council administered land, and those privately owned community halls recognised as fulfilling the same primary function as public halls.

- (b) Pre-schools, marae and churches receive a rates remission of 100% of the assessed Rates INCLUDING service charges EXCEPT for a maximum of one Targeted Rate charge, set for each of water, sewerage and solid waste collection services and solid waste management services. Any Pre-school, marae or church opting for a private solid waste collection arrangement would not pay the solid waste collection rate, and would not receive a collection service.
- (c) Not for Profit organisations, which exist exclusively or principally for the provision of emergency services, receive a rates remission of 100% of the assessed rates INCLUDING service charges EXCEPT for a maximum of one Targeted Rate charge, set for each of water, sewerage, solid waste disposal, solid waste collection services and solid waste management services. Any organisations, opting for a private solid waste collection arrangement will not pay the solid waste collection rates, and would not received a collection service.
- (d) The policy does not apply to organisations operated for the purposes of profit or gain. Nor will it apply to groups and organisations who engage in community services as a secondary purpose only.
- (e) Organisations making application should include the following documents in support of their application:
  - o Statement of objectives
  - o Full financial accounts
  - o Information of activities and programmes
  - o Details of membership
- (f) Community Organisations that have not previously received a remission must complete the full application form for rate remission for the current rating year. This form must be received by Council by 30 April.
- (g) To ensure their continued eligibility, Council will annually provide Community Organisations that have previously received rates remission with a statutory declaration that confirms the land-use remains eligible for remissions. That declaration must be completed and returned to the Council prior to 30 June of each year in order to qualify for remission of rates in the subsequent year.

Completion of this annual declaration removes the need for Community Organisations to make repeated annual rate remission applications. A completed declaration MUST be received before a rates remission can be considered.

A schedule of these Clubs, Societies and Organisations will be maintained and advised annually to Council.

- (g) The following Community Organisations are included in this policy on the basis that they are 'not-for-profit' and/or charitable organisations operating within the District for the benefit of the wider community:
  - Te Kuiti Lyceum Club
  - Te Kuiti Music Theatre



- Piopio Senior Citizens Club
- Piopio Scouts
- Te Kuiti Historical Society
- Te Kuiti Plunket

Council retains discretion as to whether to grant a remission in any particular case.

## **5.0 Remission for Organisations providing Care for the Elderly**

### **5.1 Introduction**

Council wishes to support community-based organisations that provide much needed facilities and services for the Elderly within the Waitomo District. The intent is to recognise and assist those organisations that provide specialised care for the Elderly who, in the absence of such services, may need to relocate outside of the Waitomo District, away from family and friends.

### **5.2 Objectives of the Policy**

5.2.1 To support those organisations that provide facilities and services that care for and enable the Elderly to reside in the Waitomo District.

5.2.2 To support Council's commitment for Waitomo to be a district which:

- values its older people;
- promotes their meaningful contribution to the community; and
- facilitates a positive ageing experience for all.

5.2.3 To recognise the ageing population of New Zealand and this District, Council aims to facilitate and support the provision of a range of accessible, safe and affordable housing for the elderly.

### **5.3 Conditions and Criteria**

5.3.1 Organisations that demonstrate compliance with the following criteria will receive a rates remission of 100% of assessed rates EXCLUDING service charges set for Water, Sewerage and Solid Waste Collection and Disposal Services. Any organisation opting for a private Solid Waste Collection arrangement will not pay the Solid Waste Collection Rate and would not receive a Collection Service.

This remission arrangement is available on application on an annual basis by qualifying organisations which:

- (a) Are charitable organisation(s). Charitable organisations are organisations (incorporated or not) that carry out charitable activities or exist exclusively for charitable purposes. For an organisation's purposes to be charitable its activities or aims must be for public purposes - the benefit must be available to a large part of the community. In addition, it must not be carried on for the benefit or profit of any individual or group; and

- (b) Provide Rest Home level of care to the Elderly. Rest Home level of care is defined as the provision of *'everyday living assistance'* to the Elderly who are fully dependant on other people to assist them with everyday life (e.g. to cook, clean, shower, etc); and/or
- (c) Provide Hospital Level Care for the Elderly. Hospital level care is defined as provision of palliative care type facilities, the ability to prescribe medicines as per national health standards and have the requisite number of trained nurses as per national and DHB health standards.

#### **5.4 Piopio Retirement Trust (Inc)**

5.4.1 In recognition of the unique situation that exists with the Piopio Retirement Village and of the invaluable role it plays within the Piopio Community, both now and for in the future, annual rate remissions as detailed below be approved:

- (a) A single pumped tank will be located at the low point near the entrance to the Village, including connection to the main sewer.
- (b) The Piopio Retirement Village will receive an annual rates remission of nine service charges for Sewerage and 50% of nine service charges for Solid Waste Collection, Solid Waste Management and Water.
- (c) An annual declaration is required from the Piopio Retirement Village confirming that the status of the Trust has not changed.
- (d) Council retains the right to review and/or withdraw its support to the Piopio Retirement Village at any time should circumstances change.
- (e) The annual remission for the Piopio Retirement Village will form part of Council's total annual rates remission budget and it will be separately funded by way of a TUAC levied on all rateable units situated within the Piopio Township Sewerage Network and the Piopio Wider Benefit Rating Area.

## 6.0 Remissions for land owned by Clubs and Societies (Schedule 1, Part 2 of the Local Government Rating Act 2002 Land 50% non-rateable)

### 6.1 Introduction

This Policy provides remissions of rates to sport clubs and societies.

Section 8 and Schedule 1, Part 2 of the LGRA provide that certain land used or owned by a society, or an association of persons must not be assessed for rates at a value of more than 50% of the rates that would otherwise have been assessed under Council's RFP and in the Funding Impact Statement (FIS).

This land is known as 50% non-rateable.

The land for which assessed rates must not exceed 50% includes:

- Land owned or used by Agricultural and Pastoral Societies as a showground or place of meeting, and
- Land used or owned by sport clubs.
- Land used or owned for the purpose of any branch of the arts

Note: 50% non-rateable land is rateable for Targeted Rates set under Sections 16 and 19 of the LGRA for water supply, sewage disposal, solid waste collection services and solid waste management services.

For the purposes of this part of this Policy, those Targeted Rates are described as Service Charges.

Council seeks to remit Service Charges set for the purpose of funding water supply, sewage disposal, solid waste collection services and solid waste management services, as defined in the RFP and in the FIS. That remission arrangement is made for land used or owned by certain societies and sports clubs.

Note: This remission arrangement does not extend to all land defined as 50% rateable under Schedule 1, Part 2, LGRA. That land remains liable for the payment of service charges as defined in the RFP and in the FIS.

The LGRA provides:

*Land 50% non-rateable (Schedule 1 Part 2):*

- (2) *Land owned or used by a society or association of persons (whether incorporated or not) for games or sport, except galloping races, harness races, or greyhound races.*

*For the purposes of this Part, unless the context otherwise requires-*

- *land does not include land used for the private pecuniary profit of any members of the society or association*

- *land in clause 2, excludes land in respect of which a club licence under the Sale of Liquor Act 1989 is for the time being in force.*

*Rate liability on 50% non-rateable land (section 8):*

- (2) *Rates assessed for the land described in Part 2 of Schedule 1 must not exceed 50% of the rates that would otherwise have been assessed if the land were not described in that schedule.*

## **6.2 Objectives of the Policy**

Council recognises the value of encouraging participation in active and passive recreation for the well-being of its communities. This Policy aims to support the development of sport and physical recreation in the Waitomo District by providing rates remissions for private clubs at the same level as those clubs located on and having long term tenure over Council owned land which is non-rateable under Schedule 1, Part 1 (4) of the LGRA.

## **6.3 Conditions and Criteria**

The following policy applies to sport and recreation clubs located on either Council owned or privately owned or administered land.

- (a) Sport and recreation groups receive a rates remission of 100% of the assessed Rates INCLUDING service charges EXCEPT for a maximum of one Targeted Rate charge, set for each of water, sewerage, solid waste disposal and solid waste collection services and solid waste management services. Any Club or Association opting for a private solid waste collection arrangement would not pay the solid waste collection rate, and would not receive a collection service.
- (b) This remission arrangement is available on application by qualifying societies and organisations who:
- 1 Are groups identified by Schedule I Part 1(4b) and Part 2(2) of the LGRA (2002) and who:
    - (i) Demonstrate that their primary function is for the purpose of sport or physical recreation, and
    - (ii) Are non-profit organisations, not providing recreation or fitness services for commercial profit, and
    - (iii) Are able to demonstrate that they are currently operative, and
    - (iv) The primary use of their facility for which they are seeking remissions is for the purpose of that organisation's sport or physical recreation activity, and
    - (v) Can demonstrate that their activities benefit or are available to the entire community.
- (c) Clubs or Societies that have not previously received a remission must complete the full application form for rate remission for the current rating year. This form must be received by Council by 30 April.

- (d) To ensure their continued eligibility, Council will annually provide sport and recreation clubs that have previously received rates remission with a statutory declaration that confirms the land-use remains eligible for remissions. That declaration must be completed and returned to the Council prior to 30 June of each year in order to qualify for remission of rates in the subsequent year.

Completion of this annual declaration removes the need for sport and recreation clubs to make repeated annual rate remission applications. A completed declaration MUST be received before a rates remission can be considered.

- (e) A schedule of all organisations receiving remissions will be maintained annually by Council.

## **7.0 Remissions of Rates for Council Properties**

### **7.1 Introduction**

This section of the Policy is included for the sake of transparency. The LGRA provides that certain Council land is non-rateable. This Policy extends that non-rateable status to include any Council property which does not fall within the category of non-rateable land, but never the less the land held by Council has no current operational use that can be attributed for the day to day delivery of a service to the communities of Waitomo District.

The LGRA defines non-rateable Council land (Schedule 1, Part 1, Section 4 LGRA) as:

- (4) *Land used by a local authority-*
- (a) *for a public garden, reserve or children's playground:*
  - (c) *for a public hall, library, athenaeum, museum, art gallery or other similar institution:*
  - (d) *for public baths, swimming baths, bathhouses, or sanitary conveniences*

### **7.2 Objectives of the Policy**

To avoid the need to set, assess and collect rates funding from the District community to pay rates on Council property that is for the time-being not used for any operational purpose.

### **7.3 Conditions and Criteria**

The Council has delegated authority to the Chief Executive to remit rates set, assessed and levied on land owned or occupied by the Council where the Chief Executive is satisfied that no operational use can be attributed to that land.

## 8.0 Remission of Rates on Maori Freehold Land

### 8.1 Introduction

The LGA provides that Council must adopt under Section 102(2)(e) a policy on the remission and postponement of rates set, assessed and levied on Maori freehold land.

Section 108 (3) of the LGA provides that any such policy places no obligation on Council to provide for the remission of, or postponement of the requirement to pay, rates on Maori freehold land.

Council wishes to provide for a fair and equitable rating system, recognising that some Maori owned freehold land has particular conditions, features, ownership structures, or other circumstances.

Council wishes to support and promote sustainable growth and development within key sectors of the local economy. In addition all of the community have a stake in the District's open spaces. Council recognises Tangata Whenua aspirations to define, preserve and maintain their traditional spiritual, cultural, social, and economic links with Ancestral Lands, waterways, places of habitation, Waahi Tapu and other Taonga.

The Council is of the view that Waitomo District community outcomes are improved if:

- Owners or Trustees of Maori freehold land benefit from better and appropriate use of undeveloped land, through providing a clear policy on the liability of the land for the payment of rates.
- Council and the Waitomo District community benefit through the efficient collection of rates where they are deemed to be payable.

### 8.2 Objectives

The remission of rates on Maori freehold land pursuant to Section 108, LGA 2002, and in recognition of the objectives of the Te Ture Whenua Maori Act, recognises that:

- (a) There are situations where there is no occupier or person gaining economic or financial benefit from the use of, or habitation on the land.
- (b) Some freehold Maori land might be better set-apart from development because of its natural features, significant vegetation and/or habitat, and cultural significance.
- (c) Physical access to some Maori freehold land is not available or is not practicable.
- (d) Takes into account the presence of waahi tapu that may limit the use of the land for other purposes.
- (e) A remission of rates should normally apply to those portions of land not occupied, and/or undeveloped, except for rating units that comply with 8.4.1, PART B (1), Category A in this policy (below).

- (f) Assessing rates against certain Maori freehold land might limit or restrict the development of an economic use of the land.

The Local Government (Rating) Act 2002 (LGRA) provides:

- *Maori freehold land is defined by the LGRA 2002 as “land whose beneficial ownership has been determined by the Maori Land Court by freehold order”. Only rateable land that is the subject of such an order may qualify for remission under this policy.*
- *Maori freehold land is liable for rates in the same manner as if it were general land, subject to the provisions of Part 4 of the LGRA.*

The Local Government Act 2002 provides:

- *Sections 102 (2)(e) and 108 and Schedule 11 of the LGA sets out the requirements Council must consider in adopting any policy on the remission and postponement of rates on Maori freehold land.*

Te Ture Whenua Maori Act 1993 states as its purposes:

- (1) *It is the intention of Parliament that the provisions of this Act shall be interpreted in a manner that best furthers the principles set out in the Preamble to this Act:*

*Preamble principles:*

- *to recognise that land is a taonga tuku iho (of special significance) to Maori people,*
- *to promote the retention of that land in the hands of its owners, their whanau, and their hapu,*
- *to protect waahi tapu,*
- *to facilitate the occupation, development, and utilisation of that land for the benefit of its owners, their whanau, and their hapu,*
- *to maintain a Court and to establish mechanisms to assist the Maori people to achieve the implementation of these principles:*

Te Tiriti o Waitangi (Treaty of Waitangi):

- *Shall be taken into account under the LGA and the Resource Management Act 1991.*

### 8.3 **Interpretation of Terms**

<b>Term</b>	<b>Interpretation</b>
Hapu:	Whanau groups descended from their own hereditary ancestor.
Maori customary land:	Land held under the customs and usages of the Maori people, the title to which has not been investigated by the Maori Land Court



<b>Term</b>	<b>Interpretation</b>
Maori freehold land:	Land whose beneficial ownership has been determined by the Maori Land Court by freehold order.
Taonga tuku iho:	Legacy, treasure
Unoccupied or Undeveloped Land	Land will be defined as unoccupied or undeveloped unless there is a person, whether with a beneficial interest in the land or not, who, alone or with others, carries out any of the following activities on the land: (a) leases the land; and/or (b) does any of the following things on the land, with the intention of making a profit or for any other benefit: resides on the land; de-pastures or maintains livestock on the land; stores anything on the land, or uses the land in any other way.
Waahi tapu:	Means land set apart under Section 338(1) (b) of the Te Ture Whenua Maori Act 1993 (a place of special significance according to the meaning, custom, obligation and conditions to Maori).
Whanau:	Extended family in which a person is born and socialised.

#### **8.4 Conditions and Criteria**

8.4.1 Other than Maori freehold land that may from time to time be exempted by an Order in Council (as provided for in Section 116 LGRA 2002), this policy does not provide for permanent remission or postponement of rates on all other Maori freehold land recognising the potential for changes in circumstance and land use.

**(N.B.** Council will pursue the identification of Maori freehold land that would be eligible for rates exemption and all such properties, once identified and confirmed, will be removed from the rating database in terms of s.116 [Exemption of Maori freehold land from rates] LGRA 2002).

##### **Part A: Council Discretion**

- (1) Maori freehold land is liable for rates in the same manner as if it were general land and any rates set, assessed and levied will be collected to the extent authorised by and practicable under legislation.
- (2) Where a remission of rates is made the obligation is on the applicant to advise any change of use that might affect the eligibility of the land for any remission.

(Note – Council will require that any rates remissions be repaid where the failure to notify Council of a change in circumstance impacts on the eligibility of the land for a rate remission).

- (3) Council's valuation service provider will provide three yearly land use reports to coincide with the three yearly revaluation cycle. These reports will be used to monitor changes in land use and to determine any eligibility for rates remission under this policy.
- (4) Council will monitor, on an ongoing basis the use of any Maori freehold land enjoying a rate remissions under this policy. If, in the Council's



opinion, the underlying status of the land has changed and income is being generated from the land, Council will review the land's eligibility for rates remissions.

- (5) Council staff may process applications on behalf of owners of undeveloped and unoccupied Maori Freehold Land, (meaning land that is unoccupied and where no income is derived from the use of that land) after making reasonable enquiry into ownership of such properties. Decisions on these remissions are to be made directly by the Chief Executive on the recommendation of officers and may include rate remissions on qualifying Maori freehold land for current year rates and rates arrears.

**Part B: Maori Freehold Land Rates Remission Register**

- (1) Council will maintain a register titled the Maori Freehold Land Rates Remission Register for the purpose of recording the rating units for which rates are remitted pursuant to this Policy. The Register will comprise of two category lists, which are summarised as:

**Category A: Maori Freehold Land – General Remissions List**

- For the purpose of recording remissions on unoccupied or unproductive land that achieves objectives (a), (b), (c), (d) and (e), as shown in 8.2 (above).
- 100% of all rates set on these properties; except Targeted Rates set for water supplies, sewage disposal or solid waste collection will be remitted.
- Where there are no services provided to the property and/or it is uneconomic to pursue rates, all rates will be remitted.

**Category B: Maori Freehold Land - Economic Use and Development Remissions List**

- For the purpose of recording remissions on potentially productive land that achieves objective (f), as shown in 8.2 (above)
- The level of rate liability on land recorded on this list will be subject to the criteria and calculations in PART D of this Policy.

**Part C: Category A: Maori Freehold Land - General Remissions List**

**(1) Eligibility**

The following land use categories will be considered for remission of rates:

- (a) Unoccupied or undeveloped Maori freehold land (meaning land that is unoccupied and where no income is derived from the use of that land):
- (i) That is better set aside and protected from use because:

- of its special cultural significance and unique natural features, or
- to protect the indigenous flora and fauna under a formal protection arrangement; and/or

(ii) Has no legal or practicable road access available to the land or is inaccessible.

## **(2) Criteria**

An annual application for a rate remission under Category A: Maori Land General Remissions List must be made prior to commencement of the rating year and no later than 30 April in each year. The application must be made on the prescribed form. That application must be supported by sufficient supporting information to allow an informed decision to be made in respect of the application. Other material that Council will require is outlined under each of the following land-use sections.

- (a) Documentation that the land in question has been determined to be Maori freehold land by the Maori Land Court by way of freehold order.
- (b) A copy of the Certificate of Title if available.
- (c) An identified owner, agent of owner, or occupier to be recorded on the rating records pursuant to Part 4 of the Local Government (Rating) Act 2002.
- (d) That identified owner, agent of owner or occupier must provide Council with evidence that he or she has full control over the property.
- (e) Details of the property size and use.
- (f) Aerial photographs if available.
- (g) A description of the intended use of the land, and a statement as to how the objectives defined under this Policy will be achieved by the granting of rates remission.
- (h) Other documentation that Council may require to make a decision.

## **(3) Unproductive and Unoccupied Land Blocks**

The following provision shall apply:

- (a) Where a property is unproductive (assessed as having no income derived from the land) and unoccupied, including land that is better set aside for non-use because of its natural features and cultural significance and/or is inaccessible, shall be place be

recorded on the Category A: Maori Land General Remissions List.

**(4) Dwellings on Maori Freehold Land**

The following provisions shall apply:

- (a) Where there is one or more dwelling on the land, Council may establish and identify separately used or inhabited parts of the rating unit:
- That separately used or inhabited portion of the rating unit will be defined based on the area occupied, and/or the area undeveloped and uneconomic, with the written consent of the Trustee or Occupier.
- (b) Rates set assessed and levied on the separately used or inhabited portion of the property will be payable, shall remain paid and in all other respects comply with the provisions of this policy.

**(5) Indigenous Flora and Fauna**

Indigenous Vegetation lots located wholly or partially on Maori freehold land shall be recorded on the "Maori Land Indigenous Vegetation Register". Each identified indigenous vegetation lot shall be checked every 3 years to verify the land use has remained unchanged.

- (a) Land considered under this policy is subject to the list by one or more of the following criteria being met. The land is unoccupied and:
1. A traditional and important food source for Tangata Whenua.
  2. A traditional and important source for cultural, medicinal, symbolic and spiritual needs of Tangata Whenua.
  3. Includes important tribal landmarks significant to Tangata Whenua.
  4. Important water catchment system to Tangata Whenua for sustaining physical and spiritual values.
- (b) Council will also take into consideration whether the land:
1. Has road access and/or access to other services.
  2. Contains indigenous forest of high ecological value.

3. Is contiguous with forest reserves or National/Forest Parks
  4. Is complementary with Marae Reserve Areas.
  5. Contains remnants of interspersed indigenous vegetation that provide ecological value.
  6. Offers significant or assessable benefits and protection of developed lower lying land and/or protection for the investment in public roads.
  7. Complements the objectives of and quality of water achieved within formal established water catchment areas.
  8. Enhances and complements the objectives and quality of formal established wildlife areas.
- (c) Where part of the land is deemed to be in indigenous vegetation, the following information must be provided:
1. Location and calculation of the area of the land in question shall be provided.
  2. Photographs and valuation data shall be provided where available.

**(6) Other Property**

Maori freehold land where no body corporate has been constituted under Part XIII of the Te Ture Whenua Maori Act 1993 has been established to administer such land and/or the whereabouts of such owner/s is unknown may be considered for Category A remissions at Council's discretion.

**Part D: Category B: Maori Freehold Land - Economic Use and Development Remissions List**

**(1) Objectives and Eligibility**

The objective for Category B: Maori Land - Economic Use and Development Remissions is to provide an incentive to assist the conversion of otherwise undeveloped, unoccupied Maori freehold land, to an economic use through a progressive stepped application of a full liability for the payment of rates, over a five year period where:

- (a) There is an intention to make economic use of the land, or a clear intent to progressively develop the economic use of the land over time, Council will enter into a remission of rates arrangement with the Trustees/Owner(s) or Occupier(s) where the Council

is satisfied such an arrangement will encourage economic use through development over time.

**(2) Extent of Remissions**

- (a) No remission will be granted on Targeted Rates for water supply, sewage disposal, and solid waste services
- (b) All applications for rates remissions toward economic development will be remitted on satisfaction of the application criteria outlined in clause Part C (2) and Part D (4) of this Policy.

**(3) Calculation of Liability**

- (a) At Council's discretion during the annual review and/or with negotiations with the land owner/s or trustees, a staged rates requirement will be implemented according to the following schedule:

Year 1	Not less than 20% payable for that year
Year 2	Not less than 40% payable for that year
Year 3	Not less than 60% payable for that year
Year 4	Not less than 80% payable for that year
Year 5	100% payable for that year.

**(4) Criteria**

The following additional supporting material may be required to make annual application for remissions under B: Maori Land - Economic Use and Development Remissions prior to commencement of the rating year.

- (a) A written plan setting out the planned economic use of the land or the planned economic development against a five year timeline prepared by a suitable person holding authority over the land and responsible for the planned use.
- (b) Any other documentation that the Council may require to make an assessment.

**8.5 Appeals**

- 8.5.1 Appeals relating to decisions taken on the eligibility of Maori freehold land for rates remissions will follow the process outlined under Section 2.0 of this Policy – Delegation to Operate, Application Process and Review of Decisions.

## 9.0 Remission of Penalties

### 9.1 Introduction

This Policy outlines Council's process and criteria for the remission of penalties incurred by way of late or non-payment of rates, in accordance with Section 85 of the Local Government (Rating) Act 2002. Penalties are incurred for late or non-payment of rates in accordance with the amount set in Council's Funding Impact Statement.

### 9.2 Objective of the Policy

To disclose the circumstances under which Council will consider remitting penalty payments for late or non-payment of rates.

### 9.3 Policy and Criteria

Remissions for late or non-payment of rates will be considered on the following grounds:

Circumstance	Policy and Criteria	Delegation
Extenuating circumstances	Remission of a penalty incurred on an instalment will be considered in the following circumstances: <ul style="list-style-type: none"> <li>The ratepayer has a good payment history.</li> <li>Extenuating personal circumstances such as family illness, death or other tragedy.</li> <li>In circumstances considered just and equitable.</li> <li>Where there is an error made on the part of Council.</li> </ul>	Manager - Customer Services or Group Manager Customer Services
Approved Payment Arrangement	Penalties will not be levied where an Approved Payment Arrangement of a minimum of the annual rate x1.5 has been made.	Sub-Committee (CEO & Group Manager-Corporate Services)
	Penalties will not be levied where the remission of all or part of additional charges already levied, or yet to be incurred, will assist in resolving a long term debt situation.	Sub-Committee (CEO & Group Manager-Corporate Services)
Change of ownership	Remission of a penalty incurred on an instalment will be made where a property changes ownership, but the rates assessment and invoice has been sent to the previous owner.	Manager - Customer Services or Group Manager Customer Services
Abandoned Land sales or Rating sales	Any remaining arrears or penalties following sale of abandoned land, or rating sale, will be written off to ensure that the new owner begins with a nil balance.	Sub-Committee (CEO & Group Manager-Corporate Services)

- 9.7 All penalties remitted shall be recorded in the Penalty Remission Register, where the amount remitted is over \$10 for any individual ratepayer.

## **10.0 Remission of Rates for New Residential Subdivisions**

### **10.1 Introduction**

Council wishes to assist the establishment of new residential subdivisions by providing temporary rates relief from UAGCs assessed against individual vacant lots prior to sale. The Policy provides for the remission of uniform charges for the first full year following subdivision for residential use of 3 vacant lots or more. In that situation multiple lots will be treated as one rating unit. Application of remissions for one full rating year following subdivision provides incentive to sell as intended, but recognises that a full year may be required to achieve the developer's aim.

### **10.2 Objective of the Policy**

- To provide a one off remission of rates assessed against land held in separate title and forming part of a new residential subdivision so as to limit the impact of multiple UAGCs in the first year.
- To encourage development within Waitomo District by providing a one off remission to the subdivider or developer of any UAGC assessed against the newly created lot(s)

### **10.3 Conditions and Criteria**

1. This Policy will apply to land that:
  - (a) Has been subdivided into 3 or more vacant residential lots where the Titles have been issued; and
  - (b) The unsold lots remain in the ownership of the original subdivider/developer and the land has yet to be sold on to subsequent purchasers.
2. A Remission will be made for 100% of the UAGC for each unsold vacant residential lot, except one.
3. The Remission will only be made for the first full rating year following the creation of the new residential lots following subdivision.

## **11.0 Remission of Rates in Cases of Financial Hardship**

### **11.1 Introduction**

Where an application for rates relief due to financial hardship is received, Council may remit all or part of rates relating to a rating unit.

Applications on the grounds of financial hardship are considered only when exceptional financial circumstances exist.



Approved remissions are therefore a result of an extraordinary situation and should be recognised as an exception from the ratepayer's legal obligation to pay rates.

**11.2 Objective**

**11.3 *The objective of this policy is to assist ratepayers experiencing extreme financial hardship which affects their ability to pay rates.***

**11.4 Conditions and Criteria**

- Preference will be given to rating units used solely for residential purposes (as defined by Council) when consideration is made for rates remission in cases of financial hardship.
- A ratepayer making an application must be the registered owner and occupier and have owned for not less than 5 years the property in respect of which rates relief is sought.
- A ratepayer making an application must not own any other rating units or investment properties (whether in the district or in another district).
- The ratepayer must supply sufficient evidence, including financial statements, to satisfy the Council that extreme financial hardship exists.
- When considering an application, the ratepayer's personal circumstances will be relevant such as age, physical or mental ability, injury, illness and family circumstances.
- Before approving an application, Council must be satisfied that the ratepayer is unlikely to have sufficient funds left over, after making the payment of rates, for normal health care, proper provision for maintenance of his or her home and chattels at an adequate standard as well as making provision for normal day to day living expenses.
- Council will consider, on a case by case basis, applications received that meet the criteria described in the first six paragraphs under this Policy.
- An application for remission on the grounds of financial hardship can be lodged in any year that such hardship exists.
- It is expected that the ratepayer will pay a minimum of the value of the Uniform Annual General Charge per annum towards his/her rates account. However, each case will be considered on its merits.
- If the applicant is eligible for a Rates Rebate then such application must be made at the time of applying for rates relief due to financial hardship.
- The Chief Executive is delegated authority to decline an application or remit rates, including arrears, of up to \$2,000 in any one case.
- The Chief Executive will provide Council with a regular monitoring report on all applications received for a hardship rates remission, and the decisions made.





**DRAFT**

# **Treasury Policy**

(Incorporating Council's Investment and Liability  
Management Policies)

**August 2014**

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Responsibility	<b>Corporate Services</b>

# INVESTMENT POLICY

## 1.0 Summary

- 1.1 The following is developed pursuant to Section 102 (4) LGA 2002. It seeks to outline the suggested content for an Investment Policy in compliance with Section 105 of the LGA 2002. It discloses Council's principles of prudent financial management and risk mitigation strategies as they relate to investments.

## 2.0 Policy Objectives

- 2.1 The objectives of this policy are:

- To comply with sections 102 and 105 of the Local Government Act 2002.
- To promote long term prudent financial management.
- To outline how investment risk associated with investment activities is assessed and managed.
- To outline how investments (strategic, equity, and treasury) are managed and reported on.
- To safeguard WDC's financial market investments by establishing and regularly reviewing investment parameters and ensuring that all investment activities are carried out within these parameters
- Ensure the integrity of WDC's financial market investments by only investing in appropriately rated organisations and in appropriate financial instruments, as detailed in this policy
- Produce accurate and timely information that can be relied on by senior management and Council for control and exposure monitoring purposes in relation to the investment activities of WDC.

## 3.0 Statutory Requirements

- 3.1 Section 105 of the LGA 2002 outlines the content of an investment policy:

### 105 Investment Policy

A policy adopted under section 102(1) must state the local authority's policies in respect of investments, including—

- (a) [Repealed]
- (b) the mix of investments; and
- (c) the acquisition of new investments; and
- (d) an outline of the procedures by which investments are managed and reported on to the local authority; and
- (e) an outline of how risks associated with investments are assessed and managed.

## 4.0 Relationship to other Council Policies

4.1 It is important when reading this policy that it is read in conjunction with other related Council policies. Council policies often reference and inform each other so that any issue before Council can be dealt with in an integrated and comprehensive fashion. Policies that have a clear relationship with this Investment Policy are:

- The **Liability Management Policy** (for borrowing by the Council and guarantees by the Council which are ultimately a liability);
- Council's **Significance Policy** (which if triggered by a proposal to make an investment will mean that the proposal will be subject to further decision-making and consultation requirements).

## 5.0 Mix of Investments

5.1 Council is a risk adverse entity and therefore takes a prudent approach to managing its investments. Council seeks to maintain diversity in its investment portfolio to spread and minimise risk. Council generally has three types of investments:

- **Strategic Investments** - investments made or held in alignment to Council's strategic direction and typically retained on a long term basis. These include property investments - i.e. land and buildings (including subdivisions) – quarries, forestry and property vested in the Council.
- **Equity Investments** - equity (ownership) participation in a private (unlisted) company (including Council Controlled Organisations) or a start-up (a company being created or newly created). Such investments may not necessarily provide a financial return to Council, and may be held for wider social, tactical and/or economic reasons. Notwithstanding, Council will continue to actively seek opportunities for a financial return from all such investments.
- **Treasury Investments** – short to medium term financial investments that maximise financial return but ensure an appropriate level of liquidity for forecast expenditure.

5.2 WDC shall manage its short term money market and longer term fixed interest investments in accordance with the parameters contained in Appendix 1 of this policy.

## 6.0 New Investments

6.1 Prior to making new strategic or equity investments Council will consider (where relevant):

- The expected financial return.
- How the investment will contribute in furthering the Waitomo District's Community Outcomes as documented in the Long Term Plan.
- The existing investment portfolio and how the proposed investment 'fits' in terms of Council's preference to spread and minimise risk.

- Any other consideration Council deems appropriate.
- 6.2 Despite anything earlier in this Policy on Investment, the Council may invest in shares and other financial instruments of the New Zealand Local Government Funding Agency Limited (LGFA), and may borrow to fund that investment.
- 6.3 The Council's objective in making any such investment will be to:
- Obtain a return on the investment; and
  - Ensure that the LGFA has sufficient capital to become and remain viable, meaning that it continues as a source of debt funding for the Council.
- 6.4 Because of this dual objective, the Council may invest in LGFA shares in circumstances in which the return on that investment is potentially higher than the return it could achieve with alternative investments.
- 6.5 If required in connection with the investment, the Council may also subscribe for uncalled capital in the LGFA.'

## **7.0 Management and Reporting**

- 7.1 Investments will generally be monitored and reported through Council's established reporting procedures (Quarterly and Annual Report).
- 7.2 For equity investments:
- Transparency and reporting mechanisms will be key elements in any governance arrangements. The frequency and nature of reporting will depend on the nature and size of each investment.
  - In general terms reporting will comply with generally accepted accounting practice and International Financial Reporting Standards.
  - Performance of investments will be reported in accordance with any governance arrangements, but no less than on a six monthly and annual basis.

## **8.0 Risk Management**

- 8.1 Council is a risk adverse entity and therefore takes a prudent approach to managing its investments. Council seeks to maintain diversity in its investment portfolio to spread and minimise risk.
- 8.2 Where material risk to Council is apparent (e.g. equity investments) Council will commission an independent risk assessment and management report prior to entering into the investment.
- 8.3 To ensure the protection of Treasury investments Council will only invest with credit worthy counter parties. Low risk counter parties are defined as those having a Standard and Poors rating of AA- or better.

## APPENDIX 1

### Authorised Investment Criteria for Short Term Funds and Long Term Funds

Authorised Asset Classes	Overall Portfolio Limit as a Percentage of the Total Portfolio	Approved Financial Market Investment Instruments (must be denominated in NZ dollars)	Credit Rating Criteria – Standard and Poor's (or Moody's or Fitch equivalents)	Limit for each issuer subject to overall portfolio limit for issuer class
New Zealand Government	100%	<ul style="list-style-type: none"> <li>Government Stock</li> <li>Treasury Bills</li> </ul>	Not Applicable	Unlimited
Local Authorities where rates are used as security	70%	<ul style="list-style-type: none"> <li>Commercial Paper</li> <li>Bonds/MTN's/FRN's</li> </ul>	Not Applicable	\$2.0 million \$2.0 million
New Zealand Registered Banks	100%	<ul style="list-style-type: none"> <li>Call/Deposits/Bank Bills/Commercial Paper</li> <li>Bonds/MTN's/FRN's</li> </ul>	Short term S&P rating of A1 or better Long term S&P rating of A+ or better	\$7.5 million \$2.5 million
State Owned Enterprises	60%	<ul style="list-style-type: none"> <li>Commercial Paper</li> <li>Bonds/MTN's/FRN's</li> </ul>	Short term S&P rating of A1 or better Long term S&P rating of BBB+ or better Long term S&P rating of A+ or better	\$2.0 million \$1.0 million \$2.0 million
Corporates	60%	<ul style="list-style-type: none"> <li>Commercial Paper</li> <li>Bonds/MTN's/FRN's</li> </ul>	Short term S&P rating of A1 or better Long term S&P rating of A- or better Long term S&P rating of AA or better	\$2.0 million \$1.0 million \$2.0 million

Investments that no longer comply with minimum rating criteria due to a rating downgrade must be sold within one month of the downgrade being notified unless Council formally approves the continued holding of the investment.

# LIABILITY MANAGEMENT POLICY

## 1.0 Background

- 1.1 The Local Government Act 2002 (LGA 2002) empowers a local authority to undertake any activity or business on behalf of its communities. Unlike its predecessor, LGA 2002 provides a form of general empowerment to councils to enable them to enter contracts and undertake transactions, etc, similar to the way in which a private individual or company would. The introduction of an empowering framework provided for in the legislation removes the need for complex prescriptive legislation that by definition prevents council flexibility and responsiveness.
- 1.2 The legislation however requires that Councils' must conduct their business in an open and transparent manner and be accountable for the decisions made by them. They have to undertake any commercial transactions in accordance with sound business practices. Councils have to abide by significant procedural requirements especially with regard to financial management. These are aimed to ensure that decisions are made in light of community views; decisions are subject to public scrutiny; and ultimately electoral accountability.
- 1.3 The requirement to have a Liability Management Policy is an example of these procedural requirements. This requirement is designed to ensure that local government is transparent and accountable when exercising its stewardship role.

## 2.0 Statutory Requirements

- 2.1 Section 104 of the LGA 2002 outlines the content of a liability management policy:

### **104 Liability Management Policy**

A policy adopted under section 102(1) must state the local authority's policies in respect of both borrowing and other liabilities, including—

- (a) interest rate exposure; and
- (b) liquidity; and
- (c) credit exposure; and
- (d) debt repayment.

## 3.0 Liability Management Policy for the Waitomo District Council

- 3.1 The following policy is developed pursuant to Section 102(1). It seeks to outline the suggested content for a Liability Management Policy in compliance with Section 104 of the LGA 2002. It discloses Council's principles of prudent financial management and risk mitigation strategies as they relate to liability management.

## 4.0 Policy Objectives

4.1 The objectives of this Policy are:

- To comply with Sections 102 (1) and 104 of the LGA 2002.
- To promote long term prudent financial management.
- To outline how liability risk associated with borrowing activities is assessed and managed.
- To outline how liabilities (current and non current) are managed and reported on.
- Ensure that WDC has an ongoing ability to meet its debts in an orderly manner as and when they fall due in both the short and long-term, through appropriate liquidity and funding risk management
- Arrange appropriate funding facilities for WDC, ensuring they are at market related margins utilising bank debt facilities and/or capital markets as appropriate.
- Maintain lender relationships and WDC's general borrowing profile in the local debt and, if applicable, capital markets, so that WDC is able to fund itself appropriately at all times.
- To provide appropriate levels of funding for investments (in accordance with Sections 3.0, 5.0, 6.0 and 8.0 of the Council's Investment Policy) and as may be authorised from time to time by way of Council resolution.
- Control WDC's cost of borrowing through the effective management of its interest rate risk, within the rate risk management limits established by the liability management policy.
- Ensure compliance with any finance/borrowing covenants and ratios.
- Maintain adequate internal controls to mitigate operational risks.
- Produce accurate and timely information that can be relied on by senior management and Council for control and exposure monitoring purposes in relation to both the debt raising and financial market investment activities of WDC.



## 5.0 Relationship to other Council Policies

5.1 It is important when reading this Policy that it is read in conjunction with other related Council policies. Council policies often reference and inform each other so that any issue before Council can be dealt with in an integrated and comprehensive fashion. Policies that have a clear relationship with this Liability Management Policy are:

- The Policy on Investments (outlines principles of prudent financial management and risk mitigation strategies as they relate to investments).
- Council's Significance Policy (which if triggered by a proposal will mean that the proposal will be subject to further decision-making and consultation requirements).
- The Revenue and Financing Policy (which outlines that proceeds from assets sales will be applied to debt repayment).

## 6.0 Organisational Structure

6.1 Council has established a Treasury Management Committee (TMC) whose duties are listed below. The TMC shall comprise –

- Group Manager – Corporate Services
- Finance Manager
- Senior Accountant
- WDC's Independent Treasury Advisor

6.2 Duties shall comprise of:

### Full Council

- Approve Treasury Policy (TP), including any amendments proposed by the TMC
- Approve any hedging outside the parameters of the TP
- Approve the use of any risk management products not authorised by the TP
- Monitor treasury performance through receipt of appropriate reporting
- Approve overall borrowing limits on an annual basis through the Annual Plan process
- Determination of any Local Government Funding Agency transactions as per Section 11 of this Policy.

### Treasury Management Committee

- Plan and discuss all funding and interest rate risk management activities of WDC prior to implementation/execution.

- Plan and discuss all financial market investment activities of WDC prior to execution.
- Monitor and review the ongoing treasury performance of WDC and compliance with TP parameters through the receipt of regular reporting.
- Conduct a review of the TP every three years or on an 'as required' basis and submit any recommended changes to Council for approval once the necessary statutory processes have been followed.

#### **Chief Executive Officer**

- In the absence of the Group Manager – Corporate Services, oversee the funding, interest rate risk management and financial market investment activities of WDC.
- In the absence of the Group Manager - Corporate Services undertake all his/her duties as detailed in the Liability Management Policy and the Policy on Investments or delegate the duties as appropriate.
- In the absence of the Group Manager – Corporate Services sign documents relating to the financial market activities of WDC.

#### **Group Manager – Corporate Services**

- Make decisions in respect to treasury management within the parameters of the TP.
- Report to Council on overall treasury activity on a regular basis.
- Manage the bank lender and capital markets relationships, providing financial information to lenders and negotiate new/amended borrowing facilities or methods for approval by the full Council.
- Sign documents relating to the financial market activities of WDC.
- Execute treasury transactions in the absence of the Senior Accountant.
- Check external confirmations against internal records.

#### **Finance Manager**

- In the absence of the Group Manager – Corporate Services undertake all his/her duties under a delegated authority, other than those duties delegated to the Chief Executive Officer.
- In the absence of the Senior Accountant undertake all his/her the duties under a delegated authority.
- Check external confirmations against internal records.

#### **Senior Accountant**

- Execute treasury transactions.
- Assist the Group Manager – Corporate Services in the preparation of reports to Council.
- Check external confirmations against internal records.

## 7.0 Interest Rate Exposure

- 7.1 Interest rate risk is the risk of significant unplanned changes to interest costs as a result of financial market movements.
- 7.2 The objective of managing interest rate risk is to have a framework in place under which Council can actively manage its borrowings within overall guidelines to spread and reduce risk and stabilise interest costs.
- 7.3 Borrowings can only be made in New Zealand dollars (Section 113 of the LGA 2002).
- 7.4 The interest rate exposures of WDC shall be managed according to the parameters detailed in the following table and shall apply to the projected core debt of WDC. Core debt is defined as that contained in the Annual Plan or as otherwise determined by the Group Manager – Corporate Services.

Fixed Rate Hedging Percentages		
	Minimum Fixed Rate Amount	Maximum Fixed Rate Amount
0 – 2 years	50%	100%
2 – 5 years	30%	80%
5 – 10 years	0%	50%

- 7.5 To manage the interest rate risk associated with its debt WDC may use the following interest rate risk management instruments.
- Interest rate swaps.
  - Swaptions.
  - Interest rate options, including collar type structures but only in a ratio of 1:1.
  - Forward rate agreements.
  - Fixed Rate Term Loans.
  - (Refer to Appendix 1 for definitions and objectives of each of the interest rate risk management instruments)
- 7.6 Council may retain the services of an Independent Treasury Advisor to assist in managing the funding and interest rate risks of WDC.

## 8.0 Liquidity

- 8.1 The objective of managing liquidity is to ensure that Council has adequate financial resources available to meet all its obligations as they fall due.
- 8.2 To avoid a concentration of debt maturity dates Council will, where practicable, aim to have no more than 50% of debt subject to refinancing in any 12 month period.
- 8.3 Council's main revenue sources are cyclical in nature and therefore committed bank facilities are required to ensure sufficient funds can be called upon when required.

- 8.4 WDC shall aim to maintain committed funding lines of not less than **105%** of projected core debt. (Core debt is defined as that contained in the Annual Plan or as otherwise determined by the Group Manager-Corporate Services).

## **9.0 Credit Exposure**

- 9.1 Credit risk is the risk that a party to a transaction will default on its contractual obligation. A credit risk may exist when the credit rating of an entity with which Council has borrowings with deteriorates.
- 9.2 Council will only enter into borrowing agreements with creditworthy counterparties. Creditworthy counterparties are selected on the basis of their Standards and Poors rating which must be AA- or better.

## **10.0 Funding Methods**

- 10.1 WDC may obtain funding utilising the following methods:
- Bank debt
  - Capital markets issuance comprising Fixed Rate Bonds, Medium Term Notes and Floating Rate Notes

## **11.0 Local Government Funding Agency**

- 11.1 Despite anything earlier in this Liability Management Policy, the Council may borrow from the New Zealand Local Government Funding Agency Limited (LGFA) and, in connection with that borrowing, may enter into the following related transactions to the extent it considers necessary or desirable:
- Contribute a portion of its borrowing back to the LGFA as an equity contribution to the LGFA;
  - Provide guarantees of the indebtedness of other local authorities to the LGFA and of the indebtedness of the LGFA itself;
  - Commit to contributing additional equity (or subordinated debt) to the LGFA if required;
  - Subscribe for shares and uncalled capital in the LGFA; and
  - Secure its borrowing from the LGFA, and the performance of other obligations to the LGFA or its creditors with a charge over the Council's rates and rates revenue.

## **12.0 Debt Repayment**

- 12.1 The objective of managing debt repayment is to ensure that Council is able to repay debt on maturity with minimum impact on Council operations.
- 12.2 Borrowings will be repaid as they fall due in accordance with the applicable loan agreement. Subject to borrowing limits, a loan may be rolled over or re-negotiated as and when appropriate.
- 12.3 All borrowings are deemed to be corporate borrowings. Debt repayments will be made from general funds, by funds raised specifically to repay debt and by

proceeds from asset sales. Funds derived from any asset sales are applied first to offset borrowing in the relevant activity from which the asset is sold.

- 12.4 The cost of capital is spread over significant activities using internal loans. Internal loans are raised to cover the economic life of capital projects to a maximum of 30 years for infrastructural assets and 15 years for other assets.

## **13.0 Specific Borrowing Limits**

- 13.1 Council will borrow to fund its total funding needs in accordance with the annual plan. Borrowing includes funding of short term working capital and long term capital investment. In general terms, Council approves borrowing through the Annual Planning process with public disclosure by way of resolution.
- 13.2 Ratios based on revenue and debt servicing and debt to equity are used for measuring a prudent borrowing level. Council borrowing limits are based on the following ratios:
- Total interest expense will not exceed **15%** of total revenue.
  - Total borrowings will not exceed **25%** of total equity. Total borrowings must not exceed **20%** of total assets.
  - Net debt will not exceed **170%** of total [cash] revenue.
  - Net interest will not exceed **20%** of annual rates.

## APPENDIX 1

### **Forward Rate Agreement**

An agreement between WDC and a counterparty (usually a bank) protecting WDC against a future adverse interest rate movement. WDC and the counterparty agree to a notional future principal amount, the future interest rate, the date and the benchmark rate (BKBM).

#### **Objective**

To provide WDC with certainty as to its interest rate cost on an agreed principal amount for an agreed period. A Forward Rate Agreement (FRA) typically applies to a 3 month period, starting at some point within the next 12 months.

### **Interest Rate Swap**

An interest rate swap is an agreement between WDC and a counterparty (usually a bank) protecting WDC against a future adverse interest rate movement. WDC pays a fixed interest rate and receives a floating interest rate. The parties agree to a notional principal amount, the future interest rate, the settlement dates and the benchmark floating rate (BKBM).

#### **Objective**

To provide WDC with certainty as to its interest rate cost on an agreed principal amount for an agreed period. Floating rate sets are typically every 1 or 3 months over the life of the swap.

### **Forward Start Interest Rate Swap**

A Forward Start Interest Rate Swap is a financial instrument that fixes the interest rate for a set amount of debt at some date in the future (generally up to 2 years). These transactions are negotiated with Banks.

#### **Objective**

To provide WDC with certainty as to its interest rate cost on an agreed principal amount for an agreed period, commencing at a future point in time. All other conditions are as with an interest rate swap.

### **Options on a Swap – Swaption**

A 'Swaption' is an option to enter into an interest rate swap. In exchange for an option premium, the buyer gains the right but not the obligation to enter into a specified swap agreement with the issuer on a specified future date.

#### **Objective**

To provide WDC with the right but not the obligation to enter into a fixed rate swap at a future point in time on an agreed principal amount for an agreed period. A *swaption* is an option on a swap and typically requires a premium to be paid.

### **Interest Rate Options**

The purchase of an interest rate option gives the holder (in return for the payment of a premium) the right but not the obligation to borrow (described as a cap) or invest

(described as a floor) at a future date. WDC and the counterparty agree to a notional future principal amount, the future interest rate, the benchmark dates and the benchmark floating rate (BKBM).

### **Objective**

To provide WDC with worst case cover on its interest rate cost on an agreed principal amount for an agreed period. As for an interest rate swap, rate sets are typically at each 1 or 3 month date for the life of the option. A premium is payable for entering into an interest rate option.

### **Interest Rate Collar**

The combined purchase (or sale) of a cap or a floor with the sale (or purchase) of another floor or cap.

### **Objective**

To provide WDC with certainty as to its interest rate cost on an agreed principal amount for an agreed period, but at the same time avoid the need to pay an up front premium.

### **Fixed Rate Term Loans**

A Fixed Rate Term Loan is an agreement between WDC and a counterparty (usually a bank) protecting WDC against a future adverse interest rate movement. WDC pays a fixed interest rate as set by the counterparty on an agreed principal amount for the term of the loan.

### **Objective**

To provide WDC with certainty as to its interest rate cost on an agreed principal amount for an agreed period.