

## **APPENDICES**

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## **APPENDIX A. LEGISLATIVE AND OTHER REQUIREMENTS AND RELATIONSHIPS WITH OTHER PLANNING DOCUMENTS AND ORGANISATIONS**

### **A.1 Introduction**

The purpose of this plan is to outline and to summarise in one place, the Council's strategic and management long-term approach for the provision and maintenance of its Solid Waste activity.

The AMP demonstrates responsible management of the district's assets on behalf of customers and stakeholders and assists with the achievement of strategic goals and statutory compliance. The AMP combines management, financial, engineering and technical practices to ensure that the levels of service required by customers is provided at the lowest long term cost to the community and is delivered in a sustainable manner.

The Local Government Act (LGA) 2002 requires Council to promote effective and efficient waste management within the Tasman district. The LGA 2002 also gives the Council the legal authority to be involved in the provision of solid waste services.

The Waste Minimisation Act 2008 has picked up some of the provisions of the LGA 1974 and 2002 relating to waste management and has increased the requirement for consideration of waste minimisation in Council's planning. The Act aims to protect the environment from harm by encouraging the efficient use of materials and a reduction in waste - with consequential environmental, social, cultural and economic benefits.

Under this legislation Council is required to carry out a waste assessment and to prepare a Waste Management and Minimisation Plan (WMMP) by 2012. This WMMP is currently being developed and will supersede the existing Waste Management and Minimisation Plan 2003.

The front section of this AMP document is produced with the aim of the target audience being Council staff and Councillors. The Appendices provide more in depth information for the management of the activity and are therefore targeted at the Activity Managers. The entire document is available within the public domain.

In preparing this AMP the project team has taken account of:

- **National Drivers** – for example the legislative drivers for improving Asset Management through the Local Government Act 2002, and strategic drivers for improved waste management through the New Zealand Waste Strategy 2002 (and revision of 2010) and the Waste Minimisation Act 2008
- **Regional and Local Drivers** – for example the Community Outcomes determined through consultation with the public, the Regional Waste Assessment, and the Regional Waste Management and Minimisation Plan
- **Industry Guidelines and Standards**
- **Linkages** – the need to ensure this AMP is consistent with all other relevant plans and policies
- **Constraints** – the legal constraints and obligations Council has to comply with in undertaking this activity

The main drivers, linkages and constraints are described in the following sections.

### **A.2 Key Legislation and Industry Standards, and Statutory Planning Documents**

#### **A.2.1. Acts of Parliament**

The Acts below are listed by their original title for simplicity, however all Amendment Acts shall be considered in conjunction with the original Act, these have not been detailed in this document.

- Building Act 2004
- Civil Emergency Management Act 2002
- Climate Change Response Act 2002
- Construction Contracts Act 2002
- Fencing Act 1978
- Hazardous Substances and New Organisms Act 1996
- Health Act 1956
- Health and Safety in Employment Act 1992

- Land Transfer Act 1952
- Litter Act 1979
- Local Government Act 2002
- Local Government (Rating) Act 2002
- Public Bodies Contracts Act 1959
- Public Works Act 1981
- Resource Management Act 1991
- Waste Minimisation Act 2008.

For the latest Act information refer to <http://www.legislation.govt.nz/>.

A number of these key legislative drivers have been summarised in more detail below.

#### A.2.1.1 Climate Change Response Act 2002

The Climate Change Response Act 2002, Climate Change (Waste) Regulations 2010 and Amendments to the Climate Change (Unique Emissions Factors) Regulations will be implemented through the New Zealand Emission Trading Scheme (NZ ETS).

The NZ ETS is part of the government's response to climate change and requires those emitting greenhouse gases to pay for increases in emissions, whilst rewarding emission reductions. The waste sector is affected by the NZ ETS, as those who operate landfills are required to participate in the scheme and report emissions.

Emissions from operating a municipal landfill will face NZ ETS obligations from 1 January 2013 and the cost of emission units is expected to be passed on to customers of landfills through increased prices for waste disposal and for transport and energy generation (from 2010). Emissions from closed landfills are not captured by the NZ ETS.

There is no firm information on the magnitude of the impact that the NZ ETS will have on waste disposal costs. Reported estimates are that costs will increase somewhere in the order of \$35-\$55 per tonne, though the actual increase could be greater or lower than this amount. In addition the NZ ETS affects liquid fossil fuel costs, which again will impact on waste disposal and haulage of materials.

There is an opportunity, under the NZ ETS scheme, for Tasman District Council to apply for a unique emission factor to calculate emission units, and therefore NZ ETS payments, by undertaking further waste compositional analyses or by installing a gas extraction system at the landfill. There are also opportunities for Tasman District Council to work jointly with Nelson City Council to make the most effective and efficient use of York Valley and Eves Valley landfill space and to minimize the Council's obligations under the NZ ETS.

#### A.2.1.2 Local Government Act 2002

Territorial Local Authorities (TLAs) have a legal obligation under the Local Government Act (LGA) 2002 to promote effective and efficient waste management within their district. This promotion should involve the development of a waste management plan.

As specified by the 1996 amendments to the 1974 Local Government Act, a waste management plan must incorporate the following hierarchy of disposal options, listed from most desirable to least desirable:

- reduction
- reuse
- recycling
- recovery
- treatment
- residual disposal.



The plan must also reflect the duty of promoting effective and efficient waste management as set out in section 538 of the 1974 Local Government Act. It should also address:

- the promotion of waste minimisation education
- the provision of waste disposal facilities
- the collection and transportation of waste
- any waste management grants
- and the allocation of costs.

The Tasman District Waste Management Plan 2003 is consistent with these obligations. Under the Waste Minimisation Act 2008, however, this plan must be reviewed no later than 1 July 2012 and then at intervals of not more than six years after the last review.

Under the Local Government Act 2002 (Section 125 and 127) the Council is also required to assess sanitary services provided within the district including all “works for the collection and disposal of refuse, night soil, and other offensive matter”<sup>1</sup>. This assessment of sanitary services must contain the following information:

- a description of the sanitary services provided within the district for each community in it
- a forecast of future demands for sanitary services within the district and each community in it
- a statement of the options available to meet the forecast demands and an assessment of the suitability of each option for the district and each community in it
- a statement of the territorial authority’s intended role meeting the forecast demands
- a statement of the territorial authority’s proposals meeting the forecast demands, including proposals any new or replacement infrastructure
- a statement about the extent to which the proposals ensure that public health is adequately protected.

#### A.2.1.3 Resource Management Act 1991

The Resource Management Act (RMA) provides the framework for all resource utilisation in New Zealand. Its overriding purpose “*is to promote the sustainable management of natural and physical resources*”.

In order to achieve this purpose the Act details duties, functions and processes for the agencies responsible for implementation. As a unitary authority, the Tasman District Council has responsibilities, under the RMA, for both a Regional Council and Territorial Local Authority (s30 and 31).

Given RMA responsibilities, Council is responsible for ensuring that all resource utilisation, including waste management practices, ultimately meet the purpose of the RMA (s5), which is the promotion of sustainable management of natural and physical resources. To achieve this end Council has established a range of planning instruments under the RMA, which outline policy direction and establish rules with regards to resource use. The key focus of these documents is the control of activities through the establishment of mechanisms, which should avoid, remedy or mitigate actual and potential effects on the environment resulting from resource use.

It should be noted that this AMP is not a planning instrument under the RMA, rather it is a Management Plan, as required by the LGA. However, many of the outcomes of this Plan should assist in meeting not only the purpose of the LGA (sustainable development) but also the purpose of the RMA (sustainable management).

#### A.2.1.4 Waste Minimisation Act 2008

This 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.

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<sup>1</sup> Section 25(1)(c) of the Health Act 1956



In summary the Act includes the following.

- Provision for a waste levy that operators of disposal facilities will have to pay based on the weight of material disposed at each facility. The levy will be used to generate funding to help local government, communities and businesses reduce the amount of waste disposed of in New Zealand.
- Requirement that TLAs carry out Waste Assessments and prepare Waste Management and Minimisation Plans (WMMP) by 2012.
- Reporting requirements for operators of waste disposal and recovery facilities and TAs to improve information on waste minimisation.
- Declaration of priority products by the Minister and the mandatory requirements for associated product stewardship schemes, this will ensure that producers, brand owners, importers, retailers, consumers and other parties take responsibility for the environmental effects from their products – from ‘cradle-to-grave’.
- Provision for voluntary product stewardship schemes.
- The establishment of a Waste Advisory Board which would provide independent advice to the Minister and the Secretary for the Environment on waste minimisation issues.

Under the Act, Part 31 of the Local Government Act 1974 is repealed.

#### A.2.2. National Policies, Regulations and Strategies

In addition to the legislation provided above, the Ministry for the Environment has also released the following documents:

- New Zealand Waste Strategy 2002 and revision in 2010
- National Environmental Standards for Air Quality.

##### A.2.2.1 New Zealand Waste Strategy

The first New Zealand Waste Strategy (the “Waste Strategy”) was launched in 2002 and reviewed in 2006, prior to the introduction of the Waste Minimisation Act (WMA) in 2008. The current Waste Strategy was launched by the Minister in October 2010 and provides a “high level direction to guide the use of the tool available to manage and minimise waste in New Zealand”. The Waste Strategy’s flexible approach also aims to ensure that waste management and minimisation activities are appropriate for different local situations.

To achieve these aims the Waste Strategy sets the following two goals.

- Goal 1: Reducing the harmful effects of waste.
- Goal 2: Improving the efficiency of resource use.

The aims of these two goals are to “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 Waste Strategy recognises the responsibility of regional councils to regulate the environmental effects of waste facilities through the implementation of the RMA and also, the important role regional councils can play in facilitating a collaborative approach amongst TLA’s towards waste planning.

The WMA requires TLAs to promote effective and efficient waste management and minimisation within their district through the preparation of WMMPs and the implementation of the WMA. The WMMPs must have regard to the Waste Strategy and should guide local spending of the TLAs portion of the waste disposal levy.

The waste industry has a role under the Waste Strategy to increase the range of services available and implement good practices and codes of practice. Businesses and communities also have a responsibility to improve resources efficiency in the production and consumption of goods and services and by changing behaviours at home and work through education programmes.

### A.2.3. Regional and Local Policies, Regulations and Strategies

Council also has several planning policy and/or management documents detailing its responsibilities under the legislative drivers listed above. Those which impact on the provision of Council's solid waste activity are:

- Joint Waste Assessment 2010 (refer to Appendix C for summary)
- Joint Waste Management and Minimisation Plan 2011 (proposed)
- Council's District Plan – Tasman Resource Management Plan (TRMP) <http://www.tasman.govt.nz>
- Tasman Regional Policy Statement (TRPS) <http://www.tasman.govt.nz>
- Tasman District Council's Long Term Plan/Annual Plans/Annual Reports
- Solid Waste Activity Management Plan (previous versions)
- Waste Management and Minimisation Plan 2003
- Tasman District Council Engineering Standards and Policies 2008 <http://www.tasman.govt.nz>
- Tasman District Council's Procurement Strategy
- any existing established strategies and policies of the Council (outside those contained in this Activity Management Plan itself) regarding this activity.

Studies and plans relating to specific sites are listed as Strategic Studies in the relevant section of Appendix B. Proposed new Strategic Studies are detailed in Appendix E.

These documents are reviewed in accordance with legislative timeframes.

### A.2.4. Industry Guidelines and Standards

The Ministry for the Environment has produced the following best practice guides relating to the management of solid waste activities. Refer to <http://www.mfe.govt.nz/publications/waste/> for more details. The following additional guidelines / standards also influence waste management practices:

- Centre for Advanced Engineering (CAE), Landfill Guidelines, 2000
- Centre for Advanced Engineering (CAE), Management of Hazardous Waste, 2000
- A Guide to Implementing Recycling Systems in Multi-Tenanted Office Buildings
- A Guide to Product Stewardship for Non-priority Products in the Waste Minimisation Act 2008
- A Guide to Sustainable Office Fit-outs
- A Guide to the Management of Cleanfills
- A Guide to the Management of Closing and Closed Landfills in New Zealand
- Assessors' Specification Guidelines for Accreditation of a Product Stewardship Scheme
- Calculation and Payment of the Waste Disposal Levy: Guidance for Waste Disposal Facility Operators
- Guidance Principles: Best Practice for Recycling and Waste Management Contracts: Working Draft
- Guidance to Completing the Application Form for Accreditation of a Product Stewardship Scheme
- Guide to Landfill Consent Conditions
- Guidelines for the Management and Handling of Used Oil
- Hazards of Burning at Landfills
- Landfill Full Cost Accounting Guide for New Zealand
- Module 1 - Hazardous Waste Guidelines: Identification and Record-keeping
- Module 2 - Hazardous Waste Guidelines: Landfill Waste Acceptance Criteria and Landfill Classification
- Online Waste Levy System: User Guide for Waste Disposal Facility Operators
- Solid Waste Analysis Protocol and Summary Procedures

- Supplementary Guidance to Disposal Facility Operators: Diverted Tonnage and Cover Material
- Sustainable Wastewater Management: A Handbook for Smaller Communities and summary brochure
- The Wastewater Monitoring Guidelines
- Updated Users Guide to Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins and Other Toxics) Regulations 2004 (including Amendments 2005) (second draft)
- Waste Assessment Checklist: for territorial authorities completing a waste assessment before reviewing their waste management and minimisation plans
- Waste Management and Minimisation – a good practice guide for territorial authorities
- Waste Management and Minimisation Planning: Guidance for Territorial Authorities
- Waste Minimisation Fund Guide for Applicants
- Waste Minimisation Fund: Guidance for Applicants for Projects Commencing 1 July 2010
- Waste Minimisation Fund: Project Planning Guide for Projects Commencing 1 July 2010
- What's in your Waste? – A resource for trade businesses.

The following Standards apply to this Activity.

- NZS 7603:1979 Specification for refuse bags for local authority collection (low density polyethylene).
- SNZ HB 4360:2000 Risk management for Local Government.

### A.3 Links with Other Documents

This AMP is a key component in Council’s strategic planning function. Among other things, this Plan supports and justifies the financial forecasts and the objectives laid out in the Long Term Plan (LTP). It also provides a guide for the preparation of each Annual Plan and other forward work programmes.

Figure A-1 depicts the links between Council’s asset management plans to other corporate plans and documents.

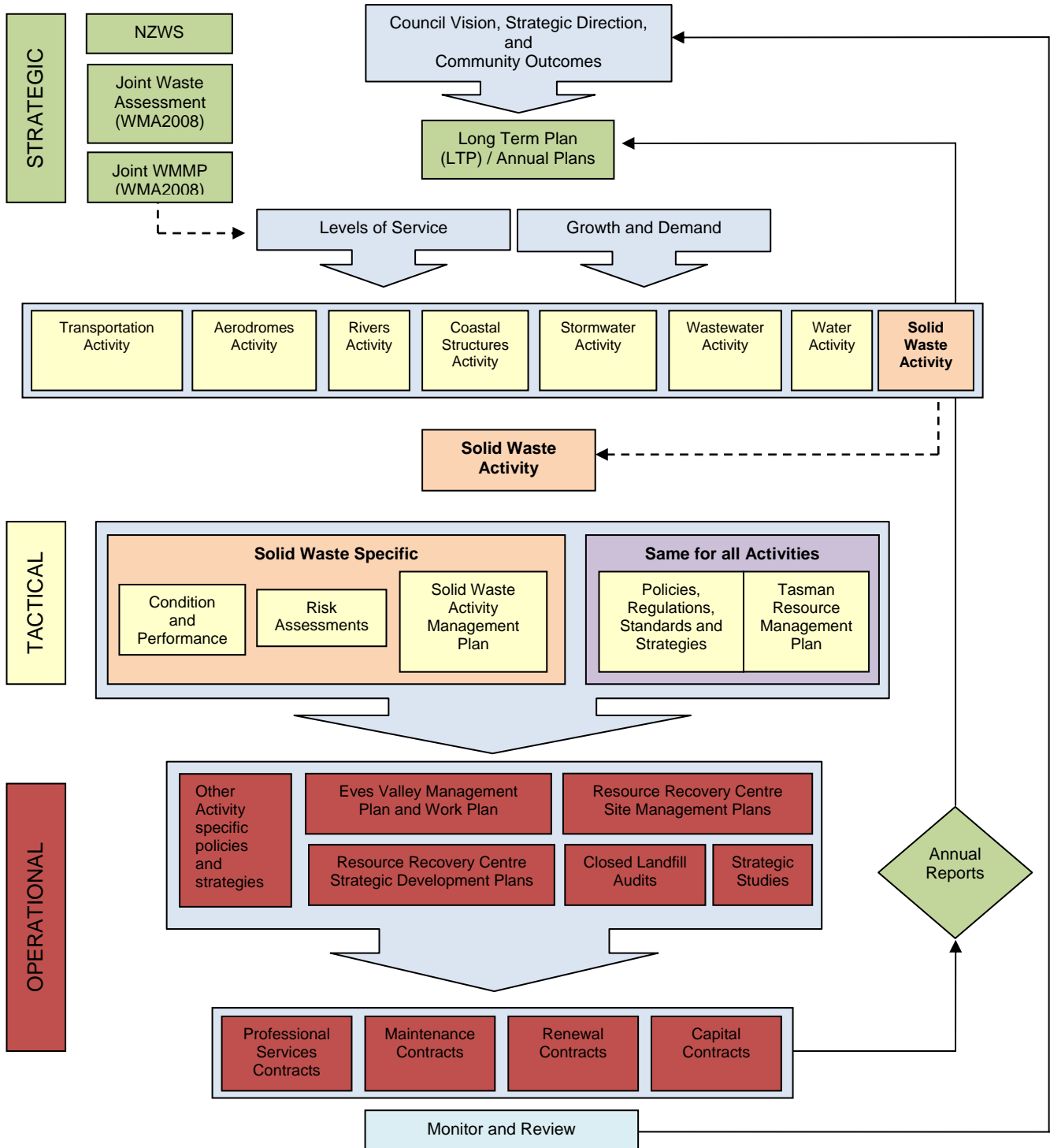


Figure A-1: Hierarchy of Council Policy, Strategy and Planning

## A.4 Strategic Direction

Council's strategic direction is outlined in the Vision, Mission and Objectives of the Council.

**Vision:** An interactive community living safely in the garden that is Tasman district. He rohi Whakaarotahie. Noho ora ana I runga I te Whenua ataahua. Ko te rohe o Tahimana.

**Mission:** To enhance community wellbeing and quality of life.

**Objectives:** *Objective 1:*

To implement policies and financial management strategies that advance the Tasman district.

*Objective 2:*

To ensure sustainable management of natural and physical resources, and security of environmental standards.

*Objective 3:*

To sustainability manage infrastructural assets relating to Tasman district.

*Objective 4:*

To enhance community development and the social, natural, cultural and recreational assets relating to Tasman district.

*Objective 5:*

To promote sustainable economic development in the Tasman district.

Table A-1 describes the strategic documents used during the planning process.

**Table A-1: Strategic Documents Utilised During the Planning Process**

<b>Long Term Plan (LTP)</b>	The Long Term Plan. The primary instrument for the Council to report on its intentions on delivering its services to the community. This is the broad strategic direction of Council set in the context of current and future customer requirements. The Activity Management Plan (AMP) is the tactical plan with a view to achieving the strategic targets.
<b>Annual Plan</b>	The service level options and associated costs developed in the AMP will be fed into the Annual Plan consultation process. The content of the Annual Plan will feed directly from the short term forecasts in the LTP.
<b>Activity Management Plan (AMP)</b>	The Activity Management Plans provide the framework to recognise and deliver future levels of service, operation of spend and capital programmes in a way which is consistent, transparent and integrated with Council's day to day business.
<b>Financial and Business Plans</b>	The financial and business plans requirement by the Local Government Amendment Act (3). The expenditure projections will be taken directly from the financial forecasts in the AMP.
<b>Contracts</b>	The service levels, strategies and information requirements contained in the AMP are the basis for performance standards in the current Maintenance and Professional Service Contracts.
<b>Operational Plans</b>	Operating and maintenance guidelines to ensure that the network operates reliably and is maintained in a condition that will maximise useful service life of assets within the network.
<b>Corporate Information</b>	Quality asset management is dependent on suitable information and data and the availability of sophisticated asset management systems which are fully integrated with the wider corporate information systems (eg. financial, property, GIS, customer service, asset data etc.). Council's goal is to work towards such a fully integrated system.

## Other Plans and Policies

The Waste Management Plan was required by the Local Government Act 1974. The provisions of this Act relating to the WMP have now been repealed and replaced by provisions of the Waste Minimisation Act 2008. This act will require adoption of a new waste management and minimisation plan by 2012. The objectives, policies and methods set out within the plan will determine the forecasts set out within the AMP.

### A.5 Solid Waste Specific Strategic Direction

#### A.5.1. Proposed Joint Waste Management and Minimisation Plan

As a Territorial Authority, each Council is required under the Waste Minimisation Act 2008 to adopt a Waste Management and Minimisation Plan (WMMP). A WMMP is a strategic policy document of Council which sets out Council's objectives, policies and methods for promoting effective and efficient waste management and minimisation in the district.

Section 45 of the Act provides for the development of a joint WMMP by two or more territorial authorities. Tasman District and Nelson City Councils have elected to utilise this provision of the Act to develop the joint Waste Assessment and now to develop a joint WMMP.

Tasman District Council and Nelson City Council propose to adopt a joint Waste Management and Minimisation Plan, which outlines the Council's waste management and minimisation aims, funding requirements and activities for the region over the next six years.

In the plan, the Councils propose to minimise the waste by changing the way in which discarded resources are managed and to reduce the harmful effects of wastes.

The Vision of the Council in relation to waste management and minimisation<sup>2</sup> is:

#### **VALUING RESOURCES AND ELIMINATING WASTE**

The goals of the Council in relation to waste management and minimisation have taken into consideration the two goals set out in the New Zealand Waste Strategy (NZWS) 2010 and has expanded upon these to include a third goal.

The Waste Management and Minimisation Plan (WMMP) goals are:

Goal 1: Avoiding the creation of waste

Goal 2: Improving the efficiency of resource use

Goal 3: Reducing the harmful effects of waste.

The following core principles have been adopted to guide the Council in their implementation of the WMMP.

1. Global Citizenship
2. Kaitiakitanga/ Stewardship
3. Product Stewardship
4. Full-cost Pricing
5. Life-cycle Principle

The Nelson Tasman and Joint Waste Management and Minimisation Plan was adopted by Tasman District Council and by Nelson City Council on 26 April 2012.

<sup>2</sup> Draft Joint Waste Management and Minimisation Plan 2011 (MWH New Zealand Ltd, 2011)

## **APPENDIX B. OVERVIEW OF THE ASSETS**

This section of the AMP describes the solid waste services provided on behalf of Council and the assets owned by Council.

For the purposes of this plan the Solid Waste Activity has been separated into the following service categories.

- B.1 Collection Services
- B.2 Resource Recovery Centres
- B.3 Hazardous Waste
- B.4 Operational Landfills
- B.5 Closed Landfills
- B.6 Education and Promotion
- B.7 Waste Minimisation

### **B.1 Collection Services**

#### **B.1.1. Overview**

Council provides various public rubbish and recyclables collection and disposal services within the district including:

- weekly kerbside collections for recyclables and waste
- recycling and disposal facilities at all Resource Recovery Centres (RRCs)
- a limited number of rural public collection receptacles
- litter bins in parks, reserves and street side locations.

Provision of litter bins in parks, reserves and street side are funded by other Council activities and addressed in those respective AMPs.

The operation and maintenance of the majority of these services is provided by Smart Environmental Ltd as part of Contract 613. This contract manages a number of different solid waste activities including:

- kerbside collection of domestic refuse in official Council bags
- kerbside collection of recyclables in official Council crates
- operation and maintenance of four RRCs at Richmond, Mariri, Takaka and Collingwood (the Murchison RRC is managed by Fulton Hogan Ltd under Contract 652)
- processing and sale of all recyclable material collected at the kerbside and RRCs.

Contract 613 commenced on 14 November 2004 for a three year term and in November 2007 the contract was extended for an additional three years. A further extension to the contract was issued to bring it into line with plans for consultation, other related contracts and a more suitable season for transition to a new contract. This contract expires on 30 September 2012.

Contract 652 commenced on 30 June 2005 and has also been extended until 30 September 2012. Under this contract Fulton Hogan Ltd are responsible for the day to day operation and management of the Murchison RRC site, maximising recycling and recovery of materials, and ensuring the site is kept clean and tidy.

A description of the collection services the Council provides through Contracts 613 and 652 are discussed in more detail below.

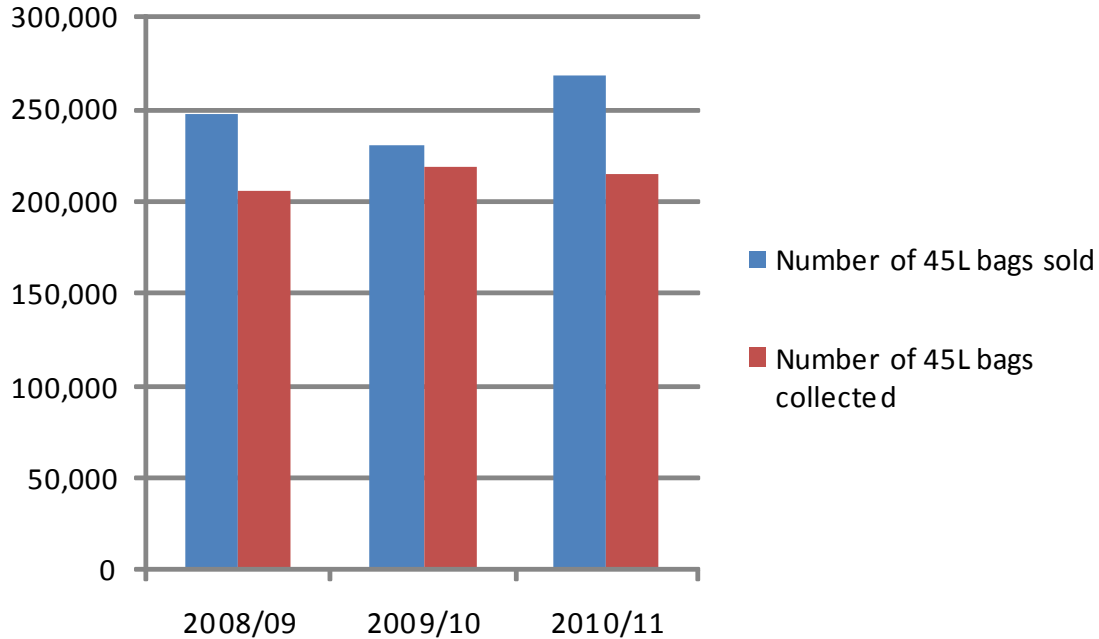


B.1.2. Services and Assets

B.1.2.1 Kerbside Rubbish Bag Collection

While Council does not currently own fixed assets associated with the domestic collection service (apart from a small number of collection receptacles at rural collection points), it is considered appropriate to deal with the management of the collection and disposal services within this AMP.

Council sells bags to residents for collection by the contractor. On 1 July 2011 the Council introduced a larger 60L bag in addition to the smaller 45L bag. Historical records show the following trend (Figure B-1) in bag sales over the past three years.



Source: Annual Statistics Spreadsheet 2011

**Figure B-1: Total Number of Bag Sold and Bags Collected**

Maps showing each of the refuse bag collection routes are in Appendix Y.

The Murchison area still operates independently of the other operations contract with its own RRC (the landfill was closed in 2009 shortly after the issue of the previous AMP). Refuse material is currently collected from the kerbside by a private contractor and delivered directly to the Murchison RRC. Since early 2009 this waste has been transported to the Eves Valley Landfill.

Within the rest of the district there are also a significant number of kerbside rubbish collection services offered by private sector operators, as an alternative to the Council service. Most of these private operators offer a variety of type and size of receptacles for the customer to choose from, but the majority of services are offered in rigid containers (wheelie bins or drums).

The private refuse collection services are extremely competitive in the urban areas of the district. Private contractors also currently focus on offering a 'lowest cost mixed refuse' service and this may tend to discourage sorting and recycling in favour of convenience. While recent studies have indicated that participation rates do not vary greatly between bag and bin customers, further work is required to evaluate whether quantities differ between these two groups.

B.1.2.2 Kerbside Recyclable Collection

The assets associated with this service include the household recycling crates and bins, public place recycling bins and buildings for processing of recyclable materials at the Richmond RRC.

To maximise the amount of recyclables collected, the strategic approach to date has been to have the same contractor collecting kerbside rubbish bags and recyclables and also carrying out a number of waste minimisation operations. Contract 613 includes the collection of kerbside recyclables in all parts of the district serviced by the kerbside rubbish collection service.

The contractor is required under Contract 613 to supply all plant, labour and materials in order to:

- supply containers to each household, if required
- collect recyclables from the kerbside
- deliver the materials to the recyclables processing centre
- arrange for sale of the recovered recyclable material.

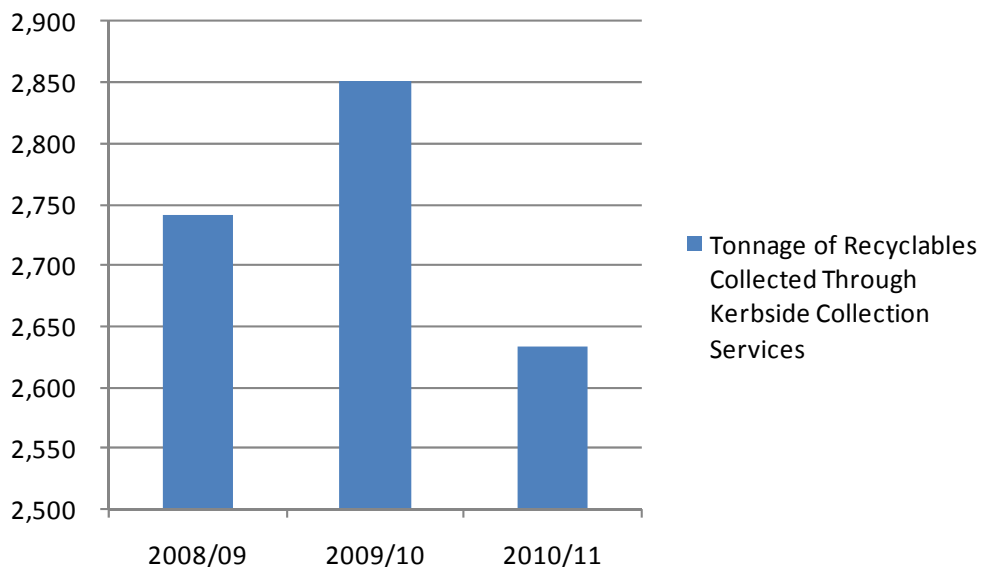
The collection of recyclables under Contract 613 was initially (from October 2004) restricted to Richmond, Hope, Brightwater and the Waimea Basin – an area consisting of approximately 6,100 households. In July 2005 the service was extended to include the remaining refuse collection areas with on-going extensions to new rural/residential developments. This route now covers in excess of 17,000 properties.

Materials collected through this scheme include:

- plastics - types 1 - 7
- paper - all types (glossy, non-glossy, newspaper, office, coloured, plain etc.)
- cardboard – all types including paper card and corrugated cardboard
- aluminium cans
- tin (steel) cans
- glass – all colours
- any other materials that the contractor can establish a sustainable market for.

Where non-complying recyclable materials are presented a notice is left in the letterbox or affixed to the materials and left uncollected. Any material that is dropped on the streets while loading or travelling must be picked up immediately by the contractor.

Figure B-2 shows the total amount of recyclable material that has been collected at the kerbside in the past three years.



Source: Annual Statistics Spreadsheet 2011

**Figure B-2: Tonnage of Recyclables Collected Through Kerbside Collection Services**

**B.1.3. Asset Capacity and Performance**

All assets relating to the collection services are currently owned and maintained by the contractor.

**B.1.4. Asset Age and Condition**

All assets relating to this category are currently owned and maintained by the contractor.

#### B.1.5. Growth and Demand

Growth from new dwellings in Richmond township is expected to increase by 29% over the next 20 years (Source: Volume 2 of the Growth Model - 09/08/2011). Refer to Appendix F for more information.

Demand for extended or different types of collection services is difficult to determine. A community consultation project (Strategic Study) has been programmed in the operations budget to investigate the community's appetite for multiple bin recyclables collection, investigating alternative refuse collection, investigating organic waste collection and treatment.

#### B.1.6. Operations and Maintenance

Operation and maintenance is solely the responsibility of the contractor. Council is not aware of any issues.

#### B.1.7. Strategic Studies

The following key strategic studies have been completed to date for the Collection Service:

- nil.

#### B.1.8. Key Issues

The key issues for the Collection Service are:

- a Strategic Study has been programmed in the operations budget to investigate the community's preferred waste management system (Waste Minimisation).

#### B.1.9. Capital Works

The full upgrade and development programme is included in Appendix F.

### **B.2 Resource Recovery Centres**

#### B.2.1. Overview

The Council currently owns five Resource Recovery Centres (RRCs) located in Richmond, Mariri, Takaka, Collingwood and Murchison. Waste from each of these RRCs is transported to the Eves Valley Landfill for disposal.

Council currently contracts out the day-to-day operation and maintenance of its RRCs, with the aim of maintaining a high level of service. The Council's operation and maintenance contracts are procured through competitive tendering to ensure a fair market value.

The operation and maintenance of the Richmond, Mariri, Takaka, and Collingwood RRCs is managed under Contract No. 613 by Smart Environmental Ltd. Waste from these four RRCs is transported to the Eves Valley Landfill by Fulton Hogan, through Contract 781. The Murchison RRC and waste haulage operation is managed by Fulton Hogan under Contracts 652 and 706, see Appendix E for further details.

Each RRC varies in size and capacity and provides varying degrees of services. The service provided at each of the RRCs, except Murchison and Collingwood, includes loading waste into the hopper of compactor units or into open bins provided by the haulage contractor, removing full bins from the compactor or loading point, and positioning them for collection by the haulage contractor. It also includes movement of empty bins into position at the compactor or loading point. In Murchison waste is emptied into a short-term storage pit and transferred to truck and trailer units for haulage and disposal at Eves Valley Landfill. At Collingwood RRC the contractor provides skip bins for collecting waste. When bins are full they are hauled to Takaka RRC by Smart Environmental Ltd where the waste is tipped into the hopper on site and transferred to compactor bins for onward haulage to Eves Valley Landfill.

The following sections provide an overview of each site and detail the different levels of service provided at each RRC. The service provided, the types of materials accepted and the operational hours at each site is also summarised in Table B-1 below.

**Table B-1: Overview of Resource Recovery Centres**

RRC Site	Opening Hours	Services				Transport	Waste Accepted								
		Waste disposal	Weighbridge	Recycling drop off	Re-use shop		General waste	Car bodies	Light gauge steel	Heavy gauge steel	Tyres	Waste oil	Green waste	Hardfill	Hazardous wastes
<b>Richmond</b>	8.00 am to 5.00 pm seven days a week.	Y	Y	Y	Y	Compactor bins	Y	Y	Y	Y	Y	Y	N	Y	N
<b>Mariri</b>	9.00 am to 4.00 pm Monday to Saturday. 1.00 pm to 4.00pm Sunday.	Y	Y	Y	N	Open top bins	Y	Y	Y	Y	Y	Y	Y	Y	N
<b>Collingwood</b>	1.00 pm to 4.00 pm Wednesday, Friday, Sunday.	Y	N	Y	N	Skip bins to Takaka RRC for compaction	Y	Y	Y	Y	Y	Y	Y	Y	N
<b>Takaka</b>	10.00 am to 4.00 pm Monday, Wednesday, Friday. 9.00 am to 4.00 pm Saturday, Sunday.	Y	N	Y	Y	Compactor bins	Y	Y	Y	Y	Y	Y	Y	Y	N
<b>Murchison</b>	2.00 pm to 6.00 pm Monday, Wednesday, Saturday during daylight saving time. Closes at 5.00 pm during the rest of the year.	Y	N	Y	N	Truck and trailer units	Y	Y	Y	Y	Y	Y	Y	Y	N

**Notes:**

- To cater for additional summer activity, Takaka and Collingwood sites open daily and for extended hours over the period mid-December to early February.
- Richmond and Mariri RRC sites do not accept hazardous wastes but have an arrangement with Nelson City Council whereby persons wishing to dispose of hazardous waste are directed to the Pascoe Street Transfer Station. Hazardous waste in Golden Bay is managed by a Council staff member and stored securely in a bunker at the Takaka RRC site.
- Hardfill is accepted at Tasman district sites in limited quantities only. Commercial quantities are referred to local gravel extraction sites to be used as cleanfill.
- All sites are closed on Christmas Day, New Year’s Day and Good Friday.

## B.2.2. Richmond RRC

### B.2.2.1 Service and Assets

The Richmond RRC was commissioned in 1989 and is located at the end of Beach Road in Richmond. It generally serves the Waimea Plains and provides the following services:

- receipt of refuse, recyclables, hardfill, car bodies, whiteware and scrap metal etc. from the general public and commercial operators
- collection of disposal and handling fees on behalf of Council
- handling, compaction and loading of refuse (excluding greenwaste, car bodies, whiteware and scrap metal), for transportation to disposal at Eves Valley Landfill
- handling, stockpiling, compaction of recyclables, car bodies, whiteware, and scrap metal. These materials become the property of the contractor and are disposed of at markets at their discretion
- management and disposal of tyres (currently quartered and disposed of at Eves Valley Landfill)
- acceptance of items for product stewardship schemes (currently paint and empty agricultural chemical containers)
- acceptance of waste oil which is collected by a separate contractor as part of a nation-wide scheme
- acceptance of car batteries which are recycled for lead content
- acceptance of LPG cylinders which are recycled for scrap metal content.

In 2011 Contracts 811 and 815 were let respectively for the upgrade of the compactor and bins and upgrade of the RRC site. Improvements to the site included a new sealed access road, parking areas for the reuse shop and adjacent boardwalk, with a motor home sewage dumping station, household recyclables drop-off loop, new weighbridge kiosk for the relocated weighbridge, improvements to the tipping pit, transfer station structure and bin change out area, new waste compactor, four new compactor bins and modifications to existing bins, refurbishment of areas of site pavement, glass bunkers, stormwater drainage, site signage and minor landscaping. The total cost of the upgrade was \$1.9 million.

The load method for disposal is by pushing waste from a pit into a waste compactor and then to compactor bins for transport. The compactor and bins are owned by the Council. Further improvements to the bin storage and loading areas are programmed to improve efficiencies in haulage processes (bin change-over times). Site operating machinery and transport equipment are owned by the contractors. The Huka bin lifting units and truck and trailer units at the Richmond RRC are owned by the haulage contractor.

The contractor has recorded data on the volume of separated greenwaste received at the RRC and the volume of mixed refuse transported to Eves Valley Landfill on a monthly basis, since November 1996. The volume and number of recyclables collected, received at the RRC and processed at the facility have been recorded, since July 2005. The volume of hardfill and the number of car bodies, white goods and tyres received are also recorded. This information is recorded with the monthly claim to the Council's Professional Services Consultant, MWH New Zealand Ltd.

Please refer to the Richmond Resource Recovery Centre Management Plan 2008 for a full description of the site.

The list below summarises the assets at the Richmond RRC as described in the Asset Valuations 2009:

- building - compactor
- fencing
- flexrail
- formation
- refuse chute
- retaining walls
- roading
- sewer
- stormwater
- water
- 4 bay shed new kiosk
- recycling building
- ablution block
- landscaping
- office building
- oil storage bunker
- skyline garage
- fencing
- weighbridge, ramps, foundation and barrier arm
- humeceptor

The 2009 Asset Valuation rates the confidence of the asset data used as **reliable** (based on NZ Infrastructure Asset Valuation and Depreciation Guidelines – Edition 2, Table 4.3.1: Data confidence grading system). However, anecdotal evidence suggests that the asset information is inaccurate. A strategic study has been programmed to improve asset knowledge.

Attribute data has not been collected for these assets nor are they stored in the Council's asset management system Confirm Enterprise. A data capture project has been programmed to improve asset knowledge, refer to Appendix E for further details.

Richmond RRC currently has the following resource consents and designations.

- RM050981V1: Richmond RRC - Discharge of stormwater to the Coastal Marine Area (expires 2 June 2041).
- Closed Landfills Global Consents RM090695 and RM090694.
- Land use activities on site are controlled through a designation (D160 Waste Management Facility). This designation covers the entirety of PT Lot 1 DP 7528 Lot 1 DP 16384 Lot 2 DP 16384.

#### B.2.2.2 Asset Capacity and Performance

The station is operating close to capacity on the busiest days and could not adequately deal with a power cut of more than four hours without activating emergency procedures under the haulage contract.

#### B.2.2.3 Asset Age and Condition

Generally the assets in the Richmond RRC are relatively young in their asset life expectancy. However, some assets at the RRC are showing definite signs of wear and tear and will require considerable maintenance over the next 20 years. Asset condition is not monitored formally. Assets are generally inspected as part of the management of the Operations contract. The following asset renewals are planned over the next 20 years.

- Site Signage - Road and on-site signage.
- Richmond Consent Renewal - Consent renewal.
- Renew computers - Replace computers every three years.
- Site Development partial renewals, see breakdown in Table B-2.
- Replace Compactor - Replace compactor and bins.

#### B.2.2.4 Compliance with Level of Service

Further to the Richmond Resource Recovery Centre Strategic Development Plan 2010, workshops were held with the Council staff in 2011 to discuss gaps in existing levels of service. The following projects were identified:

- Upgrade Tipping Pit - sandblast and repaint steelwork to meet the levels of service
- Site Development Works are required to meet the levels of service.

### B.2.2.5 Growth and Demand

Waste production is essentially a function of population growth and increases in lot numbers. Growth from new dwellings in Richmond township is expected to increase by 29% over the next 20 years (Source: Volume 2 of the Growth Model - 09/08/2011). Refer to Appendix F for more information.

Contractors conduct annual traffic surveys and plan to start monitoring the use of site facilities to improve understanding of the quantities generated. There were no projects identified in order to meet future growth.

### B.2.2.6 Operations and Maintenance

The Richmond RRC is operated and maintained for Council by Smart Environmental Ltd under Contract 613. Waste is transported to the Eves Valley Landfill by Fulton Hogan, though Contract 781. Details of the operation and maintenance regime are included in Appendix E.

### B.2.2.7 Strategic Studies

The following key strategic studies have been completed to date for Richmond RRC:

- Richmond Resource Recovery Centre Strategic Development Plan (July 2010, MWH New Zealand Ltd)
- Richmond Resource Recovery Centre Management Plan (February 2008, MWH New Zealand Ltd).

### B.2.2.8 Key Issues

The key issues for Richmond RRC are:

- some assets are in poor condition and need to be replaced
- further site development works are required to meet the levels of service.

### B.2.2.9 Capital Works

The full upgrade and development programme is included in Appendix F. The detailed breakdown of the site development work is shown in Table B-2 below.

**Table B-2: Breakdown of Site Development Work at Richmond RRC**

Project Name	Description	Project Estimate	Allocation of Project			Programme
			Growth	LoS	Renewal	
Landscaping	Enhance / extend landscaping.	\$42,300		100%		Year 1 50% Year 2 20% Year 3 20% Year 4 10%
Pavement Renewals	Reseal existing roads.	\$104,800			100%	Year 12 100%
Bin Change Out Area and Bin Weighbridge	Expand bin change out area to allow for weighbridge under the compactor bins and also extra space for additional storage.	\$265,300		100%		Year 1 6% Year 2 94%
Large Recyclable Storage Bunkers	Provide storage bunkers for scrap steel, whiteware, cleanfill, C&D waste.	\$89,700		100%		Year 8 100%



Project Name	Description	Project Estimate	Allocation of Project			Programme
			Growth	LoS	Renewal	
Second Weighbridge	Provision of a second road weighbridge next to the new kiosk.	\$290,300		75%	25%	Year 5 75% Year 9 9% Year 15 8% Year 19 8%
Roof to Compactor	Provide lean to roof over compactor area 8x5m.	\$33,700			100%	Year 8 100%

### B.2.3. Mariri RRC

#### B.2.3.1 Services and Assets

The Mariri RRC was commissioned in 1992 and is located on Robinson Road, Mariri, south of Motueka. It generally serves the Motueka Plains, Moutere and Tasman areas and provides the following services:

- receipt of refuse, greenwaste, recyclables, hardfill, car bodies, whiteware and scrap metal etc. from the general public and commercial operators
- collection of disposal and handling fees on behalf of Council
- handling and loading of refuse (excluding greenwaste, car bodies, whiteware and scrap metal), for transportation to disposal at Eves Valley Landfill
- handling of greenwaste for removal by another contractor
- handling, stockpiling, compaction of recyclables, car bodies, whiteware, and scrap metal. These materials become the property of the contractor and are disposed of at markets at their discretion
- management and disposal of tyres (currently quartered and disposed of at Eves Valley Landfill)
- acceptance of items for product stewardship schemes (currently empty agricultural chemical containers)
- acceptance of waste oil which is collected by a separate contractor as part of a nation-wide scheme
- acceptance of car batteries which are recycled for lead content
- acceptance of LPG cylinders which are recycled for scrap metal content.

The method for disposal is by loading from a disposal pit to open top bins by a 12 tonne tracked excavator, supplied by the contractor. Site operating machinery and transport equipment are owned by the contractors.

The contractor has recorded data on the volume of separated greenwaste received at the station and the volume of mixed refuse transported to Eves Valley Landfill on a monthly basis, since July 1997. The volume and number of recyclables received at the RRC has also been recorded, since July 2005. This information is recorded with the monthly claim to the Council's Professional Services Consultant MWH New Zealand Ltd.

Please refer to the Mariri Resource Recovery Centre Management Plan 2008 for a full description of the site.

The list below summarises the assets at the Mariri RRC as described in the Asset Valuations 2009:

- barrier rails
- fencing
- formation
- metal fence and canopy over compactor controls
- concrete tipping pit (refuse chute and concrete surrounds)
- retaining walls
- roading
- sewer
- shed - recycling
- stormwater
- water supply
- new kiosk
- storage shed
- electrical cabinet
- water supply
- weighbridge.

The 2009 Asset Valuation rates the confidence of the asset data used as **reliable** (based on NZ Infrastructure Asset Valuation and Depreciation Guidelines – Edition 2, Table 4.3.1: Data confidence grading system). However, anecdotal evidence suggests that the asset information is inaccurate. A strategic study has been programmed to improve asset knowledge.

Attribute data has not been collected for these assets nor are they stored in the Council's asset management system Confirm. A data capture project has been programmed to improve asset knowledge, refer to Appendix E for further details.

Mariri RRC currently has the following resource consents:

- RM090392: Mariri RRC- Discharge Stormwater and Contaminants to Land, Discharge Stormwater to Surface Water (Moutere Estuary) (expires on 31 August 2044).

#### B.2.3.2 Asset Capacity and Performance

There are no reported problems with the capacity of the existing system. The pit has at least one full day's capacity. As the pit is not currently covered there are associated performance issues involving the increased weight of wet refuse and disposal of resulting leachate. The site also suffers from windblown litter.

#### B.2.3.3 Asset Age and Condition

This RRC is in good condition with staff facilities having been recently upgraded. The compaction equipment has been replaced by an open top bin transfer system loaded by an excavator. There are some disadvantages to this system - primarily related to increased litter due to the operation being very exposed to winds. Improvements to combat this are being investigated.

Generally the assets in the Mariri RRC are relatively young in their asset life expectancy. However, some assets at the RRC are showing definite signs of wear and tear and will require considerable maintenance over the next 20 years. Asset condition is not monitored formally. Assets are generally inspected as part of the management of the operations contract. The following asset renewals are planned for the period of this AMP.

- Renew Site Signage - Road and on-site signage.
- Remedial works to Mariri Landfill - Identify and construct remediation works to the front face of the old Mariri landfill.
- Renew computers - Replace computers every three years.
- Renew compactor as part of Site Development, as well as constructing recycling drop-off areas and making improvements to the greenwaste and cleanfill drop-off areas - see breakdown in Table B-3.

#### B.2.3.4 Growth and Demand

Waste production is essentially a function of population growth and increases in lot numbers. Growth from new dwellings in Motueka township, Upper Moutere township, and Tasman township is expected to increase by 17%, 33%, and 25% respectively over the next 20 years (Source: Volume 2 of the Growth Model - 09/08/2011). Refer to Appendix F for more information. There were no projects identified in order to meet future growth.

Contractors conduct annual traffic surveys and plan to start monitoring the use of site facilities to improve understanding of the quantities generated.

#### B.2.3.5 Operations and Maintenance

The Mariri RRC is operated and maintained for Council by Smart Environmental Ltd under Contract 613. Waste is transported to the Eves Valley Landfill by Fulton Hogan, through Contract 781. Details of the operation and maintenance regime are included in Appendix E.

#### B.2.3.6 Strategic Studies

The following key strategic studies have been completed to date for Mariri RRC:

- Mariri Resource Recovery Centre Strategic Development Plan (June 2010, MWH New Zealand Ltd).

#### B.2.3.7 Key Issues

The key issues for Mariri RRC are:

- some assets are in poor condition and need to be replaced
- further site development works are required to meet the levels of service
- remedial works to Mariri Closed Landfill are required.

#### B.2.3.8 Capital Works

The full upgrade and development programme is included in Appendix F. The detailed breakdown of the site development work however is shown in the Table B-3 below.

**Table B-3: Breakdown of Site Development Work at Mariri RRC**

Project Name	Description	Project Estimate	Allocation of Project			Programme
			Growth	LoS	Renewal	
Stage 2 – Development	Improve access to public and commercial recycling drop-off areas, reverse flow direction with ramp construction.	\$325,400		100%		Year 4 100%
Stage 2 – Development	Carry out pit modifications with compactor and bins purchase.	\$612,600		100%		Year 2 100%
Stage 3 – Development	Improvements to greenwaste and cleanfill drop-off areas.	\$260,000		100%		Year 6 100%

#### B.2.4. Collingwood RRC

##### B.2.4.1 Services and Assets

The Collingwood RRC was commissioned in 1999 and is located on Collingwood-Bainham Road, south of Collingwood, in Golden Bay. It generally serves Collingwood, the Aorere Valley, and many of the small nearby coastal settlements. The RRC provides the following services.

- Receipt of refuse, greenwaste, recyclables, hardfill, car bodies, whiteware and scrap metal etc. from the general public.
- Collection of disposal and handling fees on behalf of Council.
- Handling and loading of refuse (excluding greenwaste, car bodies, whiteware and scrap metal), for transportation to the Takaka RRC and thus to Eves Valley Landfill.
- Handling of greenwaste for removal by another contractor.
- Handling, stockpiling, compaction of recyclables, car bodies, whiteware, and scrap metal. These materials become the property of the contractor and are disposed of to markets at their discretion.
- Management and disposal of tyres (currently quartered and disposed of at Eves Valley Landfill).
- Acceptance of items for product stewardship schemes (currently paint).
- Acceptance of waste oil which is collected by a separate contractor as part of a nation-wide scheme.
- Acceptance of car batteries which are recycled for lead content.
- Acceptance of LPG cylinders which are recycled for scrap metal content.

- Operation of a reuse container on site.

At Collingwood RRC the contractor has provided a number of skip bins for direct loading by the public. These are hauled to Takaka by the haulage contractor and emptied into the hopper for compaction prior to being transported to Eves Valley Landfill. Site operating machinery and transport equipment are owned by the contractors.

The contractor has recorded data on the volume of separated greenwaste received at the station and the volume of mixed refuse transported to Eves Valley Landfill on a monthly basis, since 1999. The volume and number of recyclables received at the RRC has been recorded, since July 2005. The number of tyres and car bodies received are also recorded. The information is submitted with the monthly claim to the Council's Professional Services Consultant, MWH New Zealand Ltd, and is entered into a spreadsheet.

Please refer to the Collingwood Resource Recovery Centre Management Plan 2008 for a full description of the site.

The list below summarises the assets at the Collingwood RRC as described in the Asset Valuations 2009:

- fences/Barriers
- formation
- leachate
- retaining walls
- roading
- stormwater
- fencing
- new kiosk
- sewer
- recycling facilities
- recycling shed extension
- telephone service provision (cabling).

The 2009 Asset Valuation rates the confidence of the asset data used as **reliable** (based on NZ Infrastructure Asset Valuation and Depreciation Guidelines – Edition 2, Table 4.3.1: Data confidence grading system). However, anecdotal evidence suggests that the asset information is inaccurate. A strategic study has been programmed to improve asset knowledge.

Attribute data has not been collected for these assets nor are they stored in the Council's asset management system Confirm. A data capture project has been programmed to improve asset knowledge, refer to Appendix E for further details.

Collingwood RRC currently has the following resource consents:

- NN990433: Collingwood RCC - To establish and operate a refuse transfer station (expires 16 December 2034).

#### B.2.4.2 Asset Capacity and Performance

This RRC has been provided with a new kiosk and covered recycling drop off facilities. No significant maintenance expenditure will be required.

The existing skip bins used for haulage have more than adequate capacity and alternatives may be considered with future re-tendering of the haulage contract.

#### B.2.4.3 Asset Age and Condition

Generally the assets in the Collingwood RRC are relatively young in their asset life expectancy. However, some assets at the RRC are showing definite signs of wear and tear and will require considerable maintenance over the next twenty years. Asset condition is not monitored formally. Assets are generally inspected as part of the management of the Operations contract. The following asset renewals are planned for the period of this AMP.

- Site Signage - Road and on-site signage.
- Site Fencing - New internal fencing to improve security.
- Renew computers - Replace computers every three years.
- Site development – enhancements to the refuse drop-off area and storage of bulk recyclables – refer to the Strategic Development Plan.

#### B.2.4.4 Growth and Demand

Waste production is essentially a function of population growth and increases in lot numbers. Growth from new dwellings in Collingwood township is expected to increase by 24% over the next 20 years (Source: Volume 2 of the Growth Model - 09/08/2011). Refer to Appendix F for more information. There were no projects identified in order to meet future growth.

Contractors conduct annual traffic surveys and plan to start monitoring the use of site facilities to improve understanding of the quantities generated.

#### B.2.4.5 Operations and Maintenance

The Collingwood RRC is operated and maintained for Council by Smart Environmental Ltd under Contract 613. Waste is transported to Takaka RRC under the same contract, from where it is compacted and hauled to the Eves Valley Landfill by Fulton Hogan, through Contract 781. Details of the operation and maintenance regime are included in Appendix E.

#### B.2.4.6 Strategic Studies

The following key strategic studies have been completed to date for Collingwood RRC:

- Collingwood Resource Recovery Centre Strategic Development Plan (currently under development).

#### B.2.4.7 Key Issues

The key issues for Collingwood RRC are:

- some assets are in poor condition and need to be replaced
- further site development works are required to meet the levels of service.

#### B.2.4.8 Capital Works

The full upgrade and development programme is included in Appendix F. The detailed breakdown of the site development work is shown in the Table B-4.

**Table B-4: Breakdown of Site Development Work at Collingwood RRC**

Project Name	Description	Project Estimate	Allocation of Project			Programme
			Growth	LoS	Renewal	
Site Development	Enhancements to safety and ease of Refuse Drop-off Area facility use, other site enhancements as identified in the SDP, landscaping.	\$204,600		100%		Year 5 100%

#### B.2.5. Takaka RRC

##### B.2.5.1 Services and Assets

The Takaka RRC was commissioned in 1994 and is located on Scott Road, Takaka, in Golden Bay. The RRC provides the following services.

- Receipt of refuse, greenwaste, recyclables, hardfill, car bodies, whiteware and scrap metal etc. from the general public.
- Collection of disposal and handling fees on behalf of Council.
- Handling and loading of refuse (excluding greenwaste, car bodies, whiteware and scrap metal), for transportation to the Eves Valley Landfill for disposal.

- Handling of greenwaste for removal by another contractor.
- Handling, stockpiling, compaction of recyclables, car bodies, whiteware, and scrap metal. These materials become the property of the contractor and are disposed of to markets at their discretion.
- Management and disposal of tyres (currently quartered and disposed of at Eves Valley Landfill).
- Acceptance of items for product stewardship schemes (currently empty agricultural chemical containers).
- Acceptance of waste oil which is collected by a separate contractor as part of a nation-wide scheme.
- Acceptance of car batteries which are recycled for lead content.
- Acceptance of LPG cylinders which are recycled for scrap metal content.
- Operation of a reuse shop on site.

At the Takaka RRC waste is loaded directly by the public and contractors to a chute leading to a waste compactor and then to compactor bins. Bins are removed by the haulage contractor using truck and trailer units. Site operating machinery, transport equipment, and compactors, where applicable, are owned by the contractors. The Huka lifting units and truck and trailer units at the Takaka RRC are owned by the haulage contractor. The compactor and compactor bins are owned by Council.

The contractor has recorded data on the volume of separated greenwaste received at the station and the volume of mixed refuse transported to Takaka RRC on a monthly basis, since July 2000. The volume and number of recyclables received at the RRC has been recorded, since July 2005. The number of tyres and car bodies received are also recorded. The information is recorded with the monthly claim to the Council's Professional Services Consultant, MWH New Zealand Ltd.

Please refer to the Takaka Resource Recovery Centre Management Plan 2008 for a full description of the site.

The list below summarises the assets at the Takaka RRC as described in the Asset Valuations 2009:

- |                        |   |
|------------------------|---|
| • attendant's kiosk    | • all weather surfacing   |
| • building - compactor | • safety access ladder  |
| • fencing              | • kiosk water supply  |
| • flexrail             | • power supply to car dismantling shed  |
| • formation            | • recycling shed  |
| • refuse chute         | • pavement re-seal (AC)   |
| • retaining walls      | • glass bunkers   |
| • roading              | • portable pump - 50mm trash pump with petrol engine and 50m of heavy duty hose |
| • sewer                | • car dismantling shed  |
| • shed - recycling     | • hopper safety rails   |
| • stormwater           | • reuse shop extension.   |
| • water                |   |

The 2009 Asset Valuation rates the confidence of the asset data used as **reliable** (based on NZ Infrastructure Asset Valuation and Depreciation Guidelines – Edition 2, Table 4.3.1: Data confidence grading system). However, anecdotal evidence suggests that the asset information is inaccurate. A strategic study has been programmed to improve asset knowledge.

Attribute data has not been collected for these assets nor are they stored in the Council's asset management system Confirm. A data capture project has been programmed to improve asset knowledge, refer to Appendix E for further details.

Takaka RRC currently has the following resource consents.

- RM940041/NN940057/NN940058: Takaka RRC - RM940041- Establish refuse transfer station.
- NN949957-Discharge stormwater runoff from sealed and gravelled areas of refuse station and from composting and car body storage areas, via settling ponds to roadside ditch.
- NN940058- Drill bore for taking ground water for washdown of transfer station (expires 31 May 2014).



#### B.2.5.2 Asset Capacity and Performance

The pit has little storage capacity and problems arise if a power cut occurs or the compactor breaks down.

#### B.2.5.3 Asset Age and Condition

This RRC is in good condition apart from some roughness in the ramp to the compactor. The compactor is owned by the haulage contractor and may require replacement on completion of the current contract. The centre is still relatively new and resealing of upper and lower levels has maintained good operational conditions.

Generally the assets in the Takaka RRC are relatively young in their asset life expectancy. However, some assets at the RRC are showing definite signs of wear and tear and will require considerable maintenance over the next 20 years. Asset condition is not monitored formally. Assets are generally inspected as part of the management of the Operations contract. The following asset renewals are planned for the period of this AMP.

- Site Signage - Road and on-site signage.
- Repaint RRC and replace hopper cover.
- Leachate Pump Renewal - Replace leachate pump.
- Takaka Consent Renewal - Consent renewal.
- Replace Compactor and Bins - Replace compactor and bins
- Renew computers - Replace computers every three years.
- Pavement renewals, landscape renewals, and fencing renewals as part of Site Development, see breakdown in Table B-5.

#### B.2.5.4 Growth and Demand

Waste production is essentially a function of population growth and increases in lot numbers. Growth from new dwellings in Takaka township is expected to remain constant over the next 20 years (Source: Volume 2 of the Growth Model - 09/08/2011). Refer to Appendix F for more information.

Contractors conduct annual traffic surveys and plan to start monitoring the use of site facilities to improve understanding of the quantities generated.

Workshops were held with the Council staff in 2011 to discuss capacity given the above demand projection. There were no projects identified in order to meet future growth.

#### B.2.5.5 Operations and Maintenance

The Takaka RRC is operated and maintained for Council by Smart Environmental Ltd under Contract 613. Waste is transported to the Eves Valley Landfill by Fulton Hogan, through Contract 781. Details of the operation and maintenance regime are included in Appendix E.

#### B.2.5.6 Strategic Studies

The following key strategic studies have been completed to date for Takaka RRC:

- Takaka Resource Recovery Centre Strategic Development Plan (currently under development).

#### B.2.5.7 Key Issues

The key issues for Takaka RRC are:

- some assets are in poor condition and need to be replaced
- further site development works are required to meet the levels of service.



### B.2.5.8 Capital Works

The full upgrade and development programme is included in Appendix F. The detailed breakdown of the site development work is shown in the Table B-5 below.

**Table B-5: Breakdown of Site Development Work**

Project Name	Description	Project Estimate	Allocation of Project			Programme
			Growth	LoS	Renewal	
Stage 1 Site Development – Landscaping	Enhance / extend landscaping	\$27,700			100%	Year 11 100%
Stage 1 Site Development	Reseal pavement upper level.	\$129,400		60%	40%	Year 5 100%
	Create recycling drop-off loop, cut stormwater off from Labyrinth area, parking for re-use shop and extend bin change out area.	\$301,200		60%	40%	Year 3 100%
	Shift kiosk and provision of a road weighbridge to allow all vehicles to be weighed.	\$256,300		60%	40%	Year 5 100%
Stage 1 Site Development – Upgrade Fire Fighting Capability	Provide and install 25,000L fire fighting tank.	\$28,700		100%		Year 3 100%
Stage 2 Site Development – Site Fencing	Renew internal fencing to improve security.	\$76,800			100%	Year 8 100%
Stage 2 Site Development – Redevelop Lower Level	Seal areas of frequent traffic use, put hardstand under greenwaste, scrap metal and other areas, reseal lower level, create C&D area, compost bunker, bunding to vehicle dismantling shed.	\$324,800		90%	10%	Year 8 100%

### B.2.6. Murchison RRC

#### B.2.6.1 Services and Assets

The Murchison RRC was constructed on the landfill site on Matakita West Bank Road in Murchison in 2008/09 and services the township of Murchison and the surrounding area. The RRC provides the following services.

- Receipt of refuse, greenwaste, recyclables, hardfill, car bodies, whiteware and scrap metal etc. from the general public.

- Collection of disposal and handling fees on behalf of Council.
- Handling, loading and transport of refuse (excluding greenwaste, car bodies, whiteware and scrap metal), for transportation to the Eves Valley Landfill for disposal.
- Handling of greenwaste for disposal.
- Handling, stockpiling, and compaction of car bodies, whiteware, and scrap metal. These materials become the property of the contractor and are disposed of at markets at their discretion.
- Tyres are stockpiled and reused by local farmers.
- Acceptance of waste oil which is collected by a separate contractor as part of a nation-wide scheme.
- Acceptance of car batteries which are recycled for lead content.
- Acceptance of LPG cylinders which are recycled for scrap metal content.
- Operation of a reuse shop on site.

At the Murchison RRC waste is loaded by site users into a short term holding pit which has a removable cover. From here the contractor loads residual waste from the receiving pit onto available truck and trailer units for transport. There are no transport units solely dedicated to this transport operation. Site operating machinery, transport equipment, and compactors, where applicable, are owned by the contractors.

The Murchison site is operated by Fulton Hogan under a contract that was let in 2005 (Contract 652) and remains current until September 2012.

Please refer to the Murchison Resource Recovery Centre Management Plan 2008 for a full description of the site.

The list below summarises the assets at the Murchison RRC as described in the Asset Valuations 2009:

- |   |                             |                              |
|---|-----------------------------|------------------------------|
| • compound (including roading, fencing, water supply, etc.) | • new cell 2004 (cell full) | • leachate pumpstation       |
| • leachate disposal system                                  | • recycling shed            | • power supply               |
| • operators shed  | • leachate drainage system  | • receiving pit and cover    |
| • new cell 2001 (cell full)                                 | • receiving pit             | • toilet facilities to kiosk |
| • landscaping northern boundary                             | • site earthworks           | • water supply.              |
|   | • capping closed landfill   |                              |

The 2009 Asset Valuation rates the confidence of the asset data used as **reliable** (based on NZ Infrastructure Asset Valuation and Depreciation Guidelines – Edition 2, Table 4.3.1: Data confidence grading system). However, anecdotal evidence suggests that the asset information is inaccurate. A strategic study has been programmed to improve asset knowledge.

Attribute data has not been collected for these assets nor are they stored in the Council's asset management system Confirm. A data capture project has been programmed to improve asset knowledge, refer to Appendix E for further details.

Murchison RRC currently has the following resource consents:

- RM071027, RM071231: Discharge of odour to air, discharge of stormwater to land and water, and composting at the Murchison resource recovery centre (expires 15 April 2028).

#### B.2.6.2 Asset Capacity and Performance

The covered pit has the capacity to hold approximately two weeks waste at current volumes, if necessary.

#### B.2.6.3 Asset Age and Condition

Basic infrastructure at this RRC is in good condition having only been completed in 2008/09. Further development work including buildings, paved areas, and provision of improved facilities for the handling of recyclable materials are planned for the term of the current AMP.

Generally the assets in the Murchison RRC are relatively young in their asset life expectancy. However, some assets at the RRC are showing definite signs of wear and tear and will require considerable maintenance over the next twenty years. Asset condition is not monitored formally. Assets are generally inspected as part of the management of the Operations contract. The following asset renewals are planned for the period of this AMP.

- Site Signage - Road and on-site signage.
- Murchison Consent Renewal - Consent renewal.
- Renew computers - Replace computers every three years.
- Pavement renewals, landscape renewals, and fencing renewals as part of Site Development, see breakdown in Table B-6.

#### B.2.6.4 Compliance with Level of Service

Workshops were held with the Council staff in 2011 to discuss gaps in existing levels of service. Projects to improve levels of service are identified in Table B-6.

#### B.2.6.5 Growth and Demand

Waste production is essentially a function of population growth and increases in lot numbers. Growth from new dwellings in Murchison township is expected to increase by 4% over the next 20 years (Source: Volume 2 of the Growth Model - 09/08/2011). Refer to Appendix F for more information.

Contractors conduct annual traffic surveys and plan to start monitoring the use of site facilities to improve understanding of the quantities generated.

Workshops were held with the Council staff in 2011 to discuss capacity given the above demand projection. There were no projects identified in order to meet future growth.

#### B.2.6.6 Operations and Maintenance

The Murchison RRC is operated and maintained for Council by Fulton Hogan Ltd under Contract 652. The waste haulage operation is managed by Fulton Hogan under Contracts 706. Details of the operation and maintenance regime are included in Appendix E.

#### B.2.6.7 Strategic Studies

The following key strategic studies have been completed to date for Murchison RRC:

- Murchison Resource Recovery Centre Strategic Development Plan (currently under development).

#### B.2.6.8 Key Issues

The key issues for Murchison RRC are:

- some assets are in poor condition and need to be replaced
- further site development works are required to meet the levels of service.

#### B.2.6.9 Capital Works

The full upgrade and development programme is included in Appendix F. The detailed breakdown of the site development work is shown in Table B-6 following.

**Table B-6: Breakdown of Site Development Work at Murchison RRC**

Project Name	Description	Project Estimate	Allocation of Project			Programme
			Growth	LOS	Renewal	
Stage 1	Install winch to pit cover, recycling signs and fencing.	\$52,592		60%	40%	Year 1 100%
Stage 2	Construction of bunkers for glass storage.	\$116,891		60%	40%	Year 7 100%
	Install roof to recyclables drop-off area.					
	Enhance / extend landscaping.					
	Provision of storage shed for small quantities of hazardous waste.					
	Sealed and Gravelled Areas					
Stage 3	Pavement renewals and site fencing.	\$126,237		60%	40%	Year 9 29% Year 20 71%

### B.3 Hazardous Waste

#### B.3.1. Types of Hazardous Waste

Some of the materials and chemicals that are routinely used in our homes, farms, towns and workplaces may themselves be hazardous or they may contain hazardous chemicals.

It is important to be sure what is hazardous and what is not. When these products are no longer needed it is necessary that they are disposed of in an appropriate manner to ensure that the environment is not contaminated and that there is no risk to people's health.

#### Household Hazardous Waste

The RRCs offer hazardous waste facilities for the following hazardous materials:

- batteries
- paint
- LPG cylinder gas bottles
- oil
- fuels
- agri-chemicals containers.

For the safe disposal of other household hazardous wastes Tasman District Council provides a drop off service in conjunction with Nelson City Council. There is a nominal fee to be paid at the Nelson City Council Transfer Station for use of the service. Tasman District Council remains legally responsible for the waste it accepts and it is therefore necessary to get authorisation for disposal prior to using the service to ensure everything is done safely. There are alternative arrangements in place for Golden Bay residents.

#### B.3.1.1 Redundant Farm Agrichemicals

Numerous chemicals and substances have been historically used for agriculture and horticulture in the Tasman district. Some are still in current use. Such wastes need to be disposed of safely to protect human and animal health as well as the environment.

The agrichemical industry assists with the disposal of unwanted agrichemicals and their containers from farming activities. The Ag-recovery Rural Recycling Programme coordinates this disposal service. Refer to their website for more details, <http://www.agrecovery.co.nz/>.

### B.3.1.2 Commercial Hazardous Waste

Commercial premises are responsible for the correct disposal of hazardous wastes that they produce. There are a number of companies that specialise in the disposal of commercial hazardous wastes. Such companies are listed in the Yellow Pages and similar directories.

## **B.4 Operational Landfill**

### B.4.1. Overview

Nelson City and Tasman District Councils are currently discussing potential co-operation in waste disposal. Currently Tasman District Council owns and operates the Eves Valley Landfill and Nelson City Council owns and operates the York Valley Landfill.

Discussions between the two councils may eventually lead to the consolidation of two landfill operations to a single site and/or establishment of a single business entity. In the event that such development occurred, waste from the entire region would be directed to the site. Volumes to landfill would be expected to increase by a factor of 2.25 and, in simple terms, the life of each landfill stage would be expected to decrease by an equivalent factor.

Recent estimates indicated that the current stage of York Valley will close in 2022. Introduction of additional regional waste could reduce the potential life of the Eves Valley site (up to Stage 4) from between 13 and 28 years. In 2009 Tasman District Council purchased some additional land between the southern boundary of landfill site and Eves Valley Road, this may enable the site to be developed outside the existing site boundary in the future subject to resource consents.

### B.4.2. Eves Valley Landfill

#### B.4.2.1 Services and Assets

##### B.4.2.1.1 Site Description

The Eves Valley Landfill opened in 1989 and was originally designed to receive refuse from the Richmond Township and surrounding Waimea rural area.

During the first five years of operation, Tasman District Council closed many small community landfills that had not been subject to engineering design or through the process of applying for resource consent. As a result of these closures, by June 1995 all Tasman district refuse, with the exception of that from the Murchison area, was being transported to Eves Valley Landfill. From May 2009 refuse from Murchison has also been transported directly to Eves Valley.

Eves Valley Landfill is located on a 42 hectares freehold title (Lot 1 DP 13422) approximately 5 km north west of Brightwater. Landfill operations commenced on site in 1989 (Stage 1) and 2001 (Stage 2). Access to the landfill is gained via a sealed road from an intersection with Eves Valley Road, 2km west of Waimea West Road. The formed road generally follows an un-named legal road and a narrow "leg-in" strip of the property.

Stage 1 of the landfill was filled in July 2002 having received an estimated 184,500 tonnes (217,000m<sup>3</sup>) of refuse. This volume has been estimated using a compaction figure of 850kg refuse per cubic metre. The final capping was completed in March 2005. Stage 1 of the landfill is unlined with leachate collection systems installed on reworked in-situ clay material with low permeability.

Stage 2 construction was completed in August 2000 and filling commenced in July 2002 with a design capacity of 435,000m<sup>3</sup>. At 30 June 2009, 171,200 tonnes of refuse had been placed in Stage 2 occupying approximately 188,000m<sup>3</sup> of available space.

During the construction of Stage 2 there were some uncertainties about underlying base material permeability and a decision was made to install an HDPE liner in the base of the landfill. As there were no concerns regarding the permeability of material above the base footprint, the lining was terminated at the existing ground level at the front of the site and re-worked in-situ material used for lining above this level.

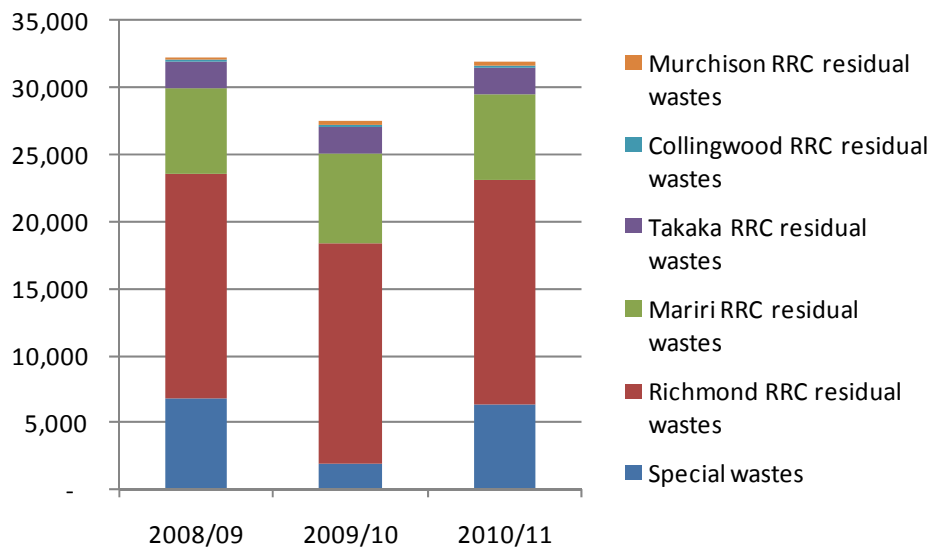
The Landfill operates as a Class B landfill as described in the Guidelines for the Management of Hazardous Waste: Module 2 (2002, MfE).

The Landfill generally accepts waste from the five RRC sites only. There is no direct access for the public or commercial contractors except for special waste or in special circumstances (eg. waste that needs special treatment, or is difficult to handle by RRC equipment).

Eves Valley Landfill generally serves all of Tasman district and provides the following services:

- disposal of all residual waste from within Tasman district
- treatment and disposal of special wastes
- short-term storage of hazardous waste.

Data on the quantity of refuse transported from the district’s RRCs to Eves Valley Landfill has been recorded since July 1992. Historical records show the following trend (Figure B-3) in waste received over the past three years.



Source: Annual Statistics Spreadsheet 2011

**Figure B-3: Tonnage of Waste Received at Eves Valley Landfill**

Nationally there is a trend towards the establishment of regional disposal sites as well as a trend towards greater private sector involvement in landfill ownership and operation.

While the Tasman district has Eves Valley Landfill as a disposal site, and Nelson City the York Valley Landfill, it is unlikely that the private sector will seek to establish an alternative landfill in competition with these two facilities. However, with the two landfills being in reasonably close proximity to the main centres of waste generation in the district any significant differences in landfill charges between York Valley and Eves Valley Landfills has proved to result in waste being transferred across district boundaries.

Please refer to the Eves Valley Management Plan 2010 for a full description of the site in the Design and Construction Manual.

The Council owns the following asset components at Eves Valley Landfill:

- land, resource consents, and designation
- 20m<sup>3</sup> water tank and supply lines (connected to the Redwood Valley Rural Water Supply)
- hazardous waste store
- leachate collection system, including stone drains, pumped rising main and pipework
- stormwater collection and settling pond, including cut-off drains
- gas venting system, including stone chimney vents
- pavements including sealed and unsealed roadways
- signs, fencing, and landscaping.

Privately owned assets are not covered in this AMP.



Attribute data has not been collected for these assets nor are they stored in the Council's asset management system Confirm. A data capture project has been programmed to improve asset knowledge, refer to Appendix E for further details.

Council does not own vehicles or other mechanical plant.

The confidence of this data is **reliable** (based on NZ Infrastructure Asset Valuation and Depreciation Guidelines – Edition 2, Table 4.3.1: Data confidence grading system). This statement was taken from the 2009 Asset Revaluations. However, anecdotal evidence suggests that attribute information has very poor accuracy. A strategic study has been programmed to improve asset knowledge.

Eves Valley Landfill currently has the following resource consents and designation.

- NN970122 (Discharge contaminants from refuse onto and into land. Max quantity authorised: 20,000 cubic metres of refuse annually).
- NN970272 (Discharge contaminants to air including dust, odour, land fill gas, and if required, flared land fill gas).
- NN970271 (Discharge stormwater containing contaminants to an unnamed tributary of Eves Valley Stream).
- Land use activities on site are controlled through a designation (D163 Sanitary landfill refuse disposal) which allows a range of activities including landfilling, resource recovery and composting of materials. This designation covers the entirety of Lot 1 DP 13422.

These consents were granted in March 1997 and all expire on 1 October 2015.

A variation to consent NN970271 (discharge to water) was obtained in 2006 to meet additional monitoring requirements for Stage 2 operations but retains the same expiry date.

#### B.4.2.1.2 Landfill Gas

Landfill gas production and composition is a function of the age size and depth of the landfill, moisture conditions within the landfill, the compaction of refuse and many other factors.

For a risk to human safety or health to occur, a complete exposure pathway must exist between the source of the gas and the receptor. The following elements are required:

- a source
- an exposure pathway
- a point of exposure (where the potential sensitive receptor comes in contact with the gas).

If any of these three elements are missing the exposure pathway is incomplete and there is no resultant risk.

Landfill gas is currently discharged to air via stone chimney vents installed in the refuse during the landfilling process. This complies with current legislative requirements, which are based on landfill capacity and only require gas collection and flaring or other treatment when the total capacity landfilled exceeds 1,000,000m<sup>3</sup>. Monitoring is carried out annually at any structures that are built on the fill or immediately adjacent to the site.

The introduction of the NZ Emissions Trading Scheme (NZ ETS) regulations have prompted a review of the way in which landfill gas may be captured and used at the landfill. This is because from 2013 all landfills will pay a levy on account of greenhouse gas emissions (predominantly methane). Landfills that have efficient landfill gas capture and destruction systems will be charged less than those who have inefficient systems, or none at all.

#### B.4.2.1.3 Leachate Management

Leachate is the name given to the liquid generated in landfills. Leachate is derived from rainfall (and groundwater at some sites) which soaks through a site and from liquids released during decay of organic matter in the refuse. The organic content makes the leachate mildly acidic and allows it to leach metals from the refuse.

If leachate enters a surrounding water body this results in the deterioration of the water quality. The extent of the impact is a function of the amount of dilution and attenuation which occurs between the landfill and the water usage point.



The most obvious impact is aesthetic where dark, often odorous liquids seep from the landfill margins leaving deposits of orange, predominantly iron, oxides. This discolouration is most pronounced near the discharge point where anoxic leachate meets an oxygenated environment resulting in formation and precipitation of insoluble oxides.

Organic contaminants such as partial degradation products or organic matter can deteriorate water clarity. More importantly these intermediate decay products create a demand for oxygen needed to complete the decay process. This can result in reduced levels of dissolved oxygen in the impacted water body which can, in turn, impair its life supporting capacity. Ammonia, a decay product derived from the nitrogen content of organic matter, is toxic to aquatic life and is often present at high concentrations in raw leachate.

Inorganic constituents include toxic metals such as lead, boron and chromium. At low concentrations, these metals can be harmful to the health of long term consumers of the contaminated water and reduce the life-supporting capacity of affected surface waters.

Leachate is currently collected from the base of Stages 1 and 2 of the landfill and from collectors placed at the interface of succeeding layers of refuse. Leachate is collected in a storage pond on site and pumped to Brightwater where it joins the sewerage reticulation network and is ultimately disposed of at the NRSBU treatment plant at Bell Island.

Surface water, ground water and leachate quality are all tested throughout the year to ensure compliance with any resource consent conditions and/or trade waste by-laws.

#### B.4.2.2 Asset Capacity and Performance

In order to assess the long term options at the Eves Valley Landfill site Council has estimated potential landfill volumes available for each development stage. It should be noted that the capacities presented below are based on desk studies only, are necessarily first estimates and have not been optimised for a specific landfill design. The stages are also shown in Source: Eves Valley Landfill Annual Report 2011

Figure B-4.

#### B.4.2.3 Closed Stage 1

Stage 1 of the landfill was filled in July 2002 having received an estimated 184,500 tonnes of refuse. The final capping was completed in March 2005. Stage 1 of the landfill is unlined with leachate collection systems installed on reworked in-situ clay material with low permeability.

#### B.4.2.4 Current Stage 2

Stage 2 construction was completed in August 2000 and filling commenced in July 2002 with a design capacity of 435,000m<sup>3</sup>. The annual landfill survey was completed on 5 July 2011 in order to calculate the amount of airspace used since June 2010 and therefore the volume of landfill space remaining. Based on this a total remaining airspace of 214,921m<sup>3</sup> was calculated, less the final clay capping which has been calculated to be 26,000m<sup>3</sup> giving a net amount of 188,921m<sup>3</sup> of remaining landfill air space. At the present consumption rate of airspace it is estimated that Stage 2 will last a further 5.25 years, ie. until September 2016.

Preliminary estimates indicate that up to another 260,000 m<sup>3</sup> (approximately four years based on an average waste growth of 1.0%) may be yielded from Stage 2 by extending the top level of the landfill towards the upper ridgeline of the valley. There may well be consenting difficulties achieving a top level this high, which may be constrained by sight-lines beyond the landfill site.

#### B.4.2.5 Future stages

Future stages may include filling the third and largest of the three gullies on the site. This gully is estimated to have a capacity of approximately 740,000 m<sup>3</sup> if filled to the current final level of Stage 2, which is considered conservative. Based on significant waste minimisation in the short term, and assuming an average 0.96% annual growth, it is estimated that this stage would have a life of around 17-23 years. This stage could also be constructed to a higher level, and a capacity of up to 1,600,000 m<sup>3</sup> may be possible – but could also be potentially more difficult to obtain consent for.

Future stages of the landfill may also involve filling of the main valley into which the three side gullies feed. Estimates of the capacity of this stage vary between 800,000 and 1,930,000 m<sup>3</sup> depending on the total area utilised. Services such as the leachate ponds and stormwater ponds would need to be relocated prior to this part of the site being developed.

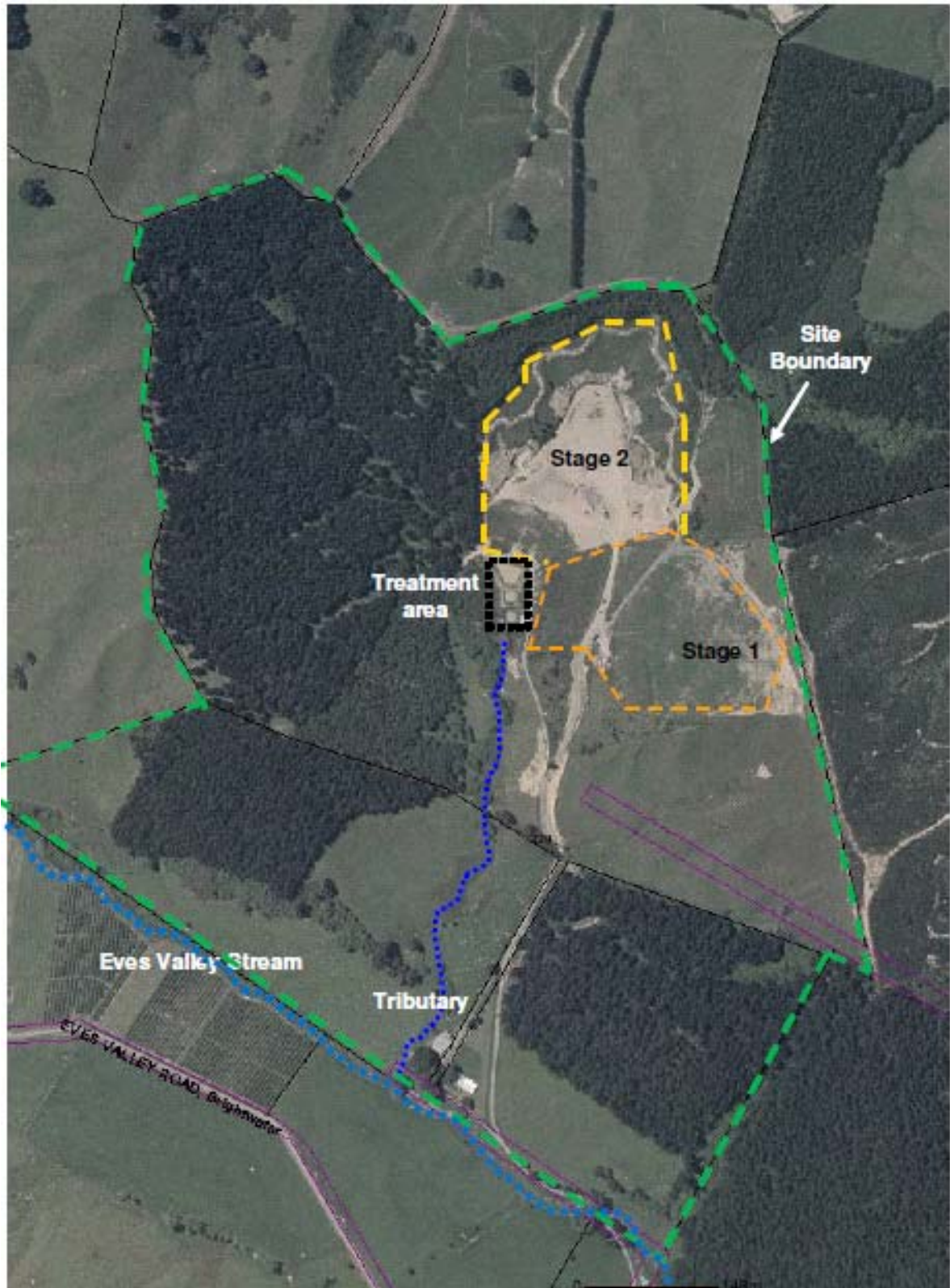
B.4.2.5.1 Performance

Table B-7 summaries the programme of sampling carried out each year and the parameters that are tested in accordance with the resource consent conditions and the Trade Waste Bylaw. The amount of parameters tested each time varies depending on the time of year the samples are taken. There are three month, six month, and annual frequencies on depending on the parameter and on the site. The results are reported in the Annual report which is prepared in July of each year. Refer to the Eves Valley Landfill Management Plan for further details.

**Table B-7: Monitoring Programme**

Water Source	Sampling Sites	Parameter Tested for:
Stream monitoring	SW 2, 3, 4, 5, new point, DS, US	Temperature, pH, conductivity, Suite of metals, COD, TSS BOD, hydrocarbons, and organics.
Stream sediment monitoring	SW 3, 4	Suite of metals.
Ground water monitoring	BH 1a, 1b, 2, 4a, 4b, 5 BH9a, 9b,10	Water level, Temperature, pH, conductivity, metals, hydrocarbons, VOC, SVOC, phenols, COD, BOD.
Leachate monitoring	Leachate pond	Temperature, pH, conductivity, metals, TSS, COD, BOD. hydrocarbons, VOC, SVOC, phenols.
Landfill Gas	Gas vents and manholes	Methane, oxygen, carbon dioxide.

The Eves Valley Landfill Annual Report 2011 showed that consent conditions for stream quality, hazardous and special waste, and stream water quality, litter control, air quality, and dust and litter did not meet requirements. Refer to the report for further information.



Source: Eves Valley Landfill Annual Report 2011

**Figure B-4: Future Stages of development at Eves Valley Landfill**

#### B.4.2.6 Asset Age and Condition

The life of this asset, however, is dependent on obtaining resource consents which will allow the site to continue to operate beyond 1 October 2015 and further stages to be developed. The life of each stage is also dependant on the tonnage of material disposed of at the site each year.

Generally the assets are relatively young in their asset life expectancy. However, some assets are showing definite signs of wear and tear and will require considerable maintenance over the next twenty years. The following asset renewals are planned for the period of this AMP or for the next 20 years.

- Pavement Renewals - Access road sealing every ten years.
- Consent Renewal and closure plan - Investigations and Consent for Stage 3 (3x discharge consents (NN 970271, NN 970122, NN970272) expire 1 October 2015).
- Renewal of side slope (Stage 2 Earthworks) to restore to original service level.

The condition of assets is monitored during regular site inspections undertaken as part of the Maintenance Contract management.

#### B.4.2.7 Compliance with Level of Service

Workshops were held with the Council staff in 2011 to discuss gaps in existing levels of service. The following projects were identified.

- Stage 3 Development - Construction of Stage 3 (since Stage 2 will reach capacity by 2016) required to meet the levels of service.
- Capping of Stage 2 - Use onsite clay to cap Stage 2 as required by resource consent (first two years must be prior to 2019) required to meet the levels of service.
- Retrofit Landfill Gas Collection System - Install landfill gas collection system into Stage 2 (required by NZ ETS regulations by 2013) required to meet the levels of service.

#### B.4.2.8 Growth and Demand

As with the RRCs, waste production is essentially a function of population growth and increases in lot numbers. Growth from new dwellings in the Tasman district is expected to increase by 28% over the next 20 years (Source: Volume 2 of the Growth Model - 09/08/2011). Refer to Appendix F for more information.

Waste volumes are tracked by what is received from RRCs and special waste to help with future trending analysis.

Workshops were held with the Council staff in 2011 to discuss capacity given the above demand projection. There were no projects identified in order to meet future growth.

#### B.4.2.9 Operations and Maintenance

The Eves Valley Landfill is also operated by Fulton Hogan Ltd as part of contract 781. This contract was let in 2010 with a term of two years.

Stage 1 of the landfill reached capacity in 2002 with Stage 2 now operating. Stage 2 of the Landfill has a total capacity of 430,000 m<sup>3</sup> (or approximately 405,000 tonnes). The remaining life of this stage is sensitive to even minor changes in annual tonnages. At current rates of disposal the remaining life of the landfill stage is estimated at five years.

District waste is currently transported to site and placed in Stage 2 of the landfill by Fulton Hogan, under contracts 781 and 706 with Council. Contract 781 covers the transport of refuse from the RRCs to Eves Valley and the operation of the landfill, and 706 the transport of waste from Murchison.

#### B.4.2.10 Strategic Studies

The following key strategic studies have been completed to date for the Eves Valley Landfill:

- Eves Valley Landfill Management Plan (February 2010, MWH New Zealand Ltd)
- Eves Valley Landfill Work Plan – Issue 1 (May 2011, MWH New Zealand Ltd)
- see Work Plan (second bullet point above) for list of other key documents.

#### B.4.2.11 Key Issues

The key issues for Eves Valley Landfill are.

- Some assets are in poor condition and need to be replaced.
- Consent Renewal and closure plan.
- Capping of Stage 2.
- Retrofit Landfill Gas Collection System to Stage 2 to meet the levels of service.
- Construction of Stage 3 (since Stage 2 will reach capacity by 2016).

#### B.4.2.12 Capital Works

The full upgrade and development programme is included in Appendix F.

### **B.5 Closed Landfills**

#### B.5.1. Services and Assets

Within the Tasman District Council area there are 19 known locations which have historically been used to dispose various materials including domestic waste, rubble, farm waste, scrap metal etc.

Some of these locations have been natural low points in the topography and have been filled by previous landowners or used as community tips, others have been historic fly tipping locations and at some sites the material has been deposited above the natural ground level. Since the disposal of material at these sites has ceased, each of the sites have been covered and restored to varying degrees. Many of the sites are now overgrown with vegetation.

These 19 sites are classified as “closed landfills” and have been named as follows for identification purposes:

- Appleby
- Cobb Valley (Ernies Flat)
- Collingwood
- Kaiteriteri
- Lodders Lane
- Mariri RRC
- Mariri old
- Murchison RRC
- Murchison
- Ngatimoti
- Old Wharf Road
- Pah Point
- Richmond RRC
- Rototai St Arnaud
- Tapawera
- Waiwhero.

There are three privately owned closed landfills:

- Hoult Valley
- Upper Moutere
- Upper Takaka.



In a continued effort to effectively manage the successful closure of these closed landfills, MWH New Zealand Ltd in conjunction with Council has conducted biennial inspections of each of the sites over the past 10 years. These inspections were based upon visual observations of each of the sites and surrounding areas, as well as sampling of any potential contamination identified at the time of assessment. Some remedial works have been carried out following these inspections.

The confidence of this data is **reliable** (based on NZ Infrastructure Asset Valuation and Depreciation Guidelines – Edition 2, Table 4.3.1: Data confidence grading system). This statement was taken from the 2009 Asset Revaluations. However, anecdotal evidence suggests that attribute information has very poor accuracy. A strategic study has been programmed to improve asset knowledge.

Closed Landfills currently have the following resource consents.

- RM090694: Discharge of contaminants (including stormwater) to air, land and water for a variety of sites (global consent) from closed landfills (expires 21 December 2044).
- RM090695: Land use consent for on-going siting of closed landfills in Recreation Zone (expires 21 December 2044).
- RM090203: To disturb and occupy the coastal marine area in association with the removal of refuse from the western end of the Motupipi Estuary and the construction of a bund to prevent on-going erosion of the existing landfill (expires 28 July 2019). (Rototai Closed Landfill).
- RM090379: To undertake land disturbance activities within 200 metres of Mean High Water Springs in excess of the levels permitted in the TRMP and in a location visible from the coastal marine area and adjoining an area with nationally important ecosystem values (expires 28 July 2019). (Rototai Closed Landfill).
- T2/9/93-0060: Former Tapawera RRC, Remediated and cleared February 2008, then sold. To develop and operate a refuse transfer station facility, including recycling, composting, container storage of refuse, operators kiosk, whiteware and car body storage area (expires 1 September 2028) (superseded).
- NN970153: Cobb Valley - To discharge leachate from an old refuse tip (expires 1 March 2017) (Ernies Flat) (superseded).
- NN880380: Upper Moutere Landfill- Discharge stormwater – 200 L per sec (expires 4 November 2008) (private).
- NN860190: Appleby (superseded).

Site characteristics of each closed landfill are summarised in Table B-8 below.

**Table B-8: Current Site Characteristics of Each of the Closed Landfills in the District**

Site	Landfill Characteristics						Vegetation				Nearby Environment			Management <sup>4</sup>		Ownership		
	Years closed <sup>1</sup>	Size <sup>2</sup>	Capped	Lined	Waste burned	Contains hazardous waste	No vegetation	Grassed	Overgrown	Re-vegetated	Downstream drinking water bore <sup>3</sup>	Coastal environment	River	Actively managed	Passively managed	Tasman District Council	Crown land	Private Land
Appleby	15-40	•	✓		✓			✓			✗		✓	✓		✓		
Cobb Valley (Ernie's Flat)	15-40	•				?			✓		✗		✓		✓		✓	
Collingwood (RRC)	5-15	•	✓			?	✓				✗			✓		✓		
Hoult Valley	15-40	•	✓		✓	✓		✓			✗				✓			✓
Kaiteriteri	15-40	•	✓			?	✓	✓			✗			✓			✓	
Lodders Lane	15-40	•	✓		✓	?		✓	✓		✗	✓		✓		✓		
Mariri (old)	15-40	●	✓		✓	✓			✓		✗	✓			✓			
Mariri (RRC)	15-40	•	✓		✓	✓	✓				?	✓		✓		✓		
Murchison (old)	15-40	•	✓		✓	?		✓			✗		✓	✓		✓		
Murchison (RRC)	<5	•	✓	✓			✓		✓		✗		✓	✓		✓		
Ngatimoti	15-40	•	p		?	✓			✓		✗		✓		✓	✓		
Old Wharf Rd	15-40	●	✓		✓	?	✓	✓			✗	✓		✓		✓		
Pah Point	15-40	•	✓		✓	?			✓		✗		✓	✓				
Richmond (RRC)	15-40	•	✓		✓	✓	✓				✗	✓		✓		✓		
Rototai	5-15	●	p	p	✓	?		✓			✗	✓		✓		✓		
St Arnaud	5-15	•	✓		✓	?		✓			✗				✓	✓		
Tapawera	15-40	•	✓		✓	✓	✓				✗		✓		✓	✓		
Tasman/Highway	15-40	•	✓			✓			✓		✗	✓			✓	✓		
Tasman/Kina	15-40	•	✓		✓	?			✓		✗	✓			✓	✓		
Upper Moutere	15-40	•	✓	✓	✓	?		✓			✗				✓			✓
Upper Takaka	15-40	•			?	✓			✓		✗		✓	✓				✓
Waiwhero	15-40	•	✓	p	✓	?					✗			✓		✓		

<sup>1</sup> Years since closure: MfE guideline ranges regarding need for monitoring

<sup>2</sup> Size: • <15,000m<sup>3</sup> ● 15,000-100,000m<sup>3</sup>

<sup>3</sup> Downstream drinking water bores identified using Explore Tasman (GIS system used by Tasman District Council)

<sup>4</sup> Managed by Tasman District Council ✓ = yes ✗ = no p = partially capped/lined ? = unknown



#### B.5.2. Asset Capacity and Performance

As these landfills are no longer in use so their capacity has not been assessed.

The monitoring programme is outlined below.

#### B.5.3. Asset Age and Condition

Most of the closed landfills operated in the 1950's to the 1970's and burning of waste was common place. Low to negligible levels of gas generation is expected for landfills pre 1960, due to a lower proportion of domestic refuse (as recycling and composting was more common) and extensive degradation of the domestic refuse that was deposited. Gas generation is expected to increase to moderate levels for landfills operating in the 1970's with less burning and increased domestic waste. Organochlorines appeared in the 1960's and surplus redundant or unwanted pesticides may have been dumped in the landfills. Increased disposal of wastes containing heavy metals (eg. electronic goods) may have resulted in greater potential for leaching of trace metals.

A review of Council files was undertaken to establish the age, types and sources of waste disposed of at each closed landfill site. This review was not exhaustive as it was not easy to locate specific files and often information on a certain landfill was spread across several files. The Environment and Planning Department has established a closed landfill file which contains information from reviews of historic files, a site visit and interviews completed in 1996. However this too is not exhaustive.

Generally the assets are relatively young in their asset life expectancy. However, some assets are showing definite signs of wear and tear and will require considerable maintenance over the next 20 years. The following asset renewals planned for the period of this AMP.

- Closed Landfill Consent Renewals - Closed Landfill Global Consent (Cobb Valley expires 1 March 2017; Rototai Closed Landfill land disturbance consent expires 28 July 2019 but consent to occupy CMA does not expire until 2044).
- Cap Renewals - Cap renewal work at Appleby, Lodder Lane, Mariri RRC, Richmond RRC, and Waiwhero as identified in the Closed Landfills Visual Inspection Report dated 4 April 2011.

#### B.5.4. Compliance with Level of Service

Tasman District Council has identified that it needs to improve the management of its closed landfills with a view to obtaining the necessary consents under the Resource Management Act 1991. Resource consent applications for the closed landfills are currently being prepared.

It is expected that obtaining the necessary consents for the closed landfills will help the Council to achieve improved management through appropriate record keeping and aftercare management and monitoring.

Workshops were held with the Council staff in 2011 to discuss gaps in existing levels of service. The following projects were identified:

- Mariri Old Rock Protection and Resource Consent - Rock protection works are required (as identified in the Closed Landfills Visual Inspection Report dated 4 April 2011) to meet the levels of service.

#### B.5.5. Growth and Demand

Not applicable.

#### B.5.6. Operations and Maintenance

Post-closure care includes the on-going maintenance and monitoring of the landfills. Maintenance ensures that the various landfill components function appropriately, and that monitoring keeps any potential impacts to the land and water under check. A minimum 30-year post-closure care period is recommended for a municipal solid waste landfill.

MfE Guide for the Management of Closing and Closed Landfills recommends the following monitoring programmes (Table B-9) be established at each closed landfill site. The level of monitoring required is subject to the size and age of the site.

The recommended monitoring assumes that there has been at least one screening investigation to establish whether there is a possible problem, and if so, that there has been monitoring to establish a baseline. Landfills in sensitive locations or with waste composition likely to have less than 85% municipal solid waste should be monitored at the level recommended for the next larger size of landfill.

**Table B-9: Monitoring Programme for Closing and Closed Landfills**

Recommended water monitoring for closed landfills  
 Recommended landfill gas monitoring for closed landfills

Years since closure	Size of landfill		
	<15,000 m <sup>3</sup>	15,000-100,000 m <sup>3</sup>	>100,000 m <sup>3</sup>
0-5	<b>Comprehensive</b> Leachate - once only Groundwater - once only Surface water- once only <b>Indicator</b> Groundwater - yearly Surface water - yearly	<b>Comprehensive</b> Leachate - yearly Groundwater - yearly Surface water - yearly <b>Indicator</b> Groundwater - bi-annually Surface water - bi-annually	<b>Comprehensive</b> Leachate - yearly Groundwater - bi-annually Surface water - bi-annually <b>Indicator</b> Groundwater - quarterly Surface water - quarterly
	<b>Annual</b> -visual inspection -building monitoring	<b>Six-monthly</b> -visual inspection -building monitoring -subsurface monitoring	<b>Three-monthly</b> -visual inspection -surface monitoring -building monitoring -subsurface monitoring
5-15	NR	<b>Indicator</b> Groundwater- bi-annually Surface water- bi-annually	<b>Comprehensive</b> Groundwater- yearly Surface water- yearly <b>Indicator</b> Groundwater - bi-annually Surface water - bi-annually
		<b>Annual</b> -visual inspection -building monitoring	<b>Six-monthly</b> -visual inspection -building monitoring -subsurface monitoring
15-40	NR	NR	<b>Indicator</b> Groundwater- yearly Surface water- yearly
			<b>Six-monthly</b> -visual inspection -building monitoring
>40	NR	NR	NR

As most of the closed landfill sites within the Tasman district have been closed for greater than 15 years and are less than 15,000m<sup>3</sup>, no on-going monitoring will be required at these sites, unless adverse effects are noted during site inspections.

Suitable land use options for these closed landfills, depending on location and surrounding land use, include:

- pasture for grazing
- picnic areas or parks
- re-vegetation with native plants.

It is noted in the MfE Guide for the Management of Closing and Closed Landfills in New Zealand that there has been a trend away from closed landfills becoming sports fields or parks with more restoration by planting of native vegetation.

Cattle can rapidly destroy cover on slopes and even sheep may compromise the slope cover integrity. This is typically a problem where the slopes are over steep. Capped landfill areas should not be cropped.

Native planting is especially suitable along estuaries or rivers. Simply seeding with cut manuka brush (in seed) is effective. The manuka creates a microclimate and the seed pods dry out and the manuka take hold.

As a colonising species it doesn't need good soil, a shallow ripping of the surface to loosen the top few inches of soil should suffice. If specimen trees are planted then topsoil and contouring and ripping of the cap will be required.

As a matter of best practice the surface of closed landfills should as a minimum be reshaped so that water sheds from the surface

The only significant maintenance items identified for the Closed Landfill asset is consent monitoring. However, an annual allowance has been made in the financial forecast for any site remediation that may be required and for biennial inspections. The nature of the landfills is such that it is not possible to predict what and when remediation works may be needed.

The projected Operations and Maintenance Expenditure is shown in Appendix E.

#### B.5.7. Strategic Studies

The following key strategic studies have been completed to date for Closed Landfills:

- nil.

#### B.5.8. Key Issues

The key issues for Closed Landfills are:

- closed landfill consent renewals
- cap renewals
- Mariri Old Rock Protection and resource consent to meet the levels of service.

#### B.5.9. Capital Works

The full upgrade and development programme is included in Appendix F.

### **B.6 Education and Promotion**

#### B.6.1. Existing Education and Promotion Initiatives

Lack of information is a barrier to effective waste management. To achieve successful solid waste management, both the public and industrial sectors must be well informed about environmentally appropriate solid waste management and the different options available for waste disposal.

To be effective, Education and Promotion projects require a high level of consistency with an unambiguous message. Key issues are the availability of educational material and the regularity and consistency of Promotion initiatives. Council education and promotion initiatives have included the following activities:

- media coverage for Waste Minimisation Initiatives
- waste education advertising and resources.

The purpose of the various Education and Promotion projects is to change attitudes towards waste management practices and to inform businesses and individuals of options available to them. Studies have shown that the provision of Educational and Promotional material is not sufficient by itself to cause significant public buy-in to changing entrenched waste management practices.

To expand on current waste education initiatives Council has a contract with the Nelson Environment Centre to provide Waste Education Services throughout the district. This work is currently being delivered through Contract No. 651 and is due to expire 31 December 2011. The contract specifically requires the contractor to:

- attend four Agricultural and Pastoral Shows per year
- attend Ecofest
- visit a minimum of 20 educational facilities per year
- visit a minimum of 50 businesses with significant waste streams per year
- promote waste exchange

- administer Zero Waste Grant applications
- liaise with Council's Public Relations Contractor on waste issues.

The provision of additional resources to deliver Education and Promotion projects is an attempt to increase the current level of Education and Promotion. A significant increase in education and promotion (particularly in the business sector) is proposed in the short term.

#### B.6.2. Growth and Demand

Growth from new dwellings in the Tasman district is expected to increase by 28% over the next 20 years (Source: Volume 2 of the Growth Model - 09/08/2011). Refer to Appendix F for more information.

#### B.6.3. Operations and Maintenance

The operational costs have been estimated for the Education and Promotion activity and included in Appendix E.

#### B.6.4. Strategic Studies

There have been no key strategic studies completed to date for Education and Promotion.

#### B.6.5. Key Issues

There are no key issues for Education and Promotion.

#### B.6.6. Capital Works

There are no Capital Works planned for Education and Promotion.

### **B.7 Waste Minimisation**

#### B.7.1. Existing Waste Minimisation Initiatives

Waste minimisation covers all those initiatives that either seek to reduce the amount of waste being produced or divert waste from being disposed of in a landfill where it will effectively be lost as a resource.

The most significant drivers for waste minimisation in the Tasman district are the New Zealand Waste Strategy, the Joint Waste Assessment, the Waste Management and Minimisation Plan (WMMP), and the future requirements for waste minimisation set out within the Waste Minimisation Act 2008.

In November 2004 the kerbside recyclables collection scheme was extended to cover the entire domestic refuse collection area of Tasman district. Both the refuse and the recycling services will also extend into some previously unserved areas of rural/residential development. Improved receiving facilities for recyclable materials have also been provided at all RRC sites.

Re-use shops are operating with Council support at Richmond and Takaka. Informal reuse activities also occur at the Collingwood and Murchison RRCs. Reuse activities are often undertaken by community groups or trusts. There is a risk that when formal contracts are entered into between councils and such groups that the commercial realities of the contracts are not fully appreciated by the community groups. The recyclable materials market is also subject to large fluctuations and waste minimisation initiatives are at considerable risk to floundering should a downturn in the market be experienced. These factors have not been specifically considered when developing this AMP.

Council's Waste Minimisation initiatives include the following activities:

- waste minimisation publicity
- Zero Waste grants
- compost bin incentive scheme
- event recycling
- organic material investigations

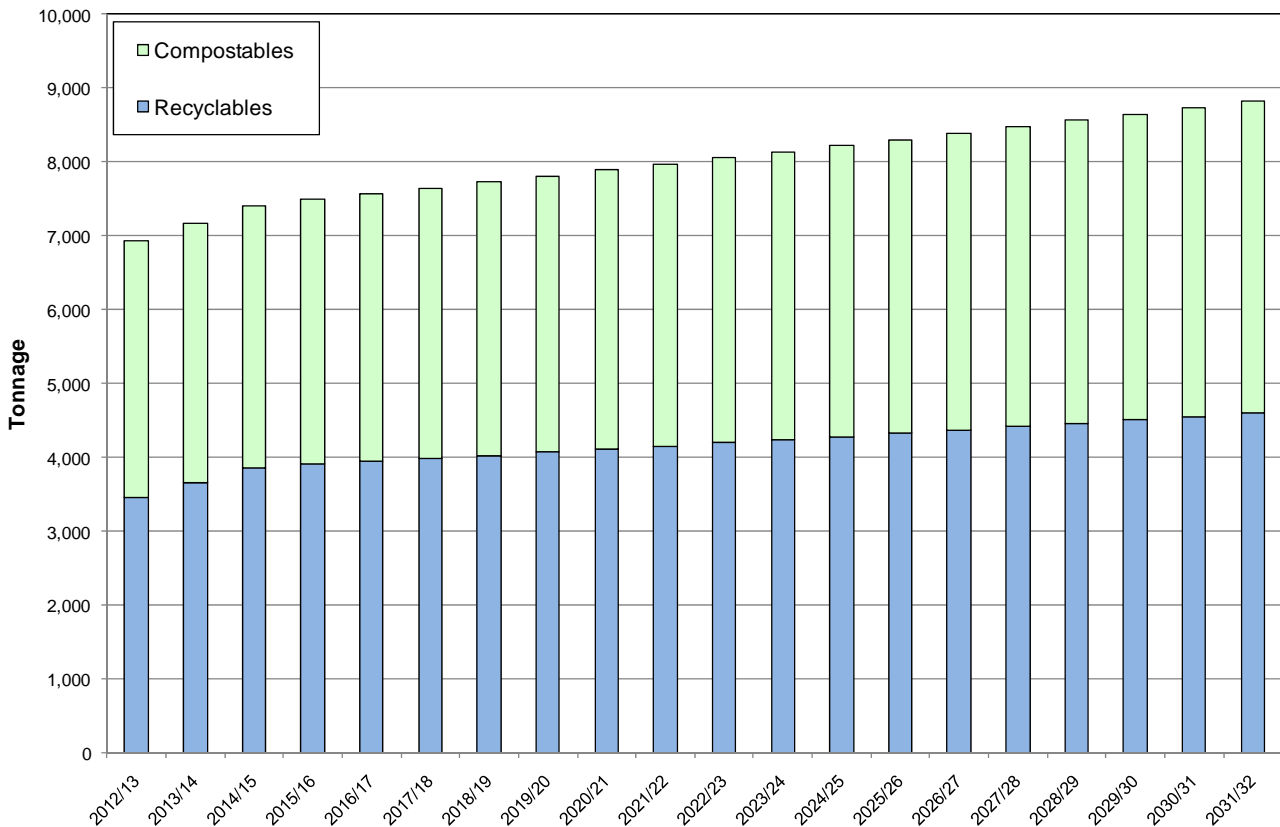
- composting initiatives
- cleanfill bylaw
- in-house programme
- Paintwise expenses
- Agrecovery expenses
- product stewardship.

Separation of greenwaste is encouraged by lower disposal fees. In the Richmond area separated greenwaste is diverted direct to a private facility in Cargill Place operated by Greenwaste to Zero Limited (GWZ).

Greenwaste to Zero Limited accepts greenwaste from the Richmond area by agreement with Council (Contract No. 622) and disposal fees are set by negotiation with an emphasis on maintaining a significant fee differential between greenwaste and mixed refuse disposal. The agreement with GWZ also includes a contract to remove separated greenwaste from Mariri, Takaka and Collingwood RRC's where the operators are required to collect fees on their behalf and stockpile the greenwaste for removal.

### B.7.2. Growth and Demand

Over the next 20 years Council plans to maintain existing kerbside recycling services, and to encourage diversion of residual waste from landfill through Waste Minimisation initiatives. The following Figure (B-5), provides an indication of the possible tonnages of material that may be diverted away from landfill assuming these initiatives continue to be successfully implemented.



**Figure B-5: Waste Minimisation Initiatives Contribution to Waste Reduction**

The table shows that considerable effort (and also expenditure) will be required to reduce waste quantities significantly, and then to continue reducing them as the population increases and economic development continues.

Growth from new dwellings in the Tasman district is expected to increase by 28% over the next 20 years (Source: Volume 2 of the Growth Model - 09/08/2011). Refer to Appendix F for more information.

Workshops held with the Council staff in 2011 did not identify any projects to address future growth and demand.

B.7.3. Operations and Maintenance

The operational costs have been estimated for the Waste Minimisation initiatives and included in Appendix E.

B.7.4. Strategic Studies

The following key strategic studies have been completed to date for Waste Minimisation:

- investigate multiple bin recyclables collection, investigating alternative refuse collection, investigating organic waste collection and treatment.

B.7.5. Key Issues

There are no key issues for Waste Minimisation.

B.7.6. Capital Works

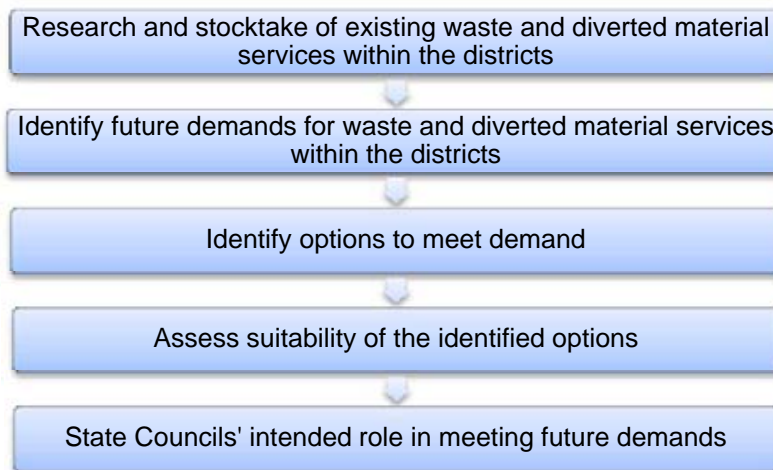
The full upgrade and development programme for Waste Minimisation initiatives at RRCs are included in Appendix F.

## APPENDIX C. WASTE ASSESSMENTS

### C.1 Overview

Tasman District Council and Nelson City Council completed a joint Waste Assessment in 2010 (Morrison Low, March 2010).

The prescribed scope of a Waste Assessment is given in the Waste Minimisation Act 2008 (WMA). The following Figure C-1 summarises the steps of the Waste Assessment (WA).



**Figure C-1: Steps of Waste Assessment**

The four approaches for the Councils' to achieve waste minimisation objective are identified as:

- social marketing / behaviour change
- regulation
- direct action / partnering with industry
- pricing incentive.

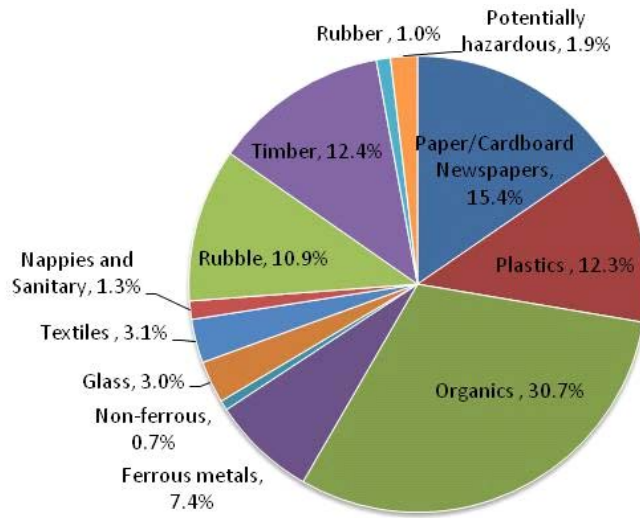
### C.2 Summary of Joint Waste Assessment 2010

The WA reports that the data collected on the amount of waste and diverted materials in the districts is based on weighbridge records and is considered an accurate account of waste disposed of at the Councils' landfill in the Nelson Tasman area.

Figure C-2 shows the composition of waste going to the Councils' landfills. The waste assessment provides a comparison of the waste composition and composition studies undertaken at a number of National Indicator Sites (NIS) by the Ministry for the Environment. In general:

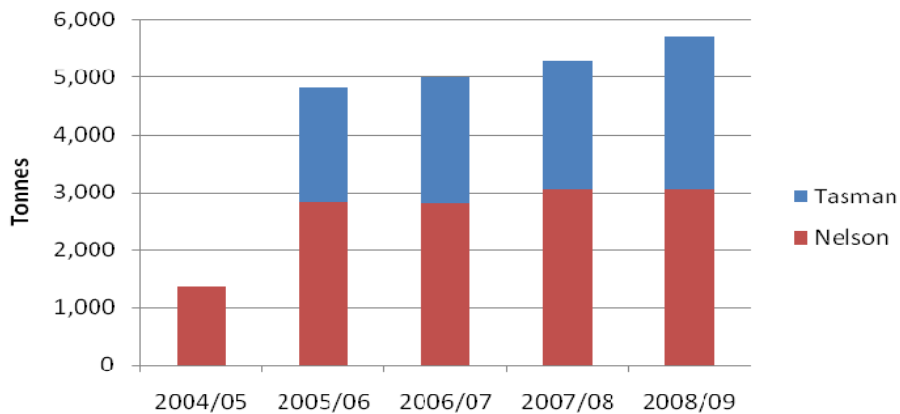
- Both Tasman and Nelson currently have a much higher percentage of paper going to landfill than the NIS. This is generally attributed to commercial properties and private wheelie bin users who display much higher paper waste than residential bag users.
- Tasman exhibits a high plastic content in its waste to landfill which is nearly double that recorded at the NIS. Nelson shows similar levels of plastic waste to the NIS.
- Tasman has a much larger amount of organic waste than the NIS and Nelson exhibits similar levels to the NIS. Organics make up the highest proportion of the waste stream.
- Nelson shows much higher levels of steel and ferrous metal than the NIS. Tasman has significantly lower levels.
- Nelson shows slightly higher levels of timber and rubble than for the NIS, however this contrasts with Tasman which recorded much lower amounts of construction and demolition material.
- The other minor recorded areas are on par with the NIS.





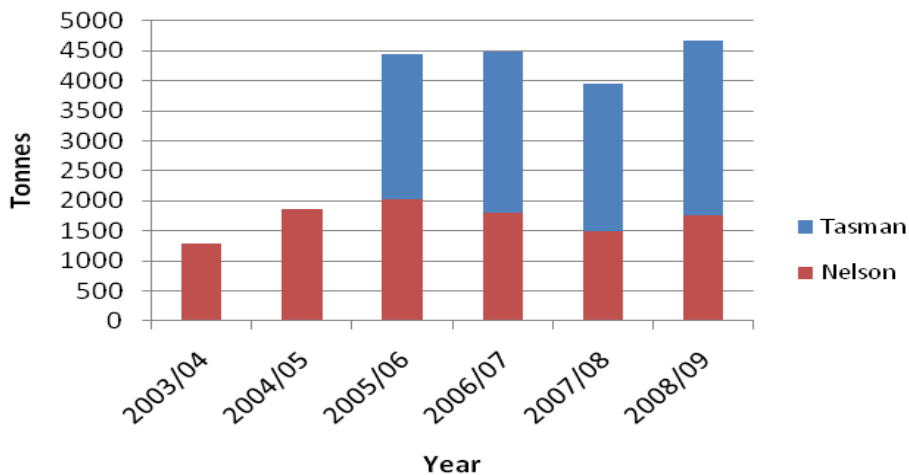
**Figure C-2: Waste to Landfill – Total Waste Composition Nelson and Tasman Districts**

Since the introduction of kerbside recycling, the tonnages diverted each year have steadily increased in the Tasman and Nelson districts, as shown in Figure C-3. Annual per capita recycling has increased from 54 kg per person in 2005/06 to 65 kg per person in 2008/09.



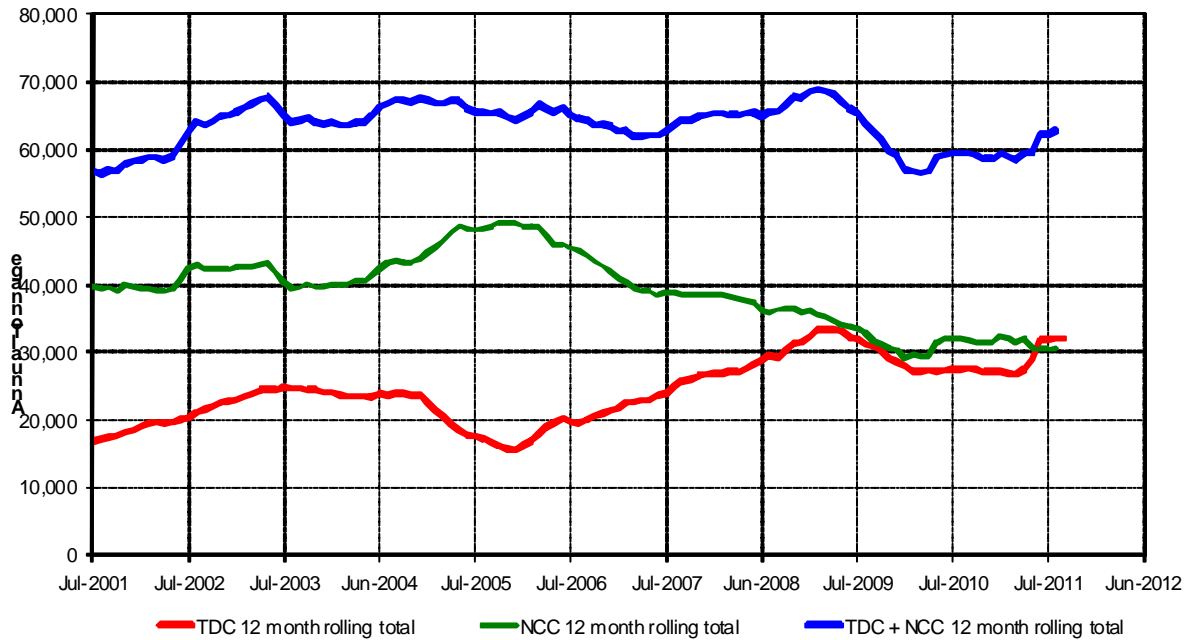
**Figure C-3: Tonnage for Recyclables Collected at Kerbside**

Greenwaste diversion has also continued to increase steadily as shown in Figure C-4.



**Figure C-4: Greenwaste Diversion**

During the 2010/11 financial year, approximately 62,300 tonnes of waste was disposed of in the York Valley Landfill (Nelson district) and the Eves Valley Landfill (Tasman district). Each landfill receives approximately 50 percent of the waste. This has not always been the case, with significantly more material being disposed of at York Valley Landfill over the past 10 years. This is illustrated in Figure C-5.



**Figure C-5: Waste to Landfill**

Overall, waste to landfill in the districts per capita has decreased from 840 kg per person to 740 kg per person over the last 10 years. This is higher than the reported national average of 575 kg per person<sup>3</sup>.

For each tonne of waste disposed of at the Eves Valley and York Valley Landfills, the Councils (as the landfill operators) are required to pay a waste disposal levy to the central government. Part of this levy is returned to each Council to fund waste minimisation initiatives. The amount of levy returned to each Council is calculated on a per resident basis.

The WA also outlined existing services and assessed future demand.

<sup>3</sup> MfE, 2011 Review of the effectiveness of the waste disposal levy, 2011

## APPENDIX D. ASSET VALUATIONS

### D.1 Background

The Local Government Act 1974 and subsequent amendments contain a general requirement for local authorities to comply with Generally Accepted Accounting Practice ("GAAP").

The Financial reporting Act 1993 sets out a process by which GAAP is established for all reporting entities and groups, the Crown and all departments, Offices of Parliament and Crown entities and all local authorities. Compliance with the New Zealand Equivalent to International Accounting Standard 16; Property, Plant and Equipment (NZ IAS 16) and IAS 36 (Impairment of Assets) is the one of the current requirements of meeting GAAP.

The purpose of the valuations is for reporting asset values in the financial statements of Tasman District Council.

Council requires its infrastructure asset register and valuation to be updated in accordance with Financial Reporting Standards and the AMP improvement plan.

The valuations summarised below have been completed in accordance with the following standards and are suitable for inclusion in the financial statements for the year ending June 2009.

- NAMS Group Infrastructure Asset Valuation Guidelines – Edition 2.0.
- New Zealand Equivalent to International Accounting Standard 16; Property, Plant and Equipment (NZ IAS 16) and IAS 36 (Impairment of Assets).

#### D.1.1. Depreciation

Depreciation of assets must be charged over their useful life.

- *Depreciated Replacement Cost* is the current replacement cost less allowance for physical deterioration and optimisation for obsolescence and relevant surplus capacity. The Depreciated Replacement Cost has been calculated as:

$$\frac{\text{Remaining useful life}}{\text{Total useful life}} \times \text{replacement cost}$$

- *Depreciation* is a measure of the consumption of the economic benefits embodied in an asset. It distributes the cost or value of an asset over its estimated useful life. Straight-line depreciation is used in this valuation.
- *Total Depreciation to Date* is the total amount of the asset's economic benefits consumed since the asset was constructed or installed.
- The *Annual Depreciation* is the amount the asset depreciates in a year. It is defined as the replacement cost minus the residual value divided by the estimated total useful life for the asset.
- The *Minimum Remaining Useful Life* is applied to assets which are older than their useful life. It recognises that although an asset is older than its useful life it may still be in service and therefore have some value. Where an asset is older than its standard useful life, the minimum remaining useful life is added to the standard useful life and used in the calculation of the depreciated replacement value.

#### D.1.2. Revaluation

The revaluations are based on accurate and substantially complete asset registers and appropriate replacement costs and effective lives.

- (a) The lives are generally based upon NZ Infrastructure Asset Valuation and Depreciation Guidelines – Edition 2. In specific cases these have been modified where in our, and Council's opinion a different life is appropriate. The changes are justified in the valuation report.
- (b) The component level of the data used for the valuation is sufficient to calculate depreciation separately for those assets that have different useful lives.

## D.2 Overview of Asset Valuations

Assets were previously valued every three years, but Council have now moved to a two year revaluation cycle. Historic asset valuations reports are held with Council.

Council were due to revalue their assets as at end June 2011, however with the small number of changes made to the networks since the 2009 valuations, the decision was made to defer the valuation until end of June 2012.

## D.3 2009 Valuation – Solid Waste

The solid waste assets were last re-valued in June 2009 and is reported under separate cover<sup>4</sup>. Key assumptions in assessing the asset valuations are described in detail in the valuation report.

### D.3.1. Asset Data

The majority of information for valuing the assets was obtained from Council's Confirm database. This is the first time the database has been used to revalue Council's assets. In the past, asset registers based on excel spreadsheets have been used. The data confidence is detailed in Table D-1 below.

**Table D-1: Data Confidence**

Asset Description	Confidence	Comments
Refuse Assets	B – Reliable	The asset registers provide all the physical assets that make up each transfer station and landfill. The valuation has been based on actual contract costs, some of which date back to 2001. For a more accurate valuation, attribute information needs to be collated for each asset ie. size of building, length of fence etc.

*Based on NZ Infrastructure Asset Valuation and Depreciation Guidelines – Edition 2, Table 4.3.1: Data confidence grading system.*

The *Base Useful Lives* for each asset type as published in the NZIAVDG Manual were used as a guideline for the lives of the assets in the valuation. Generally lives are taken as from the mid-range of the typical lives indicated in the Valuation Manual where no better information is available. Lives used in the valuation relating to Solid Waste are presented in Table D-2 below.

**Table D-2: Asset Lives**

Item	Life (years)	Minimum Remaining Life (years)
<b>Non Pipeline Civil Assets</b>		
Civil concrete structures	80	5
Civil buildings (all materials)	50	5
Tanks (concrete, plastic, fibreglass)	50	5
Landscaping/fencing	20	5
<b>Solid Waste Assets</b>		
Compactor, compound	50	5
Retaining walls	80	5
Refuse chute	80	5
Attendants kiosk	50	5
<b>Mechanical Assets</b>		
Small plant – pumps, blowers, chlorinating/UV equipment, aerators, screens	20	2
<b>Electrical and Telemetry Assets</b>		
Electrical/Controls	20	2
Telemetry/SCADA	20	2

<sup>4</sup> Infrastructural Asset Revaluation, June 2009 – MWH New Zealand Ltd report for Tasman District Council

D.3.2. 2009 Valuation

The optimised replacement value, optimised depreciated replacement value, total depreciation to date, and the annual depreciation and of the solid waste are summarised in Table D-3.

**Table D-3: Refuse Asset Valuation**

	Optimised Replacement Value (\$)	Optimised Depreciated Replacement Value (\$)	Total Depreciation to Date (\$)	Annual Depreciation (\$/yr)
Refuse 2007	3,651,348	2,497,581	1,153,767	138,482
Refuse 2009	4,858,001	3,524,567	1,333,433	126,846
% Increase	33.05%	41.12%	15.57%	-8.40%

Overall, the solid waste assets have increased in optimised replacement value by 33.05% since the 2007 valuation.

The increase in the replacement values is due to the following reasons:

- inflation over the two year period (ie. % as calculated by the construction fluctuation adjustment)
- the addition of new assets to the utilities since 2007
- migration of data from asset registers contained in spreadsheets into the Confirm database and subsequent updating of the data resulting in the improved accuracy of the captured data.

The optimised replacement value, optimised depreciated replacement value, total depreciation to date, and the annual depreciation and of the solid waste assets are summarised in Table D-4.

**Table D-4: Refuse Asset Valuation by Scheme**

	Optimised Replacement Value (\$)	Optimised Depreciated Replacement Value (\$)	Total Depreciation to Date (\$)	Annual Depreciation (\$/yr)
Collingwood RRC	213,582	192,737	20,844	2,857
Eves Valley Landfill	1,393,374	735,330	658,044	61,091
Mariri RRC	419,945	328,808	91,137	6,960
Murchison Landfill	448,755	430,380	18,375	3,485
Richmond RRC	954,258	804,324	149,933	17,878
Takaka RRC	1,109,088	875,948	233,140	18,882

## APPENDIX E. MAINTENANCE AND OPERATING ISSUES

### E.1 Maintenance Contracts

Council currently contracts out the day-to-day operation and maintenance of solid waste assets and services with the aim of maintaining required levels of service. The Council's operation and maintenance contracts are let through competitive tendering of the works to ensure a true market value.

The contracts are let on a combination of prescriptive and performance basis with a view to:

- achieving maintenance efficiencies and cost effectiveness by allowing the contractor to be innovative in managing the operation and maintenance activities
- encouraging pro-active maintenance practices rather than reactive practices
- ensure compliance with legislative, monitoring and resource consent requirements
- ensure that Council's waste minimisation strategy is adhered to.

A list of each of the current solid waste contracts and the contractor responsible for delivering the service are detailed in Table E-1 below. Further descriptions of the services provided under each of these contracts are provided in Appendix B.

**Table E-1: Current Solid Waste Contracts**

Contract No.	Operations Responsibility	Description	Comment
781	Fulton Hogan Ltd	Operation and maintenance of Eves Valley Landfill.	Commenced 1 Oct 2010, expires 30 September 2012
		Operation of refuse haulage services from RRCs.	
613	Smart Environmental Ltd	Operation and maintenance of Richmond, Mariri, Takaka, and Collingwood RRCs.	Commenced 14 Nov 2004, expires 28 September 2012
		Provision of kerbside refuse and recyclables collection services.	
622	Greenwaste to Zero	Processing of Greenwaste collected at RRCs and delivered to the facility.	Commenced 14 Nov 2004, expires 18 November 2014
652	Fulton Hogan Ltd	Operation and maintenance of Murchison Landfill and subsequent RRC.	Commenced 15 May 2005, expires 28 September 2012
651	Nelson Environment Centre	Provision of waste education consultancy services on behalf of Tasman District Council.	Commenced 1 July 2004, expires 31 December 2012

Performance based contracts move away from prescribing what the contractor must do. Instead the contracts state what the contractor must achieve. It is then up to the contractor to determine what must be done to achieve these outcomes. This empowers the contractor to be innovative in waste minimisation, disposal and collection activities.

The prescriptive component of the contracts identifies those requirements where the contractor has to conform to standards and strategies as determined by Council.

In the longer-term, maintenance activities will be determined and modified as necessary to reflect:

- the age of assets relative to expected economic life cycle
- the risk of failure of critical assets
- changes in the desired level of service
- the nature and timing of asset upgrading/development works.

#### E.1.1. Resource Recovery Centres (RRCs)

The essence of the RRC operational contracts is that, as well as providing essential waste disposal and transfer services, the contractor's main focus should be on reducing the quantity of waste disposed of to landfill by diverting recoverable resources from the waste stream. Materials are to be handled in a manner that maximises their saleability and that additional recoverable materials are to be added progressively.

The contractor acknowledges that it will not solely "pick the lowest fruit" and will bundle high and low value materials in order to maximise diversion volumes/tonnage.

Specifically, the contractor will provide the following services.

- Receipt of reusable goods, recoverable (recyclable) materials and refuse.
- Collection, accounting for and delivery of disposal fees to Council.
- Direction of customers to appropriate recovery and disposal areas.
- Loading of refuse into open top and compactor bins, operation of a refuse compactor or loading plant (where applicable) and communication to the haulage contractor regarding collection of these bins.
- Separation, stockpiling and sale of recoverable resources. Car bodies, whiteware, steel scrap, waste oil, car batteries, wood, plastics, tin cans, aluminium cans, newspaper, cardboard and glass are the minimum range of diverted materials. It is expected that more materials will be recovered by the Contractor in the future.
- Receipt, temporary storage, and appropriate notification of special and hazardous wastes presented at an RRC/
- Education on reduction, re-use and recycling.
- Regular inspections of the site and equipment to satisfy the requirements of the specified maintenance schedule.
- Programming, execution and reporting of routine maintenance tasks.
- Provision of quotations for completion of larger maintenance items, as required.
- Collection, accumulation and reporting of statistical data as required.
- Staffing of the sites, as required, to carry out the specified operations to a high level of customer service.
- Regular surveys to gauge customer service and the effectiveness of education.

#### E.1.2. Waste Minimisation

Over the next 20 years Council plans to maintain existing kerbside recycling services, to improve commercial recycling collections, to continue to improve centralised recycling and re-use facilities and to encourage diversion of residual waste from landfill through waste education initiatives.

These waste minimisation initiatives are largely based around presenting convenient alternatives to the public that encourage the separation of waste material into the various recyclable, reusable and residual fractions, prior to its presentation for collection. These waste minimisation initiatives are planned to achieve a maximum diversion of residual waste from landfill of 33% (refer to Appendix F).

Additional initiatives led by industry or central government may be implemented in the medium term, particularly using the product stewardship provisions of the Waste Minimisation Act 2008. Because of the difficulty of estimating these effects, no allowance for these has been made.



The targets are ambitious and the percentage diversion that may be achieved by Council will depend on many factors, not least of which will be the manner in which waste minimisation initiatives are promoted to the public and the extent to which people's waste disposal habits are transformed.

## E.2 Maintenance Standards

The work to be performed, and materials to be used, shall comply with the latest edition of the following standards:

- this Activity Management Plan
- operations and maintenance manuals at RRCs and landfills
- defined processes and procedures
- Tasman District Council's Engineering Standards 2008.

### E.2.1. Deferred Maintenance

Deferred maintenance is:

- the shortfall in rehabilitation or refurbishment work required to maintain the service potential of the asset.
- maintenance and renewal work that was not performed when it should have been, or when it was scheduled to be and which has therefore been put off or delayed for a future period.

The current budget levels are believed to be sufficient to provide the intended level of service and therefore no maintenance work has been deferred. This however is subject to the changes in levels of service and expectations of customers.

### E.2.2. Increase in Network Size through Development

When new developments such as subdivisions are constructed collection routes for refuse and recycling may need to be extended. The maintenance budgets have some allowance for network growth where applicable.

### E.2.3. Database

There are currently no databases used to track operation and maintenance of Solid Waste Assets. Work/variation orders and payment claims are managed through the Council's Confirm database.

## E.3 Engineering Studies

A number of studies requiring engineering consultancy professional services have been allocated to the Operations and Maintenance Budget. These are summarised in the Table E-2 below. A detailed financial forecast is shown in Table E-3.

**Table E-2: Summary of Engineering Studies included in this AMP**

Study Name	Brief Description
Waste Management Plan and CCO consultation	Waste management plan and Council Control Organisation (CCO) consultation.
District AMP Professional Services	AMP Review and Update.
Solid Waste Bylaw	Develop Solid Waste Bylaw.
Re-tender Contract 613	Re-tender contract (all kerbside activities).
Re-tender Contract 781	Re-tender Contract 781.
Re-tender Contract 652	Re-tender Green Waste Contract 652.
Biennial Closed Landfill Audit	Biennial Closed Landfill Audit.

Study Name	Brief Description
Review of Closed Landfill Management Plan	Review of Closed Landfill Management Plan - Review of Closed Landfill Management Plan prior to biennial audit Nov/Dec 2012.
Lease Agreements	Prepare scope for Property to review lease/license and site maintenance requirements on all sites owned or occupied by others as identified in the Closed Landfills Visual Inspection Report dated 4 April 2011 (links to Property AMP).
Asset Capture	Visit every site and confirm asset register, detail all new assets and details, update Confirm database.
Waste Disposal Consultation Project	Conduct Special Consultative Procedure to determine preferred waste disposal option prior to agreeing new landfill/haulage contract September 2014.
AMP Improvement Plan Activities	Annual allowance.
Valuations	Two yearly reviews.
Further Waste Management System Investigations	Investigating multiple bin recyclables collection, investigating alternative refuse collection, investigating organic waste collection and treatment.

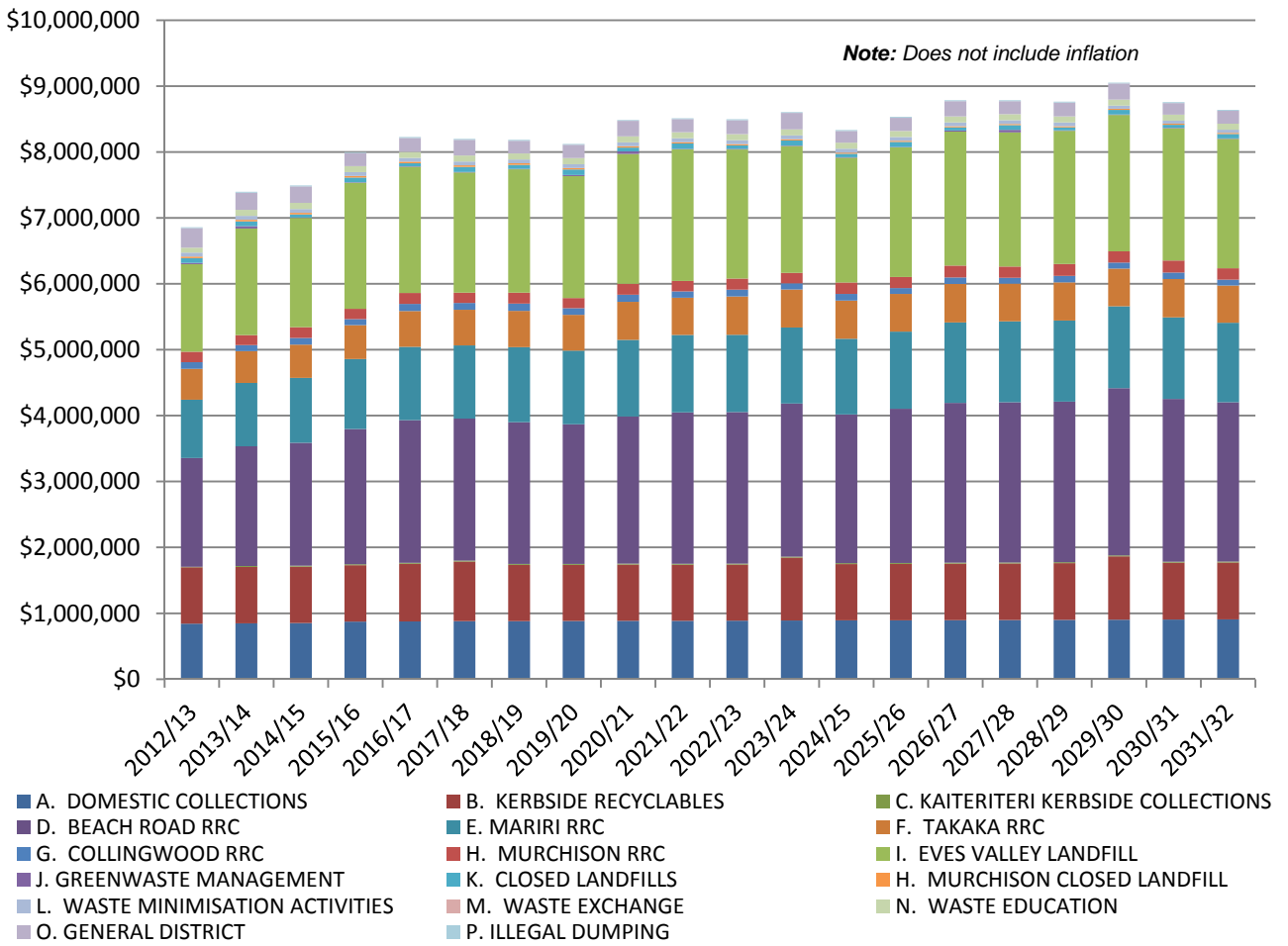
#### E.4 Forecast Operations and Maintenance Expenditure

Many of the operational costs associated with solid waste activities are linked to the amount of waste being collected, transported or disposed of per annum. Projections of future waste quantities are very sensitive to growth rates and the effectiveness of waste minimisation, recycling and composting schemes, therefore the projected operation and maintenance costs have limited accuracy.

The kerbside collection, greenwaste and refuse haulage operational costs also vary depending on increases in property numbers within the collection routes and the total amount of material collected at each site.

Both Fulton Hogan Ltd and Smart Environmental Ltd were consulted during the update of this Plan. They both provided input to the identification of operational trends which were incorporated in these forecasts.

The 20-year forecasts for operations and maintenance expenditure are shown in Figure E-1 and Table E-3. These costs are based on current contract rates and do not take into consideration inflation. The projected costs also do not allow for changes in contract operational rates when a contract expires and a new one is let.



**Figure E-1: 2012 – 2032 Solid Waste Operations and Maintenance Expenditure**

**Table E-3: 2012 – 2032 Solid Waste Operations and Maintenance Expenditure**

<i>Solid Waste Forecast Expenditure - Operations and Maintenance</i>																						
GL Code	Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Total
		2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	
<b>0723</b>	<b>A. DOMESTIC COLLECTIONS</b>																					
0723240101	Operational Contract Costs	599,315	599,762	601,043	602,332	603,636	604,949	606,271	607,602	608,943	610,294	611,654	613,025	614,405	615,795	617,196	618,607	620,029	621,461	622,904	624,358	12,223,582
07232517	TDC Bag Purchases for Counter Sale	27,338	27,625	27,915	28,208	28,504	28,801	29,100	29,403	29,708	30,017	30,327	30,639	30,955	31,273	31,596	31,921	32,250	32,582	32,917	33,257	604,334
07232203	Professional Services	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	600,000
07232601	Bag collection landfill fees	113,607	119,868	120,378	143,616	144,235	144,854	145,479	146,111	146,749	147,394	148,040	148,692	149,351	150,016	150,689	151,368	152,055	152,748	153,449	154,157	2,882,855
07232522	Overhead Allocation - FCSC	71,224	71,228	72,418	70,908	71,003	71,912	70,088	69,973	70,424	68,448	67,762	67,542	67,337	67,131	66,916	66,776	66,539	66,294	66,085	65,889	1,375,897
07235501	Loan Interest	40	36	35	33	31	29	27	23	20	17	14	10	7	4	1	0	0	0	0	0	327
	<b>Cost Subtotal (not including income)</b>	<b>841,524</b>	<b>848,519</b>	<b>851,788</b>	<b>875,097</b>	<b>877,409</b>	<b>880,544</b>	<b>880,965</b>	<b>883,112</b>	<b>885,845</b>	<b>886,171</b>	<b>887,797</b>	<b>889,908</b>	<b>892,054</b>	<b>894,220</b>	<b>896,397</b>	<b>898,672</b>	<b>900,872</b>	<b>903,085</b>	<b>905,356</b>	<b>907,660</b>	<b>17,686,995</b>
<b>0719</b>	<b>B. KERBSIDE RECYCLABLES</b>																					
0719240101	Operational Contract Costs	693,170	693,643	695,025	696,418	697,825	699,243	700,671	702,109	703,558	705,017	706,487	707,967	709,459	710,961	712,475	714,000	715,536	717,085	718,645	720,216	14,119,509
0719240102	School & Business kerbside recycling	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	400,000
0719220302	Annual satisfaction survey	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	120,000
0719240104	Streetside recycling bins [refer Roading AMP]	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	360,000
07192513	Kerbside Advertising	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	100,000
0719220301	Retender contract (all kerbside activities)	0	0	0	0	20,000	50,000	0	0	0	0	0	101,500	0	0	0	0	0	101,500	0	0	273,000
07192203	Professional Services	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	600,000
0719251350	Communications	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630	10,710
07192522	Overhead Allocation - FCSC	68,500	68,853	69,994	68,541	68,631	69,501	67,746	67,632	68,061	66,159	65,494	65,284	65,084	64,882	64,677	64,541	64,312	64,075	63,873	63,683	1,329,873
07195501	Loan Interest	15,252	13,213	11,793	10,414	8,731	6,929	5,149	3,025	1,752	1,016	664	504	343	184	53	0	0	0	0	0	79,022
	<b>Cost Subtotal (not including income)</b>	<b>856,902</b>	<b>855,339</b>	<b>856,442</b>	<b>855,003</b>	<b>874,817</b>	<b>905,303</b>	<b>853,196</b>	<b>852,396</b>	<b>853,001</b>	<b>851,822</b>	<b>852,275</b>	<b>954,885</b>	<b>854,516</b>	<b>855,657</b>	<b>856,835</b>	<b>858,171</b>	<b>859,478</b>	<b>961,660</b>	<b>861,518</b>	<b>862,899</b>	<b>17,392,114</b>
<b>0726</b>	<b>C. KAITERITERI KERBSIDE COLLECTIONS</b>																					
0726240103	Kaiteriteri Service Area	6,934	11,936	12,060	12,186	12,312	12,440	12,570	12,699	12,830	12,962	13,096	13,231	13,367	13,504	13,644	13,784	13,926	13,926	13,926	13,926	255,259
07262513	Kaiteriteri Advertising	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	10,000
07262522	Overhead Allocation - FCSC	533	532	538	529	529	534	523	521	521	510	504	501	501	499	497	495	494	492	491	489	10,233
	<b>Cost Subtotal (not including income)</b>	<b>7,967</b>	<b>12,968</b>	<b>13,098</b>	<b>13,215</b>	<b>13,341</b>	<b>13,474</b>	<b>13,593</b>	<b>13,720</b>	<b>13,851</b>	<b>13,972</b>	<b>14,100</b>	<b>14,232</b>	<b>14,368</b>	<b>14,503</b>	<b>14,641</b>	<b>14,779</b>	<b>14,920</b>	<b>14,918</b>	<b>14,917</b>	<b>14,915</b>	<b>275,492</b>
<b>0702</b>	<b>D. BEACH ROAD RRC</b>																					
0702240101	Operational Contract Costs	318,327	318,327	318,327	318,327	318,327	318,327	318,327	318,327	318,327	318,327	318,327	318,327	318,327	318,327	318,327	318,327	318,327	318,327	318,327	318,327	6,366,537
0702260201	Diversion	9,349	9,349	9,349	9,349	9,349	9,349	9,349	9,349	9,349	9,349	9,349	9,349	9,349	9,349	9,349	9,349	9,349	9,349	9,349	9,349	186,988
07022602	Refuse Haulage	158,507	157,488	158,216	159,683	161,181	162,698	164,235	165,791	167,368	168,965	170,582	172,221	173,880	175,562	177,264	178,989	180,737	182,507	184,299	186,115	3,406,289
07022603	Bin Changeovers	58,404	58,404	58,404	58,404	58,404	58,404	58,404	58,404	58,404	58,404	58,404	58,404	58,404	58,404	58,404	58,404	58,404	58,404	58,404	58,404	1,168,080
	<b>Total Operational Contract Costs</b>	<b>544,587</b>	<b>543,569</b>	<b>544,296</b>	<b>545,763</b>	<b>547,261</b>	<b>548,778</b>	<b>550,315</b>	<b>551,871</b>	<b>553,448</b>	<b>555,045</b>	<b>556,663</b>	<b>558,301</b>	<b>559,961</b>	<b>561,642</b>	<b>563,345</b>	<b>565,070</b>	<b>566,817</b>	<b>568,587</b>	<b>570,380</b>	<b>572,196</b>	<b>11,127,894</b>
07022401	Asset Maintenance	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	400,000
07022203	Professional Services	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	800,000
0702220301	Strategic Study - Retender contract (all RRC activities)	0	0	0	0	20,000	30,000	0	0	0	0	0	50,243	0	0	0	0	0	51,765	0	0	152,008
0702220302	Annual surveys (for all RRC activities)	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	50,000
0702220303	SMP update	10,000	0	10,000	0	10,000	0	10,000	0	10,000	0	10,000	0	10,000	0	10,000	0	10,000	0	10,000	0	100,000
07022605	Monitoring	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	360,000
07022508	Rates	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	200,000
0702260101	Beach Road landfill disposal cost	783,913	971,184	1,012,945	1,223,944	1,312,710	1,311,226	1,346,897	1,345,374	1,458,751	1,535,952	1,516,434	1,496,153	1,475,095	1,576,050	1,658,638	1,680,096	1,680,558	1,745,396	1,724,324	1,680,304	28,535,944
07022522	Overhead Allocation - FCSC	68,113	68,337	70,060	68,252	68,569	70,079	67,560	67,738	68,879	66,247	65,664	65,474	65,294	65,114	64,928	64,806	64,598	64,387	64,176	63,965	1,332,340
07025501	Loan Interest	153,307	144,424	138,666	125,471	116,635	106,036	87,584	64,539	52,689	50,210	59,292	63,150	55,946	45,627	38,037	31,514	23,781	17,273	12,466	9,240	1,395,887
	<b>Cost Subtotal (not including income)</b>	<b>1,650,420</b>	<b>1,818,014</b>	<b>1,866,466</b>	<b>2,053,930</b>	<b>2,165,675</b>	<b>2,156,619</b>	<b>2,152,856</b>	<b>2,120,023</b>	<b>2,234,267</b>	<b>2,297,955</b>	<b>2,298,552</b>	<b>2,323,821</b>	<b>2,256,795</b>	<b>2,338,933</b>	<b>2,425,448</b>	<b>2,431,985</b>	<b>2,436,254</b>	<b>2,537,908</b>	<b>2,471,875</b>	<b>2,416,275</b>	<b>44,454,072</b>
<b>0703</b>	<b>E. MARIRI RRC</b>																					
0703240101	Operational Contract Costs	242,755	242,755	242,755	242,755	242,755	242,755	242,755	242,755	242,755	242,755	242,755	242,755	242,755	242,755	242,755	242,755	242,755	242,755	242,755	242,755	4,855,110
0703260204	Diversion	8,186	8,186	8,186	8,186	8,186	8,186	8,186	8,186	8,186	8,186	8,186	8,186	8,186	8,186	8,186	8,186	8,186	8,186	8,186	8,186	163,717
07032602	Refuse Haulage	99,854	99,112	99,642	100,711	101,802	102,907	104,026	105,160	106,309	107,472	108,650	109,844	111,052	112,277	113,517	114,774	116,047	117,336	118,642	119,965	2,169,100
0703260202	Greenwaste Transport	16,251	16,209	16,417	16,628	16,843	17,061	17,282	1													

GL Code	Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Total	
		2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32		
<b>0710</b>	<b>G. COLLINGWOOD RRC</b>																						
0710240101	Operational Contract Costs	16,338	16,338	16,338	16,338	16,338	16,338	16,338	16,338	16,338	16,338	16,338	16,338	16,338	16,338	16,338	16,338	16,338	16,338	16,338	16,338	326,763	
0710260204	Diversion	802	802	802	802	802	802	802	802	802	802	802	802	802	802	802	802	802	802	802	802	16,045	
071026020	Refuse Haulage	20,191	20,159	20,182	20,228	20,276	20,323	20,372	20,421	20,471	20,522	20,573	20,624	20,677	20,730	20,784	20,838	20,894	20,950	21,006	21,064	411,284	
0710260202	Greenwaste Transport	891	889	901	912	924	936	948	960	973	985	998	1,011	1,024	1,037	1,051	1,064	1,078	1,092	1,106	1,120	19,900	
0710260203	Greenwaste Reprocessing	417	416	422	427	432	438	444	449	455	461	467	473	479	486	492	498	505	511	518	524	9,315	
	<b>Total Operational Contract Costs</b>	<b>38,640</b>	<b>38,605</b>	<b>38,644</b>	<b>38,708</b>	<b>38,772</b>	<b>38,838</b>	<b>38,904</b>	<b>38,971</b>	<b>39,039</b>	<b>39,108</b>	<b>39,178</b>	<b>39,249</b>	<b>39,321</b>	<b>39,393</b>	<b>39,467</b>	<b>39,541</b>	<b>39,617</b>	<b>39,693</b>	<b>39,771</b>	<b>39,849</b>	<b>783,308</b>	
07102401	Asset Maintenance	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,001	5,002	5,003	100,006
07102203	Professional Services	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	280,000	
0710220301	SMP update	10,000	0	10,000	0	10,000	0	10,000	0	10,000	0	10,000	0	10,000	0	10,000	0	10,000	0	10,000	0	10,000	100,000
07102605	Monitoring	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	300,000	
07102508	Rates	317	317	317	317	317	317	317	317	317	317	317	317	317	317	317	317	317	317	317	317	6,340	
07102601	Collingwood landfill disposal cost	3,860	4,782	4,988	6,027	6,464	6,456	6,632	6,625	7,183	7,563	7,467	7,367	7,263	7,760	8,167	8,273	8,275	8,594	8,491	8,274	140,511	
07102522	Overhead Allocation - FCSC	8,066	8,069	8,211	8,036	8,049	8,159	7,945	7,934	7,992	7,761	7,684	7,661	7,638	7,612	7,589	7,574	7,547	7,521	7,496	7,475	156,019	
07105501	Loan Interest	5,886	5,016	4,378	3,748	9,605	15,083	13,558	10,987	9,448	7,699	6,095	4,565	3,034	1,508	373	0	0	0	0	0	0	100,983
	<b>Cost Subtotal (not including income)</b>	<b>100,769</b>	<b>90,789</b>	<b>100,538</b>	<b>90,835</b>	<b>107,207</b>	<b>102,853</b>	<b>111,356</b>	<b>98,834</b>	<b>107,979</b>	<b>96,448</b>	<b>104,741</b>	<b>93,159</b>	<b>101,573</b>	<b>90,591</b>	<b>99,913</b>	<b>89,705</b>	<b>99,756</b>	<b>90,126</b>	<b>100,076</b>	<b>89,918</b>	<b>1,967,167</b>	
<b>0727</b>	<b>H. MURCHISON RRC</b>																						
0727240101	Operational Contract Costs	42,190	42,190	42,190	42,190	42,190	42,190	42,190	42,190	42,190	42,190	42,190	42,190	42,190	42,190	42,190	42,190	42,190	42,190	42,190	42,190	843,792	
07272602	Waste Transport	42,822	42,448	42,715	43,254	43,803	44,360	44,923	45,495	46,073	46,659	47,253	47,854	48,463	49,079	49,704	50,337	50,978	51,628	52,285	52,952	943,084	
	<b>Total Operational Contract Costs</b>	<b>85,011</b>	<b>84,638</b>	<b>84,905</b>	<b>85,443</b>	<b>85,993</b>	<b>86,549</b>	<b>87,113</b>	<b>87,684</b>	<b>88,263</b>	<b>88,849</b>	<b>89,442</b>	<b>90,043</b>	<b>90,652</b>	<b>91,269</b>	<b>91,894</b>	<b>92,527</b>	<b>93,168</b>	<b>93,817</b>	<b>94,475</b>	<b>95,141</b>	<b>1,786,876</b>	
07272401	Asset Maintenance	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	200,000	
07272203	Professional Services	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	400,000	
0727220301	SMP update	10,000	0	10,000	0	10,000	0	10,000	0	10,000	0	10,000	0	10,000	0	10,000	0	10,000	0	10,000	0	10,000	100,000
07272605	Monitoring	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07272505	Power	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	4,000	
07272508	Rates	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	12,000	
0727260101	Murchison landfill disposal cost	13,967	17,303	18,047	21,807	23,388	23,362	23,997	23,970	25,990	27,365	27,018	26,656	26,281	28,080	29,551	29,934	29,942	31,097	30,722	29,937	508,414	
07272522	Overhead Allocation - FCSC	10,972	10,977	11,171	10,931	10,951	11,102	10,807	10,795	10,877	10,559	10,455	10,421	10,391	10,359	10,325	10,303	10,268	10,231	10,199	10,169	212,263	
07275501	Loan Interest	8,643	8,035	7,137	6,258	5,192	4,053	2,990	1,971	1,418	969	768	691	614	537	461	384	307	230	153	77	50,888	
	<b>Cost Subtotal (not including income)</b>	<b>159,393</b>	<b>151,753</b>	<b>162,060</b>	<b>155,239</b>	<b>166,324</b>	<b>155,866</b>	<b>165,707</b>	<b>155,220</b>	<b>167,348</b>	<b>158,542</b>	<b>168,483</b>	<b>158,612</b>	<b>173,738</b>	<b>166,045</b>	<b>178,031</b>	<b>168,947</b>	<b>179,485</b>	<b>171,175</b>	<b>181,349</b>	<b>171,125</b>	<b>3,314,440</b>	
<b>0701</b>	<b>I. EVES VALLEY LANDFILL</b>																						
0701240101	Operational Contract Costs	321,032	320,765	320,956	321,341	321,733	322,131	322,534	322,942	323,355	323,774	324,198	324,627	325,062	325,503	325,949	326,402	326,860	327,324	327,794	328,270	6,482,551	
07012527	Waste Levy payable	283,518	281,141	282,839	286,265	289,763	293,304	296,892	300,526	304,208	307,937	311,713	315,539	319,413	323,339	327,315	331,342	335,422	339,554	343,740	347,980	6,221,749	
07012401	Asset Maintenance	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	200,000	
0701240103	Bin Maintenance	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	240,000	
07012203	Professional Services	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	1,440,000	
0701220303	Retender Contract 781	20,000	55,000	0	0	0	0	0	20,000	55,000	0	0	0	0	20,000	55,000	0	0	0	0	0	225,000	
0701220304	SMP update	15,000	0	0	0	0	0	0	15,000	0	0	0	0	0	15,000	0	0	0	0	0	0	75,000	
07012605	Active landfill monitoring	68,000	68,000	68,000	68,000	68,000	68,000	68,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	758,000	
0701260501	Closed landfill monitoring	0	0	0	0	0	0	0	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	210,000	
0701240102	Closed landfill maintenance	0	0	0	0	0	0	0	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	420,000	
0701220302	Landfill survey	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	160,000	
07012508	Rates	1,532	1,532	1,532	1,532	1,532	1,532	1,532	1,532	1,532	1,532	1,532	1,532	1,532	1,532	1,532	1,532	1,532	1,532	1,532	1,532	30,640	
07012601	Sewerage Charges	6,200	6,200	6,200	6,200	6,200	6,200	6,200	6,200	6,200	6,200	6,200	6,200	6,200	6,200	6,200	6,200	6,200	6,200	6,200	6,200	124,000	
0701240104	Stormwater Treatment	7,000	7,000	7,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000	378,000	
0701220305	Emissions Trading Scheme Reporting	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	600,000	
0701252701	Emissions Trading Scheme Payments	185,646	414,181	509,269	562,307	369,965	172,840	174,954	177,096	179,265	181,463	183,688	185,942	188,226	190,539	192,882	195,255	197,659	200,094	202,561	205,060	4,868,892	
0701550301	Stage 2 Landfill closure provision	28,352	28,114	28,284	28,627	28,976	29,330															171,683	
0701550302	Stage 3 Landfill closure provision	0	0	0	0	0	0	29,689	30,053	30,421	30,794	31,171	31,554	31,941	32,334	32,731	33,134	33,542	3				

GL Code	Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Total
		2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	
<b>0718</b>	<b>L. WASTE MINIMISATION ACTIVITIES</b>																					
0718251350	Communications	11,500	11,500	11,500	11,500	11,500	11,500	11,500	11,500	11,500	11,500	11,500	11,500	11,500	11,500	11,500	11,500	11,500	11,500	11,500	11,500	195,500
07182203	Waste minimisation P/S	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	80,000
07182513	Waste minimisation publicity	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	20,000
0718252607	Zero waste grants	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	200,000
0718252604	Compost Bin Incentive Scheme	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	150,000
0718252616	Event recycling	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	60,000
07182534	Composting initiatives	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	40,000
0718252605	In-house programme	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	60,000
0718252615	Paintwise expenses	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	40,000
0718252618	Product Stewardship	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	200,000
07182522	Overhead Allocation - FCSC	4,626	4,629	4,709	4,608	4,618	4,680	4,556	4,552	4,589	4,452	4,407	4,394	4,380	4,367	4,354	4,346	4,330	4,315	4,301	4,289	89,502
	<b>Cost Subtotal (not including income)</b>	<b>58,626</b>	<b>58,629</b>	<b>58,709</b>	<b>58,608</b>	<b>58,618</b>	<b>58,680</b>	<b>58,556</b>	<b>58,552</b>	<b>58,589</b>	<b>58,452</b>	<b>58,407</b>	<b>58,394</b>	<b>58,380</b>	<b>58,367</b>	<b>58,354</b>	<b>58,346</b>	<b>58,330</b>	<b>46,815</b>	<b>46,801</b>	<b>46,789</b>	<b>1,135,002</b>
<b>0721</b>	<b>M. WASTE EXCHANGE</b>																					
	<b>Cost Subtotal (not including income)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>0722</b>	<b>N. WASTE EDUCATION</b>																					
0722240101	Operational Contract 651 Costs	74,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	1,594,000
07222513	Waste education advertising & resources	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	50,000
07222203	Waste education P/S	6,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	44,000
07222522	OVERHEAD ALLOCATION-FCSC	7,414	7,413	7,537	7,380	7,391	7,486	7,296	7,282	7,330	7,124	7,054	7,031	7,010	6,987	6,965	6,950	6,926	6,902	6,879	6,859	143,216
	<b>Cost Subtotal (not including income)</b>	<b>89,914</b>	<b>91,913</b>	<b>92,037</b>	<b>91,880</b>	<b>91,891</b>	<b>91,986</b>	<b>91,796</b>	<b>91,782</b>	<b>91,830</b>	<b>91,624</b>	<b>91,554</b>	<b>91,531</b>	<b>91,510</b>	<b>91,487</b>	<b>91,465</b>	<b>91,450</b>	<b>91,426</b>	<b>91,402</b>	<b>91,379</b>	<b>91,359</b>	<b>1,831,216</b>
<b>0707</b>	<b>O. GENERAL DISTRICT</b>																					
0707220301	Waste management plan & COO consultation	0	0	0	15,000	15,000	0	0	0	15,000	15,000	0	0	0	0	15,000	15,000	15,000	15,000	0	0	90,000
0707220302	District AMP Professional Services	0	17,640	52,920	0	17,640	52,920	0	17,640	52,920	0	17,640	52,920	0	17,640	52,920	0	17,640	52,920	0	17,640	441,000
0707220303	Solid Waste Bylaw	10,000																				10,000
0707220304	Waste data collection	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	320,000
0707220305	Waste data reporting	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	200,000
0707220306	Asset Capture - Visit every site and confirm asset register, detail all ne	0	12,000	0	0	0	0	12,000	0	0	0	0	12,000	0	0	0	0	0	12,000	0	0	48,000
07072526	Waste Disposal Consultation Project - Conduct Special Consultative F	54,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54,000
07072205	Valuations - 3 yearly reviews	0	4,500	0	4,500	0	4,500	0	4,500	0	4,500	0	4,500	0	4,500	0	4,500	0	4,500	0	4,500	45,000
0707252601	Further Waste Management System Investigations - Investigating mult	50,000	50,000	20,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120,000
07072001	District Admin (Staff time)	64,024	64,024	64,024	64,024	64,024	64,024	64,024	64,024	64,024	64,024	64,024	64,024	64,024	64,024	64,024	64,024	64,024	64,024	64,024	64,024	1,280,480
0707200146	DEPT OVERHEAD-ENGINEERING	79,725	74,349	75,048	76,055	76,762	77,349	76,830	77,782	78,246	77,842	77,372	76,876	76,373	75,859	75,328	74,893	74,317	73,721	73,156	72,585	1,520,468
07072522	OVERHEAD ALLOCATION-FCSC	12,573	12,575	12,788	12,519	12,537	12,700	12,375	12,356	12,438	12,086	11,965	11,926	11,890	11,854	11,816	11,792	11,750	11,706	11,670	11,635	242,951
	<b>Cost Subtotal (not including income)</b>	<b>296,322</b>	<b>261,088</b>	<b>250,780</b>	<b>198,098</b>	<b>211,963</b>	<b>237,493</b>	<b>191,229</b>	<b>202,302</b>	<b>233,628</b>	<b>199,452</b>	<b>212,001</b>	<b>248,246</b>	<b>178,287</b>	<b>199,877</b>	<b>230,088</b>	<b>196,209</b>	<b>208,731</b>	<b>244,871</b>	<b>174,850</b>	<b>196,384</b>	<b>4,371,899</b>
<b>0714</b>	<b>P. ILLEGAL DUMPING</b>																					
07142603	Gen District Illegal dumping contractor	2,500	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	40,500
0714260301	Kerbside Illegal dumping contractor	2,500	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	40,500
0714260302	Riverside Illegal dumping contractor	9,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000	180,000
0714260303	Abandon Vehicles contractor	2,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	116,000
07142522	OVERHEAD ALLOCATION-FCSC	1,719	1,720	1,750	1,713	1,716	1,740	1,693	1,691	1,703	1,655	1,638	1,632	1,628	1,623	1,617	1,614	1,609	1,603	1,596	1,592	33,252
	<b>Cost Subtotal (not including income)</b>	<b>17,719</b>	<b>20,720</b>	<b>20,750</b>	<b>20,713</b>	<b>20,716</b>	<b>20,740</b>	<b>20,693</b>	<b>20,691</b>	<b>20,703</b>	<b>20,655</b>	<b>20,638</b>	<b>20,632</b>	<b>20,628</b>	<b>20,623</b>	<b>20,617</b>	<b>20,614</b>	<b>20,609</b>	<b>20,603</b>	<b>20,596</b>	<b>20,592</b>	<b>410,252</b>
	<b>TOTAL OPERATIONS &amp; MAINTENANCE EXPENDITURE</b>	<b>6,875,594</b>	<b>7,402,622</b>	<b>7,497,472</b>	<b>8,003,979</b>	<b>8,233,990</b>	<b>8,204,911</b>	<b>8,189,494</b>	<b>8,129,004</b>	<b>8,491,884</b>	<b>8,518,119</b>	<b>8,501,935</b>	<b>8,611,915</b>	<b>8,338,358</b>	<b>8,538,745</b>	<b>8,790,821</b>	<b>8,790,530</b>	<b>8,768,769</b>	<b>9,058,595</b>	<b>8,761,506</b>	<b>8,644,435</b>	<b>166,352,680</b>

N.B Does not include inflation.



## APPENDIX F. DEMAND AND FUTURE NEW CAPITAL REQUIREMENTS

### F.1 Growth Demand and Supply Model (GDSM)

#### F.1.1. Model Summary

A comprehensive Growth Demand and Supply Model (GDSM or growth model) has been developed to provide predictive information for population growth and business growth, and from that, information about dwelling and building development across the district and demand for infrastructure services. The GDSM underpins the Council's long term planning through the Activity Management Plans, Long Term Plans and supporting policies (eg. Development Contributions Policy).

This 2011 GDSM is a third generation growth model with previous versions being completed in 2005 and 2008.

In order to understand how and where growth will occur, the GDSM is built up of a series of Settlement Areas (SA) which contain Development Areas (DA). A Settlement Area is defined for each of the main towns and communities in the district. There are 17 Settlement Areas for the present version of the GDSM. Each Settlement Area is sub-divided into a number of Development Areas. Each Development Area is defined as one continuous polygon within a Settlement Area that if assessed as developable, is expected to contain a common end-use and density for built development.

The GDSM organises and integrates the assessments of demand and supply of built development. The development is categorised as either residential or business demand and supply. For residential demand and supply:

- the 'demand' for residential buildings (dwellings) is assessed from population and household growth forecasts
- the 'supply' of lots for future dwellings is assessed from analysis of the Development Areas in each Settlement Area and how many lots could feasibly be developed for residential end use, after accounting for a number of existing characteristics of the Development Area.

For business demand and supply:

- the 'demand' for business premises is assessed from economic and employment growth forecasts, and associated land requirements
- the 'supply' of lots for future business premises is assessed from analysis of the Development Areas in each Settlement Area in a similar way as that for future dwellings.

The Development Areas and Settlement Areas are the building blocks that allow the GDSM to spread demand for new dwellings and business premises, and assess where there is capacity to supply that demand.

The GDSM is not just an isolated tool that calculates a development forecast. It is a number of linked processes that involve assessment of base data, expert interpretation and assessment, calculation and forecasting. The key input data, assessment and computational processes, and outputs of the GDSM are captured in a database called the Growth Model Database.

The outputs of the GDSM are located on a shared browser site that all Council staff have access to. The browser contains:

- all the various input data sets and calculated outputs
- maps defining the Settlement Areas and Development Areas
- a model description describing the model working in detail, assumptions and planned improvements
- a peer review by a qualified urban planner and designer.



### F.1.2. Population Projection

The population projection in the GDSM has been taken from Statistics New Zealand 2009 population projections derived from the 2006 census data. The Statistics NZ “medium” projection has been taken for all Settlement Areas. In 2008 the Statistics NZ “high” projection was used for Motueka and Richmond, but as a result of the recession and general slowdown of development since, this level was deemed unrealistic and was subsequently reduced to medium. The population projections for each Settlement Area and the District as a whole are shown in Table F-1.

**Table F-1: Population Projection Used in the GDSM**

Settlement Area	Population Adjusted 2006	2009	2012	2016	2021	2031
Brightwater	1,931	2,016	2,097	2,195	2,327	2,581
Coastal Tasman Area	2,032	2,096	2,157	2,228	2,308	2,438
Collingwood	203	207	211	216	220	225
Kaiteriteri	320	323	326	332	336	332
Mapua Ruby Bay	1,911	1,981	2,049	2,135	2,242	2,427
Marahau	120	121	123	125	127	125
Motueka	6,309	6,417	6,510	6,600	6,660	6,634
Murchison	414	409	404	398	382	366
Pohara/Tata/Ligar/Tarakohe	558	570	581	594	606	619
Richmond	13,173	13,612	14,039	14,577	15,179	16,305
Riwaka	562	577	591	606	619	625
St Arnaud	81	81	81	81	80	77
Takaka	1,154	1,160	1,164	1,164	1,144	1,054
Tapawera	299	311	323	334	341	355
Tasman	168	173	177	182	187	194
Upper Moutere	147	152	156	162	169	181
Wakefield	1,911	1,992	2,067	2,152	2,258	2,499
Ward Remainder (Golden Bay)	3,244	3,315	3,381	3,455	3,523	3,600
Ward Remainder (Lakes Murchison)	2,475	2,538	2,596	2,659	2,738	2,870
Ward Remainder (Motueka)	3,313	3,417	3,516	3,632	3,763	3,975
Ward Remainder (Moutere Waimea)	3,988	4,114	4,232	4,372	4,530	4,785
Ward Remainder (Richmond)	1,487	1,522	1,588	1,756	1,966	2,405
Total for District	45,800	47,104	48,369	49,955	51,705	54,672

The population projections are used to determine a demand for new dwellings in each Settlement Area.

### F.1.3. Business Forecast

In the GDSM 2008 for the LTP 2009 – 2019, three economic demand assessments were used to build a quantitative picture of business growth in terms of employment growth and linked growth in demand for business space. Each study provided different datasets, but an aggregate picture of estimated business land demand in the Tasman district, including, Motueka and Environs, Golden Bay, and Tasman district balance including Richmond.

For the GDSM 2011, a high level consideration of business growth opportunities showed that in the two main demand areas (Richmond as part of the eastern subregional demand catchment of Nelson-Tasman, and at Motueka as the centre of the western subregional demand catchment), there is a large business land supply capacity becoming available for business development. This includes the current deferred business zonings in both the Richmond West Development Area, and draft deferred zonings in Motueka West Development Area.

It was considered this amount of supply capacity will meet the expected needs of business growth for at least 50 years (well beyond the 20 year projection). On this basis the 2011 review of the GDSM simply adopted the data and assumptions in the 2008 GDSM but updated the datasets by extrapolation for a further three years (2029 to 2032).

Looking ahead, there are three main difficulties with relying on the historical demand assessments as the basis for business growth demand forecasts:

- the economic modelling by the consultants' assessments used two different sets of now-dated census data for economic and employment growth
- the demand assessment methods have yielded results of limited reliability at the level of individual SAs, as the areas assessed yielded aggregate results from an undisclosed simulation economic modelling routine, that have then been apportioned and subject to a number of simplifying assumptions
- the consultant work done is not in a Council managed information system and does not provide confident results in a regional (Nelson-Tasman) context especially for future Nelson-Richmond urban area forecasting.

What is required is the development of a regional (Nelson-Tasman) economic simulation model capable of yielding results at the SA level, and suitably populated with current data, to yield more reliable segmented business land demand estimates, for each SA. This is a strategic priority for further work after the completion of the GDSM 2011 review.

#### F.1.4. Rollout Assessment

Once the analysis of demand for residential dwellings and buildings in each Settlement Area has been completed, and when the supply potential for new subdivision and dwelling/building construction has been assessed for each Development Area. The rollout analysis is done. This seeks to forecast when and if the demand for dwelling and business premises will be met and if so where and when. This results in a forecast for each Development Area of:

- the number of new residential dwellings that will be created through subdivision or building on vacant lots
- the number of new business buildings that will be created through subdivision or building on vacant lots.

This information can then be used to plan how and where network infrastructure needs to be developed and to what capacity.

## F.2 Waste Assessment

As identified in the waste assessment<sup>5</sup> (WA) the future demands for waste management and minimisation services in the Nelson and Tasman districts will be driven by a number of primary drivers including:

- demographic change eg. population and/or household changes
- change in commercial and industrial activity / economic conditions
- impact of waste flows from other areas
- consumption patterns / product quality
- national policy, legislation and regulation
- impact of waste minimisation programmes, services and future initiatives (demand management strategies)
- community expectations.

<sup>5</sup> Tasman-Nelson Join Waste Assessment Report (Morrison Low, March 2010)

Future demands or waste management issues were identified (pg 57-58 of WA) as:

- optimising the use of the two landfills so as to control residual waste stream and ensure income certainty
- plan waste management and minimisation for long term regional interest
- continue moving towards diversion of waste from landfill
- consider economic feasibility of new or improved services, to ensure rates increases are kept at a minimum
- consider benefits to Council(s) of working on an individual or collective basis
- work collaboratively and effectively to obtain economies of scale
- appropriately manage Emissions Trading Scheme costs
- continue with user-of-service pays principles
- consider use of waste levy funds for waste minimisation initiatives
- set realistic and “SMART” targets
- consider implications of “Product Stewardship” schemes
- councils overall commitment to “towards zero waste” principle.

The options assessment (Appendix G of WA) considered the service components of:

- organics
- paper and packaging
- construction and demolition
- refuse collection
- disposal
- policy development.

The waste assessment identified the waste streams for priority waste minimisation action (pg 67-76 of WA) as:

- organics
- recyclable packaging and paper
- inorganic and ‘special’ wastes
- timber (and other construction and demolition waste)
- hazardous waste.

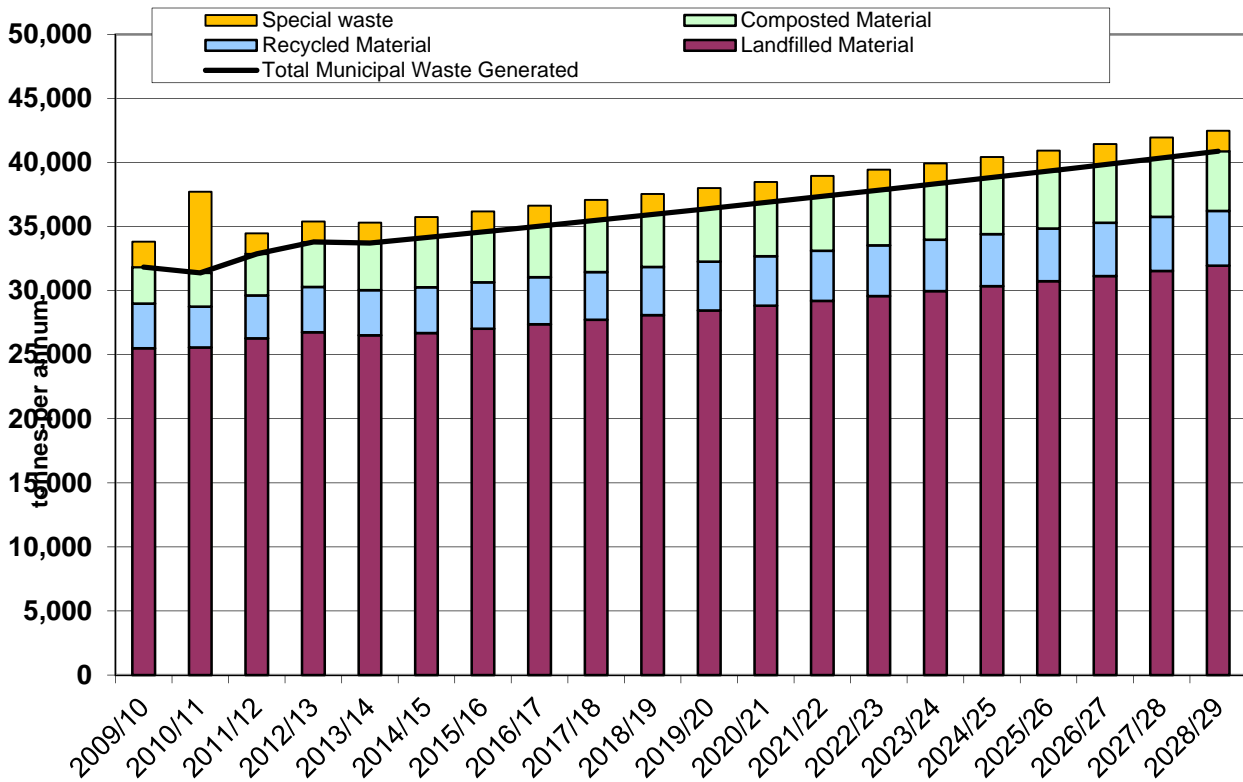
### **F.3 Projection of Demand for Solid Waste Services**

#### **F.3.1. Effect of Population Growth on Future Waste Quantities**

It is generally accepted that an increase in the production of solid waste is directly related to population increases, and to economic growth.

Solid waste reduction (or diversion) is directly related to the extent and effectiveness of waste prevention and minimisation initiatives that may be introduced.

Figure F-1 shows the projected future waste quantities for the next 20 years and the impact of current recycling and composting initiatives on the amount of material being landfilled. This is based on an average population growth of 1.05% per annum. It does not show the impact that waste prevention measures (eg. education and promotion) may have on the total waste generated each year, as the scale of these measures is considered to be relatively small and is difficult to measure and predict.



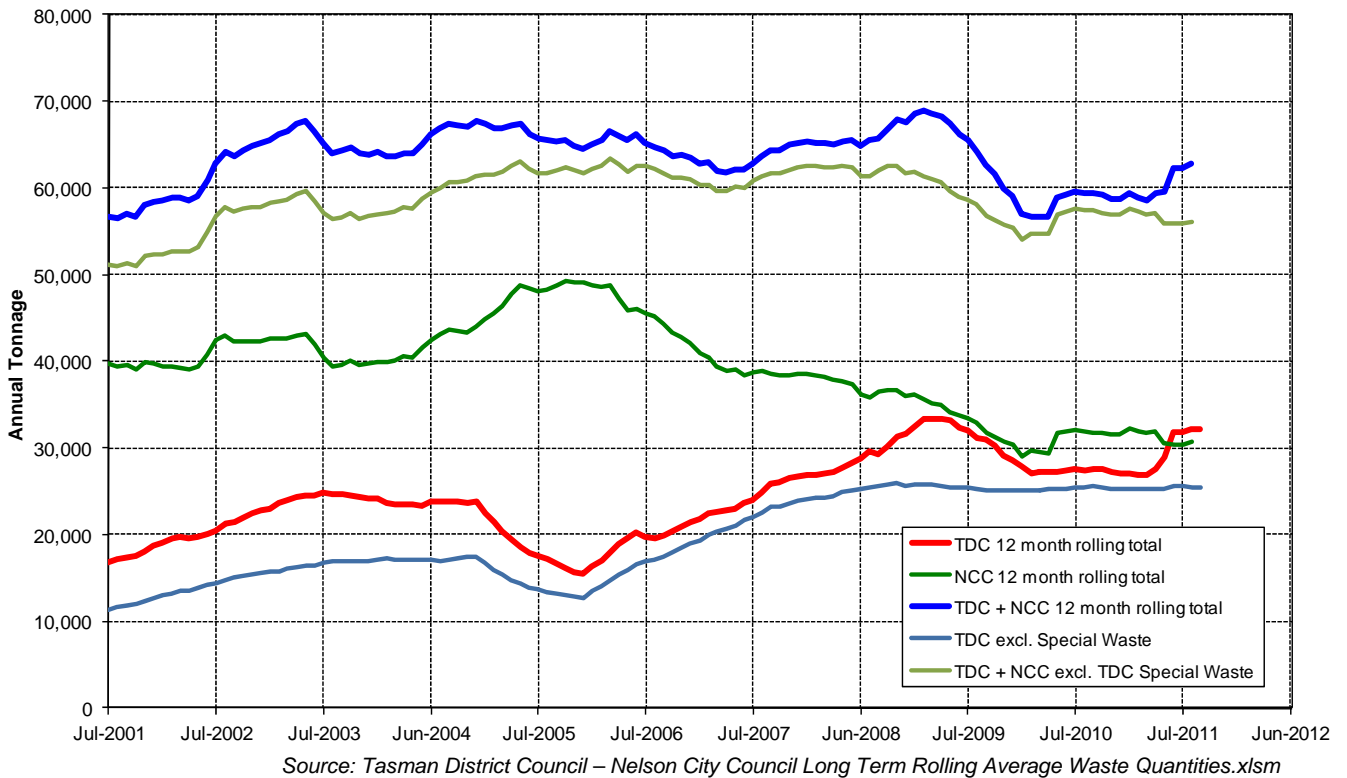
Source: Activity 20yr Operational Forecast for AMP2012 - Solid Waste.xlsm

**Figure F-1: Projected Future Waste Quantities and Waste Minimisation Initiatives**

These projected future waste quantities have been used to determine future solid waste asset capacity requirements and additional operation and maintenance costs.

Recent changes in disposal charges have led to swings in waste disposal between the Eves Valley Landfill and the York Valley Landfill (operated by Nelson City Council). This makes it necessary to consider waste trends from both sites when assessing trends in landfill waste, and difficult to predict remaining landfill life of each site.

### Tasman District and Nelson City Waste to Landfill



**Figure F-2: Solid Waste Capital Forecast – by Area**

Changes in projected growth rates, waste quantities and effectiveness of waste prevention and minimisation measures will impact particularly on the remaining life of each stage of the Eves Valley Landfill Site.

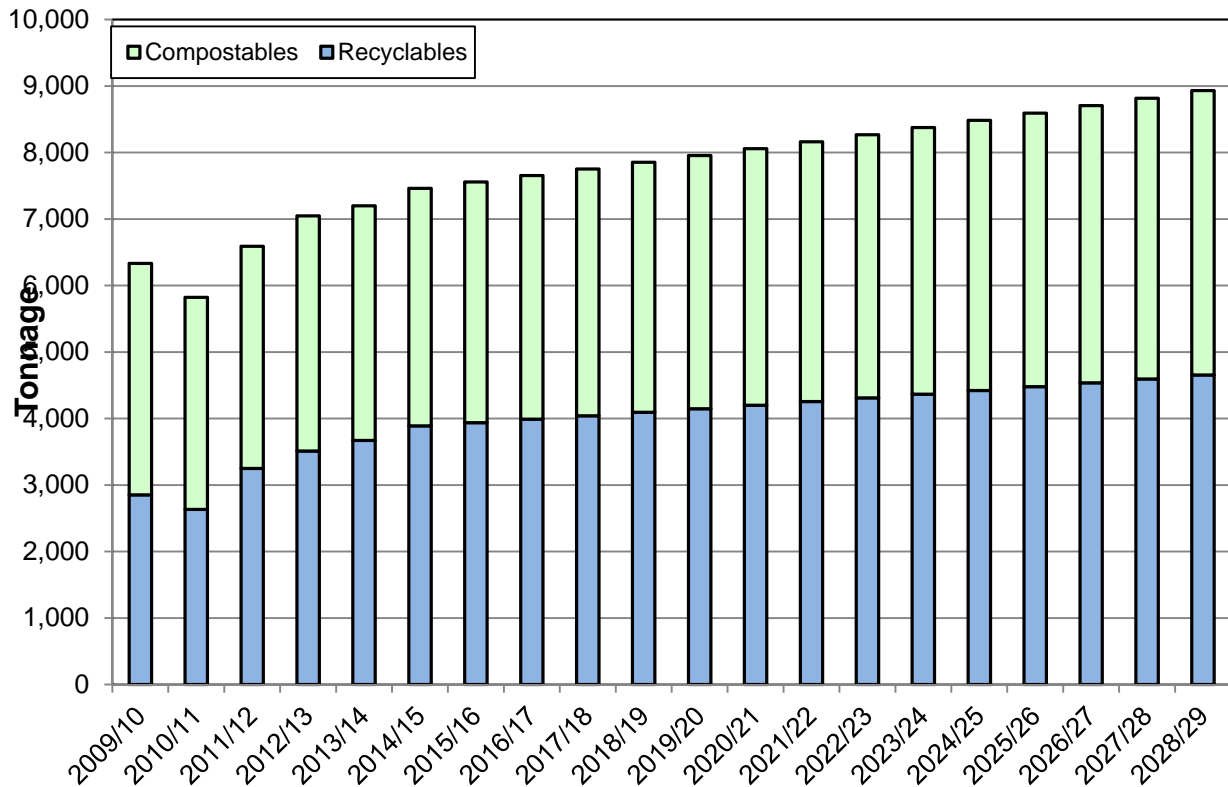
#### F.3.2. Implications of Changes in Community Expectations

Community expectations vary geographically and over time. Key trends in community expectations that the Council recognises include those listed in Table.

**Table F-2: Trends in Community Expectations**

Trends in Community Expectations	Implications for Solid Waste Management	How Council Plans to Address the Issues
Environmental awareness is leading to a demand for higher standards at disposal and treatment facilities.	Resource consents for future facilities may be more difficult to obtain and require an increased level of environmental protection.	Council will seek to proactively identify consent compliance or public perception issues at each site.
Increased demand for and higher expectations of kerbside recycling services.	Council's existing kerbside service may need to be expanded to be more convenient, user friendly and able to accommodate a wider range of materials.	Council will survey existing users on an annual basis to identify customer satisfaction. Council is proposing to widely consult with the public on future services as part of the WMMP process.
Increased demand for treatment of special waste products (rather than disposal to landfill).	Increasing demand for drop-off facilities for special products (eg. e-waste, paint etc.).	Council is proposing to significantly upgrade facilities at RRC sites and will include provision for an increased range of recyclable items. It is expected that some funding for the handling of these materials will be provided by product stewardship provisions.

Over the next 20 years Council plans to maintain existing kerbside recycling services, and to encourage diversion of residual waste from landfill through Waste Minimisation initiatives. The following figure (Figure F-3) provides an indication of the possible tonnages of material that may be diverted away from landfill assuming these initiatives continue to be successfully implemented.



Activity 20 year Operational Forecast for AMP2012 - Solid Waste.xlsm

**Figure F-3: Waste Minimisation Initiatives Contribution to Waste Reduction**

Table F-2 shows that considerable effort will be required to reduce waste quantities significantly, and then to continue reducing them as the population increases and economic development continues.

Levels of service are reviewed every three years in association with the review of this Activity Management Plan and the Council's LTP. Community expectations are taken into account and undergo community consultation in association with the LTP.

Capital works identified to meet the levels of service are summarised in the Capital Works Programme below. Please refer to Appendix R for further information on levels of service.

### F.3.3. Implications of Technological Change

Technological change has the ability to impact on the demand for solid waste services. These changes can reduce or increase the demand for solid waste infrastructure. Relevant examples are:

- industry altering the design of packaging to become more environmentally friendly, reducing packaging or allowing more reuse, recycling or composting of packaging wastes,
- development of more economic recycling or composting technology.

It is important to be aware of continued technological changes to adequately predict demand trends and the effect on infrastructure requirements. There are no predicted technological changes that are likely to have a significant effect on the assets in the medium-term.

#### F.3.4. Implications of Legislative Change

Legislative change can significantly affect the Council's ability to meet minimum levels of service, and can require improvements to infrastructure assets. Possible future legislative changes that will impact on Council's ability to meet required standards and may require improvements to infrastructure assets are detailed further in Appendix A.

Of note, the implementation of the Waste Minimisation Act 2008 is likely to have significant impact on Council's solid waste activities over the next 10 years. The Act replaces some provisions of the Local Government Act 1974 and 2002 and requires Council to carry out waste assessments and prepare waste management and minimisation plans by 2012. The Act now requires Council to have a greater regard for waste minimisation activities (rather than simply planning for appropriate processing and/or disposal) and potentially sets minimum standards. It requires additional reporting by Council on waste activities, introduces a landfill waste levy of \$10 per tonne and makes provision for "product stewardship" schemes.

#### F.3.5. Price Elasticity of Demand

It is generally accepted that the feasibility of waste reduction measures is directly related to the relative cost of landfill disposal and alternative options. Increased landfill disposal costs will likely lead more businesses to consider alternative waste management options and will lead to recycling and other treatment methods becoming cost competitive.

Council is proposing a steady increase in landfill disposal charges in the short to medium term. This increase will result in a closer to full recovery of disposal costs and will in turn improve the feasibility of commercial recycling and waste reduction services. Council also recognises that this may lead to some increase in inappropriate disposal and require compliance and enforcement measures.

In a similar manner, the feasibility of recycling and other alternative disposal options (such as composting or reprocessing) will be related to the value of the end product diverted from landfill. Many of these commodity values are outside of Council's control and may be difficult to manage.

### F.4 Assessment of New Capital Works

During May to July 2011, a number of workshops with the project team were held to identify new works requirements. New works were identified by:

- reviewing levels of service and performance deficiencies
- reviewing risk assessments
- reviewing previously completed investigation and design reports
- using the collective knowledge and system understanding of the project team.

Each project identified was developed with a scope and a project cost estimate. Common project estimating templates were developed to ensure consistent estimating practices and rates were used. This is described in Appendix Q. The project estimate template includes:

- physical works estimates
- professional services estimates
- consenting and land purchase estimates
- contingencies for unknowns.

All estimates are documented and filed in an Estimates file to be held by Council.

The information from the estimates has then been entered into the Capital Forecast spreadsheet/database that enables listing and summarising of the Capital Costs per project, per scheme, per project driver and per year. This has been used as the source data for input into Council's financial system for financial modelling.



## F.5 Determination of Project Drivers and Programming

All expenditure must be allocated against at least one of the following project drivers.

Operations:	operational activities which have no effect on asset condition but are necessary to keep the asset utilised appropriately and on-going day-to-day work required to keep assets operating at required service levels <sup>6</sup> .
Renewals:	significant work that restores or replaces an existing asset to its original size, condition or capacity <sup>7</sup> .
Increase Level of Service:	works to create a new asset to upgrade or improve an existing asset beyond its original capacity or performance to improve the level of service provided to existing customers.
Growth:	works to create a new asset to upgrade or improve an existing asset beyond its original capacity or performance to provide for the anticipated demands of future growth.

This is necessary for two reasons as follows:

- Schedule 13(1) (a) of the Local Government Act requires the local authority to identify the total costs it expects to have to meet relating to increased demand resulting from growth when intending to introduce a Development Contributions Policy.
- Schedule 10(2)(1)(d)(i)-(iv) of the Local Government Act requires the local authority to identify the estimated costs of the provision of additional capacity and the division of these costs between changes to demand for, or consumption of, the service, and changes to service provision levels and standards.

All new works have been assessed against these project drivers. Some projects may be driven by a combination of these factors and an assessment has been made of the proportion attributed to each driver. A guideline was prepared to ensure a consistent approach to how each project is apportioned between the drivers.

Some projects may be driven fully or partly by needs for renewal. These aspects are covered in Appendix I.

The projects have been scheduled out across the 20 year period, primarily based on their drivers. They were then loaded into Mapinfo along with projects from all other engineering activities to allow Programme Managers to assess any programme clashes or optimisation opportunities.

## F.6 Project Prioritisation

All projects identified as potential solutions to meet future demand, increase levels of service, or as renewal were discussed in workshops during May to July 2011. These workshops were attended by key council staff, key members of the MWH New Zealand Ltd team, and representatives from Council's contractors.

Each project identified was assigned an initial project priority of either non-discretionary or discretionary where:

A non-discretionary investment is one that relates to:

- a critical asset, that without investment is likely or almost certain to fail within the next three years, with a medium, major or extreme impact
- any asset that has a regulatory requirement to make the proposed investment.

A discretionary investment is one that relates to:

- a non-critical asset with no regulatory requirement to make the proposed investment
- a critical asset where asset failure is possible, unlikely or very unlikely to occur within the next three years with no regulatory requirement to make the proposed investment
- a critical asset where asset failure has only a negligible or minor impact with no regulatory requirement to make the proposed investment.

Council is currently reviewing the way that they prioritise their work programmes; the outcome of this review will be developed over the coming year to be implemented for the next Activity Management Plan update.

<sup>6</sup> Definition from International Infrastructure Management Manual – Version 3.0, 2006, pg 3.114

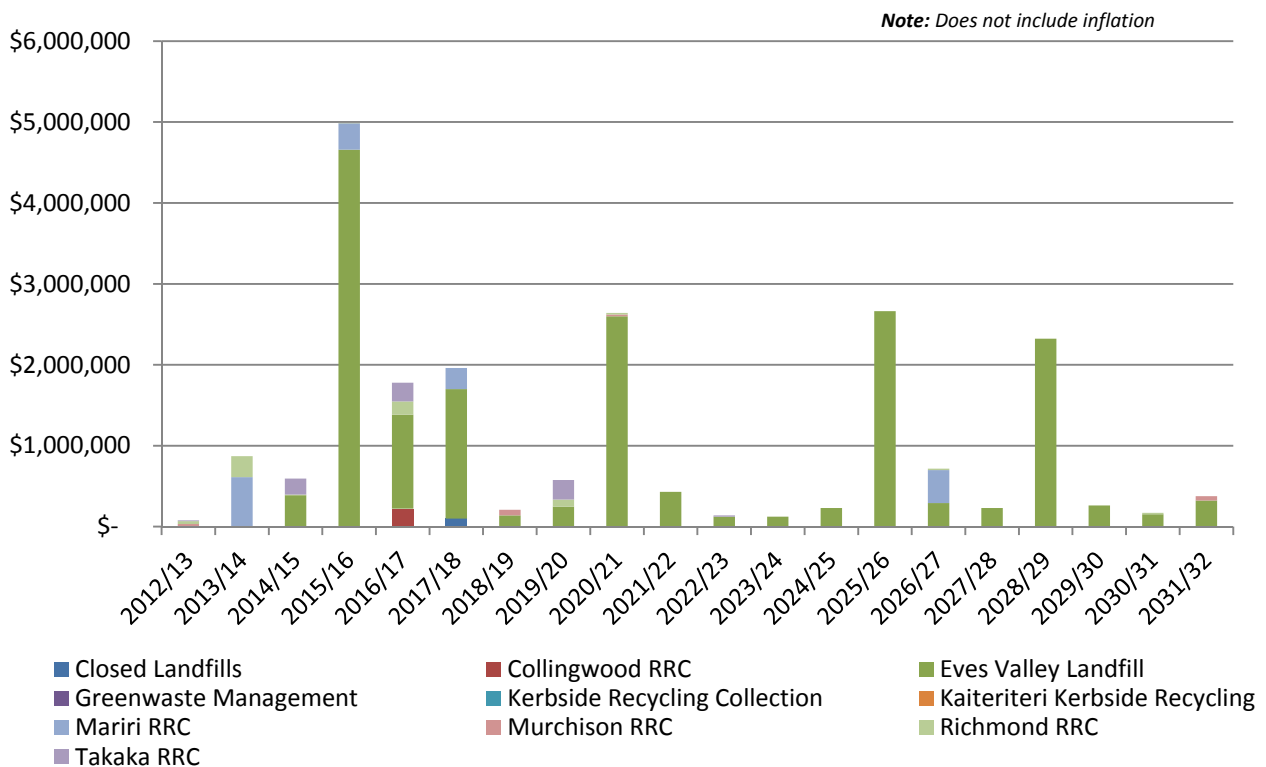
<sup>7</sup> Definition from International Infrastructure Management Manual – Version 3.0, 2006, pg 3.114

### F.7 Developer Created Assets

It is very unlikely that any private developers will construct solid waste assets to be vested to Council as Council is normally responsible for the upgrading/upsizing of existing assets to provide for increased volumes associated with growth.

### F.8 Forecast of New Capital Work Expenditure

The capital programme that has been forecast for this activity where the primary driver is classed as New Works (ie. growth or levels of service) is shown in the following Figures. Note there is no growth driven projects.



**Figure F-4: 2012 – 2032 Solid Waste New Capital Expenditure by Scheme**

**Figure F-5: 2012 – 2032 Solid Waste New Capital Expenditure**

*Solid Waste Forecast Expenditure - New Capital*

Item	Scheme	Project Name	Description	GL Code	Total Project Cost	Total New Capital	2012/13 Year 1	2013/14 Year 2	2014/15 Year 3	2015/16 Year 4	2016/17 Year 5	2017/18 Year 6	2018/19 Year 7	2019/20 Year 8	2020/21 Year 9	2021/22 Year 10	2022/23 Year 11	2023/24 Year 12	2024/25 Year 13	2025/26 Year 14	2026/27 Year 15	2027/28 Year 16	2028/29 Year 17	2029/30 Year 18	2030/31 Year 19	2031/32 Year 20	Beyond Year 20
116	Closed Landfills	Mariri Old Rock Protection and Resource Consent	Rock protection works as identified in the Closed Landfills Visual Inspection Report dated 4 April 2011	7056211004	100,000	100,000						100,000															
54	Collingwood RRC	Site Fencing	New internal fencing to improve security	7106211004	53,751	16,663					16,663																
87	Collingwood RRC	Site Development	Enhancements to safety and ease of Refuse Drop-off Area facility use, other Site enhancements as identified in the SDP, landscaping	7106211012	214,600	214,600					214,600																
70	Eves Valley Landfill	Stage 3 Development	Construction of Stage 3	7016211001	15,387,900	15,387,900			184,655	3,293,011	169,267	1,600,342	138,491	246,206	2,600,555	430,861	123,103	123,103	230,819	2,662,107	292,370	230,819	2,323,573	261,594	153,879	323,146	
72	Eves Valley Landfill	Capping of Stage 2	Use onsite clay to cap Stage 2 as required by Resource Consent (first two years must be prior to 2019)	7016211003	617,100	617,100			203,643	203,643	209,814																
120	Eves Valley Landfill	Retrofit LFG to Stage 2	Install landfill gas collection system into Stage 2 of Eves Valley Landfill (required by ETS regulations by 2013)	7016211011	2,151,200	2,151,200		752,920	1,075,600	107,560	107,560	107,560															
30	Mariri RRC	Recycling facilities	Provision of storage shed for processed recyclables	7036211007	406,400	406,400														406,400							
109	Mariri RRC	Stage 2 - Site Development	[Year 1 = carry out pit modifications with compactor and bin purchase (\$612,600)] [Year 4 = Improve access to public and commercial recycling drop-off areas, reverse flow direction to direct all vehicles over weighbridge, with ramp construction (\$325,400)]	7036211013	938,000	938,000	612,600			325,400																	
110	Murchison RRC	Stage 1 - Site Development	Stage 1 - Install security camera (\$9,000), Install winch to pit cover (\$22,000),	7276211010	31,000	18,600	18,600																				
140	Richmond RRC	Site Development - Landscaping	Enhance / extend landscaping	7026211016	42,300	42,300	21,150	8,460	8,460	4,230																	
143	Takaka RRC	Stage 1 - Site Development	[Year 2 = Create recycling drop-off loop cut stormwater off from Labyrinth area, parking for re-use shop and extend bin change out area including stormwater cut off and pond improvements (\$301,200), Provide and install 25,000L fire fighting tank (\$28,700)] [Year 5 = Reseal pavement upper level (\$129,400), Shift Kiosk and provision of a road weighbridge to allow all vehicles to be weighed (\$256,300)] [Year 11 = Enhance / extend landscaping, (\$27,700)]	7116211018	743,300	445,980		197,940			231,420						16,620										

Item	Scheme	Project Name	Description	GL Code	Total Project Cost	Total New Capital	2012/13 Year 1	2013/14 Year 2	2014/15 Year 3	2015/16 Year 4	2016/17 Year 5	2017/18 Year 6	2018/19 Year 7	2019/20 Year 8	2020/21 Year 9	2021/22 Year 10	2022/23 Year 11	2023/24 Year 12	2024/25 Year 13	2025/26 Year 14	2026/27 Year 15	2027/28 Year 16	2028/29 Year 17	2029/30 Year 18	2030/31 Year 19	2031/32 Year 20	Beyond Year 20	
81	Murchison RRC	Stage 2 Site Development	Stage 2 - Enhance/extend landscaping (\$33,200), Provision of storage shed for small quantities of hazardous waste (\$18,100). Sealed and gravelled areas (\$22,291)Construction of bunkers for glass storage(\$22,600), Install roof to recyclables drop-off area (\$20,700)	7276211011	116,891	70,135							70,135															
142	Murchison RRC	Stage 3 - Site Development	Stage 3 - Pavement renewals (\$35,909), site fencing (\$90,153)	7276211012	126,062	75,637									21,545												54,092	
1	Takaka RRC	Stage 2 - Site Development	[Year 8 = Renew internal fencing to improve security (\$76,800), Seal areas of frequent traffic use, put hardstand under greenwaste, scrap metal, and other areas, reseal lower level, create C&D area, compost bunker, bunding to vehicle dismantling shed, improve concrete pond and stormwater controls (\$324,800)]	7116211019	401,600	240,960								240,960														
2	Mairi RRC	Stage 3 - Site Development	Improvements to greenwaste and cleanfill drop off areas (\$260,000)	7036211014	260,000	260,000						260,000																
5	Richmond RRC	Site Development - Bin change out area and bin weighbridge	Expand bin change out area to allow for weighbridge under the compactor bins and also extra space for additional storage.	7026211019	265,300	265,300	15,918	249,382																				
6	Richmond RRC	Site Development large recyclable storage bunkers	Provide storage bunkers for scrap steel, whiteware, cleanfill, C&D waste,	7026211020	89,700	89,700							89,700															
7	Richmond RRC	Site Development - second weighbridge	Provision of a second road weighbridge	7026211021	290,300	217,725					163,294				19,595						17,418					17,418		

25,795,389	21,558,200	668,268	1,208,702	1,472,358	3,933,844	1,112,617	2,067,902	208,626	576,866	2,641,696	430,861	139,723	123,103	230,819	2,662,107	716,188	230,819	2,323,573	261,594	171,297	377,238	
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Note: Does not include inflation

## **APPENDIX G. DEVELOPMENT CONTRIBUTIONS AND FINANCIAL CONTRIBUTIONS**

Information on Development Contributions Policy can be found in Part 5 of the Council's Long Term Plan (LTP). The Policy is adopted in conjunction with the LTP and will come into effect on 1 July 2012.

The Policy sets out the development contributions payable by developers, how and when they are to be calculated and paid, and a summary of the methodology and rationale used in calculating the level of contributions.

The key purpose of the Development Contribution Policy is to ensure that growth, and the cost of infrastructure to meet that growth, is funded by those who cause the need for and benefit from the new or additional infrastructure, or infrastructure of increased capacity.

There are no specific development contributions applicable to the solid waste activity. However, development of Solid Waste assets may require connections and upgrades of the other infrastructure such as roading, water and wastewater and could then be subject to development contributions. The Development Contribution Policy in the LTP summarises where and how these are applied and how they are calculated.

## APPENDIX H. RESOURCE CONSENTS AND PROPERTY DESIGNATIONS

### H.1 Introduction

The statutory framework defining what activities require resource consent is the Resource Management Act (RMA) 1991. The RMA deals with:

- the control of the use of land
- structures and works in river beds and in the coastal marine area
- the control of the taking, use, damming and diversion of water, and the control of the quantify, level and flow of water in any water body
- the control of discharges or contaminants onto land and into water, and discharges of water into water.

The RMA is administered locally by Tasman District Council, a Unitary Authority, through the Tasman Resource Management Plan (TRMP) which sets out Policies, Objectives and Rules controlling activities to ensure they meet the Purpose and Principles of the RMA.

A very important aspect of the solid waste activity is to ensure that any discharge of contaminants to the district’s land, air and natural water resources is managed responsibly.

Council’s solid waste facilities have an essential role in ensuring that solid waste produced within the district is properly collected and disposed of in ways that meet community expectations and avoid causing significant adverse effects in the environment.

Under the RMA and TRMP, resource consents in the form of discharge permits are required for disposal of wastes and any associated odours and discharges. Other resource consents may also be required for installation and operation of solid waste facilities, such as Resource Recovery Centres (RRCs).

Council has designated most of the solid waste sites, which is an alternative way provided for in the RMA of authorising the land use aspects of public works.

Council holds resource consents or designations for all of its solid waste activities to the extent required by the RMA and current rules in the TRMP.

Environmental monitoring is required by many of the discharge consents. Limits and standards also apply to most consents. This information is held by Council in consent registers, System Operating Plans, and monitoring programmes which are updated as necessary. Consent condition management is carried out by the Council’s Professional Services Consultant using the data management system NM2.

Short-term consents are required from time to time for construction activities including the installation of bores for monitoring wells or fresh water sources at solid waste facilities.

### H.2 Schedule of Resource Consents

A detailed register of solid waste resource consents is listed in Table H-1 below. It should be noted that the list is accurate at the time of compilation (September 2011), and is subject to change.

**Table H-1: Schedule of Current Resource Consents Relating to the Solid Waste Activity**

Location	Consent No.	Consent Type	Effective Date (ER)	Expiry Date
<b>RRCs</b>				
<b>Richmond RRC</b>	RM050981V1	Discharge To Water Permit	21/07/2006	2/06/2041
<b>Mariri RRC</b>	RM090392	Discharge To Land Permit	31/08/2009	31/08/2044
<b>Collingwood RCC</b>	NN990433	Land Use Consent (other)	17/12/1999	16/12/2034
	RM080128	Bore Permit	28/03/2008	28/03/2009
<b>Takaka RRC</b>	RM940041/NN940057/NN940058	Land Use Consent (other)	30/05/1994	31/05/2014

Location	Consent No.	Consent Type	Effective Date (ER)	Expiry Date
<b>Murchison RRC</b>	RM071027, RM071231	Discharge To Air and Water Permit	15/04/2008	15/04/2028
<b>Operational Landfill</b>				
<b>Eves Valley Landfill</b>	NN970122	Discharge To Land Permit (and variations)	23/08/1998	1/10/2015
	NN970272	Discharge To Air Permit	23/03/1998	1/10/2015
	NN970271	Discharge To Water Permit	23/03/1997	1/10/2015
<b>Closed Landfills</b>				
<b>Tasman District Council Closed Landfills</b>	RM090694/RM090695	Multiple Consents (Global Consent)	21/12/2009	21/12/2044
<b>Cobb Valley (Ernies Flat)</b>	NN970153	Discharge To Water Permit	29/07/1998	1/03/2017
<b>Former Tapawera RRC</b>	T2/9/93-0060	Land Use Consent (other)	1/09/1993	1/09/2028
<b>Rototai Closed Landfill</b>	RM090203/RM090379	Land Use Consent (other)	28/07/2009	28/07/2019
<b>Upper Moutere Landfill</b>	880380	Discharge To Water Permit– <i>to be replaced by Global Consent</i>	4/12/1988	4/11/2008

Source: NM2

NB: this table does not include Bore Permits (construction) at Takaka and Murchison Landfill, or the Murchison Designation consent.

Further detail of these consents is in the relevant section of Appendix B.

Where permits for discharges, water takes or coastal activities, or consents for river beds are required, the RMA restricts those consents to a maximum term of 35 years only. Hence there needs to be an on-going programme of “consent renewals” for those components of Council’s solid waste activities, as well as a monitoring programme for compliance with the conditions of permitted activities or resource consents. Consent renewals have been programmed in the Capital Works budgets, refer to Appendix I for further details.

### H.3 Resource Consent Reporting and Monitoring

Council aims to achieve minimum compliance with all consents and / or operating conditions. The achievement of solid waste activities to meet consent requirements is reported on in a number of different ways as detailed below.

#### H.3.1. Environmental Reporting and Monitoring

Environmental monitoring conditions are reported on quarterly, six monthly and/or annually as determined by the consent conditions. Any non-compliance incidents are recorded, notified to Council’s Compliance Officer, and mitigation measures put in place to minimise any potential impacts.

All monitoring data associated with solid waste facilities is stored on Council’s ‘Samplyzer’ database. ‘Samplyzer’ is also used to produce Chain of Custody forms for all monitoring so Council, the operation and maintenance contractor, Council’s consultants, and laboratory all use the same sample identifiers. ‘Samplyzer’ also allows the automated input of monitoring data direct from electronic laboratory reports. Monitoring data stored in ‘Samplyzer’ can be viewed and reported on by Council and MWH New Zealand Ltd, the Council’s professional services provider, using the Hilltop computer programme.



### H.3.2. NM2

MWH New Zealand Ltd has developed a database (NM2) of all refuse, roading, stormwater, water, and wastewater resource consents. The management of this database allows the accurate programming of all actions required by the consents including renewal prior to consent expiry. NM2 also drives the overall solid waste annual monitoring programme. NM2 is actively updated to ensure all consent conditions are complied with and that all relevant reporting requirements are adhered to.

### H.3.3. Key Performance Indicator Inspections

Monthly site inspections are undertaken by MWH New Zealand Ltd, at each site. During these site investigations the performance of the contractor and the general compliance of the site is measured against a number of Key Performance Indicators (KPI's). These assessments are provided to Council on a monthly basis

### H.3.4. Annual Site Reports

Where required by consent conditions an annual report is also prepared for each site. This report generally summarises any physical works undertaken on site, details any monitoring results, identifies trends, discusses current performance, highlights any non-compliances, and recommends any changes to the monitoring programme.

### H.3.5. Council Annual Report

The extent to which the Council has been able to meet all of the conditions of each permit is reported in its Annual Report each year.

A summary of how Council is performing against this Level of Service is also provided in Appendix R.

### H.3.6. State of the Environment Report

As part of its obligations under the RMA, the Council monitors the state of surface water quality and river health at sites throughout the district.

A report titled *River Water Quality in Tasman District 2010* was jointly produced by the Cawthron Institute (Report Ref. 1893) and Tasman District Council (Report Ref. R10001). This report is also available on the Council's website ([www.tasman.govt.nz](http://www.tasman.govt.nz)).

## H.4 Property Designations

Council has various designations for 'Refuse Disposal' to ensure that these "important existing installations are suitably protected by the Plan, and that their future operation, maintenance and upgrading is appropriately provided for"<sup>8</sup>. These are designated in the TRMP as:

- 'Waste management facility', or
- 'Sanitary landfill' - The excavation and reshaping of the area, backfilling with refuse and covering with soil material in a controlled and monitored manner to enable the stabilisation, reshaping and rehabilitation of the area, including protection, planting of trees, shrubs and grasses. The operation may include hazardous waste, the sorting, (including resource recovery) and composting of materials, or
- 'Transfer station' - A facility for the management of refuse; collection, processing, treatment and transfer, or
- 'Tip' - Disposal of refuse to ground to a lesser standard of control than a sanitary landfill.

All Council designations associated with Solid Waste activities are summarised in Table H-2 following

<sup>8</sup> Tasman Resource Management Plan Appendix 1 to Part II Land section A1.10

**Table H-2: Property Designations**

ID	Location of Site	Area Map No	Site Name/Function	Purpose of Designation	Legal Description	Area (ha)	Duration of Designation
<b>D160</b>	Beach Road, Richmond	122	Waste management facility	Waste management facility	Pt Lot 1 DP 7528 Lot 1 DP 16384 Lot 2 DP 16384	4.25	*
<b>D161</b>	Robinsons Road, Mariri	52	Tip	Tip	Lot 2 DP 5152	3.64	*
<b>D162</b>	State Highway 63, St Arnaud	35,150	Tip	Tip	Pt Sections 4, 92 and 102, Sq 46, Section 10, Block XIII, Motupiko Survey District, SO 10406		*
<b>D163</b>	Eves Valley	56	Sanitary landfill refuse disposal	Sanitary landfill refuse disposal	Lot 1 DP 13422	42.04	*
<b>D164</b>	Murchison, Matakītaki West Bank Road	91	Sanitary landfill refuse disposal	Refuse Station/Refuse Transfer Facility	Lot 1 DP 5163	2.55	*
<b>D166</b>	Collingwood West	72	Refuse tip	Refuse tip	Section 393 Town of Collingwood, SO 1012	1.172	*

\* = designation has been given effect to

It will not be necessary to retain the designations for sites where solid waste facilities have been developed, unless there is a likelihood of future expansion or other upgrades or changes being required. Alterations to some designation boundaries may be required, and Outline Plans prepared for proposed new works on the designated sites. Also, designations do not negate the on-going need for regional resource consents (eg. discharge permits) for existing facilities or future upgrades.

## **APPENDIX I. CAPITAL REQUIREMENTS FOR FUTURE RENEWALS**

### **I.1 Introduction**

Renewal expenditure is major work that does not increase the asset's design capacity but restores, rehabilitates, replaces or renews an existing asset to its original capacity. Work over and above restoring an asset to original capacity is new works expenditure.

### **I.2 Renewal Strategy**

Assets are considered for renewal as they near the end of their effective working life or where the cost of maintenance becomes uneconomical and when the risk of failure of the assets is sufficiently high.

Renewal decisions are supported by the consultant's and maintenance contractor's annual report and programme of work based on their knowledge of the systems. In addition, the theoretical life expectancies of asset components have been used for the purpose of financial projections.

Non-performing assets are identified by the monitoring of asset reliability, capacity and efficiency during planned maintenance inspections, operational activity and investigation of customer complaints. Indicators of non-performing assets include:

- structural failure
- repeated asset failure
- ineffective and/or uneconomic operation.

The renewal programme will be reviewed at least annually, with any deferred work re-prioritised alongside new renewal projects and a revised programme established.

Assets requiring renewals including all mechanical, electrical, and civil works were identified from the Confirm database and the Asset Valuations Report. Assets with anticipated failure year and replacement costs were discussed at the project identification workshops.

To smooth the expenditure profile the timing of some renewal projects have been grouped together in a logical manner to minimise the cost of the renewal.

Prior to any assets being renewed, the operations and maintenance contractor will inspect these assets to confirm whether renewal is actually necessary. In the event it does not need to be renewed, a recommended date of renewal is then inputted back into Confirm. This new date will then be included in the next AMP update.

### **I.3 Delivery of Renewals**

Minor renewal projects are typically carried out by the relevant operation and maintenance contractor. Contracts for larger value renewal projects are tendered in accordance with the Procurement Strategy.

### **I.4 Renewal Standards**

The work to be performed and materials to be used shall comply with the current Tasman District Council Engineering Standards.

### **I.5 Deferred Renewals**

Deferred renewals is the shortfall in renewals required to maintain the service potential of the assets. This can include:

- renewal work that is scheduled but not performed when it should have been and which is has been put off for a later date (this can often be due to cost and affordability reasons)
- an overall lack of investment in renewals that allows the asset to be consumed or run-down, causing increasing maintenance and replacement expenditure for future communities.

### I.5.1. Assessment of Deferred Renewals

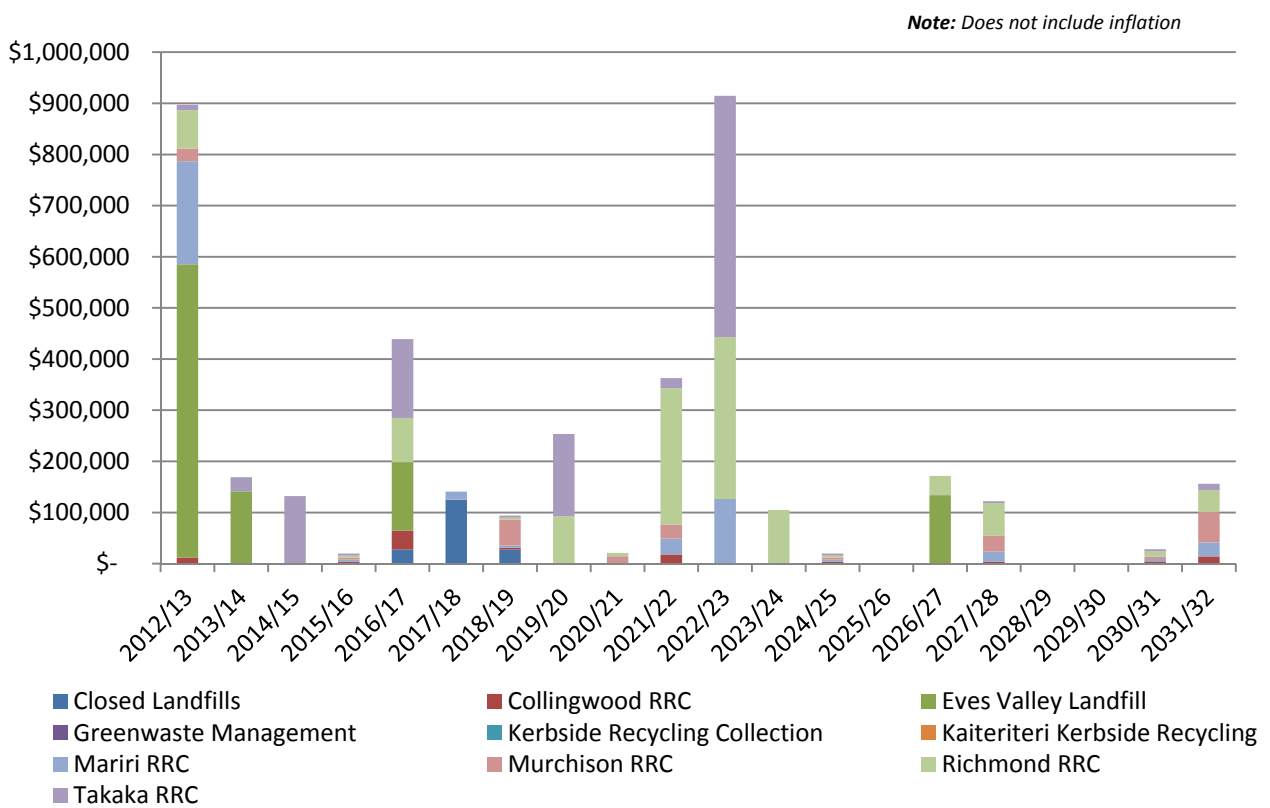
The extent of deferred renewals can be identified by comparing the accumulated investment in renewals with accumulated annual depreciation. This information then forms the basis of a renewals strategy. Council is yet to complete the process for this activity and hence it has been included in the improvement plan.

### I.5.2. Management and Mitigation of Deferred Renewals

Whilst the exact extent of deferred renewals is not identified, Council can manage potential effects on levels of service by routinely undertaking inspections and reviewing the renewals programme.

## I.6 Forecast of Renewals Expenditure

Figure I-1 and Table I-1 shows the projected renewal costs for the next 20 years.



**Figure I-1: 2012 – 2032 Solid Waste Renewal Expenditure by Scheme**

**Table I-1: Breakdown of Expenditure Forecast for Renewals**

*Solid Waste Forecast Expenditure - Renewals*

Item	Scheme	Project Name	Description	GL Code	Total Project Cost	Total Renewals	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	Beyond Year 20
							Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	
83	Closed Landfills	Closed Landfill Consent Renewals	Closed Landfill Global Consent (Cobb Valley expires 01/03/2017; Rototai Closed Landfill land disturbance consent expires 28/07/19 but consent to occupy CMA does not expire until 2044)	7056211003	55,000	55,000					27,500		27,500														
117	Closed Landfills	Cap Renewals	Cap renewal work at Appleby, Lodder Lane, Mariri RRC, Richmond RRC, and Waiwhero as identified in the Closed Landfills Visual Inspection Report dated 4 April 2011	7056211005	125,000	125,000						125,000															
51	Collingwood RRC	Site Signage	Road and on-site signage	7106211001	42,400	42,400										13,992										13,992	14,416
54	Collingwood RRC	Site Fencing	New internal fencing to improve security	7106211004	53,751	37,088					37,088																
61	Collingwood RRC	Collingwood Consent Renewal	Consent renewal	7106211011	22,000	22,000																					22,000
90	Collingwood RRC	Renew computers	Replace computers every 3 years	7106107	28,000	28,000	3,920			3,920			3,920			3,920			3,920			3,920			4,480		
71	Eves Valley Landfill	Pavement Enhancements	Access road sealing and development	7016211002	267,700	267,700					133,850										133,850						
76	Eves Valley Landfill	Consent Renewal + closure plan	Investigations & Consent for Stage 3 (3x discharge consents (NN 970271, NN 970122, NN970272) expire 1/10/2015)	7016211007	671,185	671,185	529,615	141,570																			
145	Eves Valley Landfill	Stage 2 Earthworks	Bulk earthworks	7016211013	43,700	43,700	43,700																				
24	Mariri RRC	Site Signage	Road and on-site signage	7036211001	82,600	82,600										27,258										27,258	28,084
34	Mariri RRC	Mariri Consent Renewals	Consent renewal	7036211011	27,500	27,500																					27,500
91	Mariri RRC	Remedial works to Mariri Landfill	Identify and construct remediation works to the front face of the Mariri Landfill	7036211012	189,500	189,500	189,500																				
98	Mariri RRC	Renew computers	Replace computers every 3 years	7036107	28,000	28,000	3,920			3,920			3,920			3,920			3,920			3,920			4,480		
62	Murchison RRC	Site Signage	Road and on-site signage	7276211001	71,000	71,000										23,430										23,430	24,140
84	Murchison RRC	Murchison Consent Renew	Consent renewal (expires 15/04/2028)	7276211009	27,500	27,500																27,500					
110	Murchison RRC	Stage 1 - Site Development	Stage 1 - Install security camera (\$9,000), Install winch to pit cover (\$22,000).	7276211010	31,000	12,400	12,400																				
114	Murchison RRC	Renew computers	Replace computers every 3 years	7276107	28,000	28,000	3,920			3,920			3,920			3,920			3,920			3,920			4,480		
9	Richmond RRC	Site Signage	Road and on-site signage	7026211001	32,200	32,200										10,626										10,626	10,948
15	Richmond RRC	Upgrade Tipping Pit	Sandblast and repaint steelwork	7026211007	118,600	118,600								59,300								59,300					
22	Richmond RRC	Richmond Consent Renewal	Consent renewal	7026211014	27,500	27,500																					27,500
138	Richmond RRC	Renew computers	Replace computers every 3 years	7026107	28,000	28,000	3,920			3,920			3,920			3,920			3,920			3,920			4,480		
141	Richmond RRC	Replace Compactor and Bins	Replace Compactor in 2022/23(\$316K), replace 4 bins in 2012/13 (\$31500ea) and replace all 8 in 2021/22 then refurbish 8 every bins every 5 years (4000ea)	7026211017	790,000	790,000	125,610				32,390					252,010	316,000					32,390				31,600	
35	Takaka RRC	Site Signage	Road and on-site signage	7116211001	38,500	38,500										12,705										12,705	13,090

Item	Scheme	Project Name	Description	GL Code	Total Project Cost	Total Renewals	2009/10 Year 1	2010/11 Year 2	2011/12 Year 3	2012/13 Year 4	2013/14 Year 5	2014/15 Year 6	2015/16 Year 7	2016/17 Year 8	2017/18 Year 9	2018/19 Year 10	2019/20 Year 11	2020/21 Year 12	2021/22 Year 13	2022/23 Year 14	2023/24 Year 15	2024/25 Year 16	2025/26 Year 17	2026/27 Year 18	2027/28 Year 19	2028/29 Year 20	Beyond Year 20		
41	Takaka RRC	Repaint RRC and replace hopper cover	Repaint RRC and replace hopper cover	7116211007	40,000	40,000											40,000												
45	Takaka RRC	Leachate Pump Renewal	Replace leachate pump	7116211011	3,000	3,000										3,000													
50	Takaka RRC	Takaka Consent Renewal	Stormwater consent renewal (RM940041/NN940057/NN940058)	7116211016	27,500	27,500		27,500																					
113	Takaka RRC	Replace Compactor and Bins	Replace Compactor and Bins	7116211017	421,100	421,100											421,100												
139	Takaka RRC	Renew computers	Replace computers every 3 years	7116107	28,000	28,000	3,920			3,920			3,920			3,920			3,920				3,920			4,480			
143	Takaka RRC	Stage 1 - Site Development	[Year 2 = Create recycling drop-off loop cut stormwater off from Labyrinth area, parking for re-use shop and extend bin change out area Including stormwater cut off and pond improvements (\$301,200), Provide and install 25,000L fire fighting tank (\$28,700)] [Year 5 = Reseal pavement upper level (\$129,400), Shift Kiosk and provision of a road weighbridge to allow all vehicles to be weighed (\$256,300)] [Year 11 = Enhance / extend landscaping, (\$27,700)]	7116211018	743,300	297,320		131,960			154,280						11,080												
81	Murchison RRC	Stage 2 Site Development	Stage 2 - Enhance/extend landscaping (\$33,200), Provision of storage shed for small quantities of hazardous waste (\$18,100). Sealed and gravelled areas (\$22,291)Construction of bunkers for glass storage(\$22,600), Install roof to recyclables drop-off area (\$20,700)	7276211011	116,891	46,756							46,756																
142	Murchison RRC	Stage 3 - Site Development	Stage 3 - Pavement renewals (\$35,909), site fencing (\$90,153)	7276211012	126,062	50,425									14,364												36,061		
1	Takaka RRC	Stage 2 - Site Development	[Year 8 = Renew internal fencing to improve security (\$76,800), Seal areas of frequent traffic use, put hardstand under greenwaste, scrap metal, and other areas, reseal lower level, create C&D area, compost bunker, bunding to vehicle dismantling shed, improve concrete pond and stormwater controls (\$324,800)]	7116211019	401,600	160,640								160,640															
3	Mariri RRC	Renew 4x compactor bins	Refurbish 4 bins every five years (\$4000 each) Replace bins every 15 years (\$31,500 each)	7036211015	158,000	158,000					15,800						126,400										15,800		
4	Richmond RRC	Site Development - Pavement Renewals	Reseal existing roads,	7026211018	104,800	104,800												104,800											
7	Richmond RRC	Site Development - second weighbridge	Provision of a second road weighbridge	7026211021	290,300	72,575					54,431				6,532							5,806				5,806			
8	Richmond RRC	Site Development - roof to compactor	Provide lean to roof over compactor area 8x5m	7026211022	33,700	33,700								33,700															

TOTALS					25,795,389	4,237,189	920,425	301,030		19,600	439,539	140,800	93,856	253,640	20,895	362,621	914,580	104,800	19,600		172,046	122,200				28,206	155,672	167,678
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Note: Does not include inflation

## **APPENDIX J. DEPRECIATION AND DECLINE IN SERVICE POTENTIAL**

### **J.1 Depreciation of Infrastructural Assets**

Depreciation is provided on a straight line basis on all infrastructural assets at rates which will write off the cost (or valuation) of the assets to their estimated residual values, over their useful lives.

The remaining useful lives and associated rates for the solid waste infrastructure have been estimated at 10 to 100 years depending on the asset component and are detailed in Appendix D – Asset Valuations.

### **J.2 Decline in Service Potential**

The decline in service potential is a decline in the future economic benefits (service potential) embodied in an asset.

It is Council policy to operate the solid waste activity to meet a desired level of service. Council will monitor and assess the state of the solid waste infrastructure and upgrade or replace components over time to counter the decline in service potential at the optimum times.

Council's borrowing policy is that it only funds capital and renewal expenditure through borrowing, normally for 20 years, but shorter or longer terms are used for some assets depending on how long they are expected to last before they need to be replaced. Council has adopted this approach instead of setting aside funds to replace assets as they wear out, ie. funding depreciation. By the time the asset needs to be replaced, Council would normally have repaid the loan for the original asset and can borrow for the replacement asset.

This method of funding capital expenditure provides intergenerational equity, this means that those people that receive the benefit from the asset generally pay for the asset. Notwithstanding this, Council is investigating whether other means of funding assets is more appropriate. Any change is likely to result in an increase in rates and charges in the immediate time period, but might provide longer term benefits.



## APPENDIX K. FUTURE DEBT REQUIREMENTS FOR THE ACTIVITY

### K.1 General Policy

The Council borrows as it considers prudent and appropriate and exercises its flexible and diversified funding powers pursuant to the Local Government Act 2002. The Council approves, by resolution, the borrowing requirement for each financial year during the annual planning process. The arrangement of precise terms and conditions of borrowing is delegated to the Corporate Services Manager.

*The Council has significant infrastructural assets with long economic lives yielding long term benefits. The Council also has a significant strategic investment holding. The use of debt is seen as an appropriate and efficient mechanism for promoting intergenerational equity between current and future ratepayers in relation to the Council's assets and investments. Debt in the context of this policy refers to the Council's net external public debt, which is derived from the Council's gross external public debt adjusted for reserves as recorded in the Council's general ledger.*

Generally, the Council's capital expenditure projects, with their long term benefits, are debt funded. The Council's other district responsibilities have policy and social objectives and are generally revenue funded.

The Council raises debt for the following primary purposes.

- Capital to fund development of infrastructural assets.
- Short term debt to manage timing differences between cash inflows and outflows and to maintain the Council's liquidity.
- Debt associated with specific projects as approved in the Annual Plan or LTP. The specific debt can also result from finance which has been packaged into a particular project.

In approving new debt, the Council considers the impact on its borrowing limits as well as the size and the economic life of the asset that is being funded and its consistency with Council's long term financial strategy.

The Borrowing Policy is found in Volume 2 of Council's LTP.

### K.2 Loans

Loans to fund capital projects over the next 10 years are shown in Table K-1 below.

**Table K-1: Projected Capital Works Funded by Loan for Next 10 Years**

Solid Waste	2012/13 Year 1	2013/14 Year 2	2014/15 Year 3	2015/16 Year 4	2016/17 Year 5	2017/18 Year 6	2018/19 Year 7	2019/20 Year 8	2020/21 Year 9	2021/22 Year 10
<b>Loans Raised (x1,000)</b>	943	1,089	808	5,736	2,577	2,598	213	869	3,681	1,001
<b>Opening Loan Balance (x1,000)</b>	5,604	5,923	6,352	6,458	11,320	12,801	14,137	13,032	12,709	15,122

*Figures do not include for inflation and are in thousands of dollars (ie. x1000)*

### K.3 Cost of Loans

Council funds the principal and interest costs of past loans and these are added to the projected loan costs for the next 10 years as shown in Table K-2.

**Table K-2: Projected Annual Loan Repayment Costs for Next 10 Years**

Solid Waste	2012/13 Year 1	2013/14 Year 2	2014/15 Year 3	2015/16 Year 4	2016/17 Year 5	2017/18/ Year 6	2018/19 Year 7	2019/20 Year 8	2020/21 Year 9	2021/22 Year 10
<b>Loan Interest (x 1,000)</b>	345	374	403	587	820	943	1,005	913	1,016	1,092
<b>Principal Loan Repayment (x 1,000)</b>	625	659	702	874	1,096	1,261	1,319	1,191	1,268	1,330

*Figures do not include for inflation and are in thousands of dollars (ie. x 1000)*

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## **APPENDIX L. SUMMARY OF FUTURE OVERALL FINANCIAL REQUIREMENTS**

Table L-1 presents a summary of the overall future requirements for the solid waste activity in the Tasman district.

**Table L-1: Summary of Projected Costs and Income for Next 10 Years**

Solid Waste	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022
	Budget \$	Budget \$	Budget \$	Budget \$	Budget \$	Budget \$	Budget \$	Budget \$	Budget \$	Budget \$	Budget \$
<b>SOURCES OF OPERATING FUNDING</b>											
General rates, uniform annual general charges, rates penalties	208,152	509,874	611,220	631,245	318,948	635,143	636,260	785,531	606,151	680,989	733,588
Targeted rates (other than a targeted rate for water supply)	1,989,748	2,048,814	2,091,568	2,104,362	2,096,817	2,194,615	2,318,482	2,291,420	2,370,820	2,469,063	2,516,912
Subsidies and grants for operating purposes	-	-	-	-	-	-	-	-	-	-	-
Fees, charges and targeted rates for water supply	-	-	-	-	-	-	-	-	-	-	-
Internal charges and overheads recovered	-	-	-	-	-	-	-	-	-	-	-
Local authorities fuel tax, fines, infringement fees, and other receipts	4,599,631	5,232,109	5,824,507	6,076,752	7,333,742	7,735,443	7,985,641	8,310,868	8,583,933	9,110,052	9,580,735
<b>TOTAL OPERATING FUNDING</b>	<b>6,797,531</b>	<b>7,790,797</b>	<b>8,527,295</b>	<b>8,812,359</b>	<b>9,749,507</b>	<b>10,565,201</b>	<b>10,940,383</b>	<b>11,387,819</b>	<b>11,560,904</b>	<b>12,260,104</b>	<b>12,831,235</b>
<b>APPLICATIONS OF OPERATING FUNDING</b>											
Payments to staff and suppliers	5,335,156	5,990,787	6,696,177	6,956,337	7,571,846	7,867,788	7,986,641	8,177,761	8,472,949	9,151,727	9,464,218
Finance costs	403,762	364,148	392,497	421,809	605,307	839,100	962,174	979,896	888,735	991,073	1,067,439
Internal charges and overheads applied	450,402	641,268	649,451	671,950	676,118	697,899	730,280	735,597	762,947	798,774	807,413
Other operating funding applications	-	-	-	-	-	-	-	-	-	-	-
<b>TOTAL APPLICATIONS OF OPERATING FUNDING</b>	<b>6,189,320</b>	<b>6,996,203</b>	<b>7,738,125</b>	<b>8,050,096</b>	<b>8,853,271</b>	<b>9,404,787</b>	<b>9,679,095</b>	<b>9,893,254</b>	<b>10,124,631</b>	<b>10,941,574</b>	<b>11,339,070</b>
<b>SURPLUS (DEFICIT) OF OPERATING FUNDING</b>	<b>608,211</b>	<b>794,594</b>	<b>789,170</b>	<b>762,263</b>	<b>896,236</b>	<b>1,160,414</b>	<b>1,261,288</b>	<b>1,494,565</b>	<b>1,436,273</b>	<b>1,318,530</b>	<b>1,492,165</b>

Solid Waste	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022
	Budget \$	Budget \$	Budget \$	Budget \$	Budget \$	Budget \$	Budget \$	Budget \$	Budget \$	Budget \$	Budget \$
Subsidies and grants for capital expenditure	-	-	-	-	-	-	-	-	-	-	-
Development and financial contributions	-	-	-	-	-	-	-	-	-	-	-
Increase (decrease) in debt	1,032,726	318,572	429,770	105,729	4,862,229	1,480,675	1,336,543	(1,105,616 )	(322,448)	2,413,065	(328,965)
Gross proceeds from sale of assets	-	-	-	-	-	-	-	-	-	-	-
Lump sum contributions	-	-	-	-	-	-	-	-	-	-	-
<b>TOTAL SOURCES OF CAPITAL FUNDING</b>	<b>1,032,726</b>	<b>318,572</b>	<b>429,770</b>	<b>105,729</b>	<b>4,862,229</b>	<b>1,480,675</b>	<b>1,336,543</b>	<b>(1,105,616 )</b>	<b>(322,448)</b>	<b>2,413,065</b>	<b>(328,965)</b>
<b>APPLICATIONS OF CAPITAL FUNDING</b>											
Capital expenditure											
- to meet additional demand	-	-	-	-	-	-	-	-	-	-	-
- to improve the level of service	1,016,041	110,713	936,952	807,992	5,735,930	2,346,759	2,423,747	328,383	989,099	3,731,595	631,625
- to replace existing assets	620,567	902,453	181,988	-	22,535	294,330	174,084	60,566	124,726	-	531,575
Increase (decrease) in reserves	4,329	100,000	100,000	60,000	-	-	-	-	-	-	-
Increase (decrease) in investments	-	-	-	-	-	-	-	-	-	-	-
<b>TOTAL APPLICATIONS OF CAPITAL FUNDING</b>	<b>1,640,937</b>	<b>1,113,166</b>	<b>1,218,940</b>	<b>867,992</b>	<b>5,758,465</b>	<b>2,641,089</b>	<b>2,597,831</b>	<b>388,949</b>	<b>1,113,825</b>	<b>3,731,595</b>	<b>1,163,200</b>
<b>SURPLUS (DEFICIT) OF CAPITAL FUNDING</b>	<b>(608,211)</b>	<b>(794,594)</b>	<b>(789,170)</b>	<b>(762,263)</b>	<b>(896,236)</b>	<b>(1,160,414 )</b>	<b>(1,261,288 )</b>	<b>(1,494,565 )</b>	<b>(1,436,273 )</b>	<b>(1,318,530 )</b>	<b>(1,492,165 )</b>
<b>FUNDING BALANCE</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

N.B. Figures do include for inflation.

## APPENDIX M. FUNDING POLICY, FEES AND CHARGES

### M.1 Overview

Solid waste management is a significant financial commitment for any territorial authority, the costs of which must be recovered from the community. Costs can be recovered from the general community or from individuals. Cost recovery can also be used to assist and encourage the community to make informed choices regarding their waste disposal based on an awareness of the true cost of their actions.

To promote waste reduction, waste management would ideally be totally funded by direct user charges. Individuals would pay in proportion to the amount of waste they generate and the extent of service they use. However, the costs of collecting some direct user charges can be administratively inefficient and hence uneconomic. In addition there is a component of public benefit in some waste services provided by Council which cannot be allocated to individual waste producers.

Council currently recovers the costs of waste management by a mixture of direct user charges at the landfills and resource recovery centres (RRCs), bag sales for domestic collection services, a targeted rate for kerbside collections and general rates funding from all ratepayers.

Section 13 of the Waste Management Plan details the *Objectives, Policies and Methods* for recovering costs associated with the Solid Waste Management activity.

#### M.1.1. Collection Funding the Annual Costs

The annual costs for the kerbside collection and disposal of household waste is currently covered by the revenue earned from bag sales and a portion of the targeted rate. Council has introduced a targeted refuse and recycling rate on properties within the collection area to finance the additional costs imposed by recycling operations and to encourage rate payers to use the service. In 2008/09 the rate is equal to \$100.00 (including GST) per rating unit. This rate is only applied to those units covered by the collection.

#### M.1.2. Landfill Funding the Annual Costs

The annual costs for the operation, maintenance and on-going development of Eves Valley Landfill are funded from a combination of fees and general rate appropriation.

The projected budget to operate and maintain the landfill for the next 20 years is shown in Appendix E.

#### M.1.3. Closed Landfill Funding the Annual Costs

This activity is for the 'public good' and is funded by General Rates.

More specifically the funds are from the following sources.

- **Refuse bag sales:** The income from bag sales covers the cost of residual refuse bag collection plus contributes towards:
  - disposal costs
  - the Solid Waste levy.
- **Kerbside Recycling Rate:** This is a targeted rate set for the purpose of funding kerbside recycling and associated activities. This rate is based on where the land is situated and will be set on each rating unit in the Kerbside Recycling Rating Area.
- **Kaiteriteri Refuse Rate:** This is a targeted rate set for the purpose of funding additional kerbside collections in Kaiteriteri over the summer period.
- **Resource Recovery Centre Fees:** The income from gate fees covers the majority of costs of operating these centres and also contributes towards the cost of disposal at the Eves Valley Landfill.
- **Direct Special Waste Charges:** The income from special waste disposal fees contributes towards:
  - disposal costs
  - the landfill levy liabilities
  - operation of RRCs and other waste activities.

- **Council General Rate:** There is a number of public good activities managed within the solid waste activity that are funded through general rates. These include:
  - waste minimisation
  - waste exchange
  - waste education
  - some operational costs at Takaka, Collingwood and Murchison RRCs
  - closed landfills, and
  - general district activities (eg. policy, illegal dumping, AMPs).
  
- **Subsidies and Sundry Income:** Sundry income is a portion of the income derived from other Council assets, such as forestry assets at Eves Valley.
  
- **Landfill Levy Income:** Fifty percent of all national landfill levy income will be distributed to Territorial Local Authorities by the Secretary of the Ministry for the Environment from July 2009. Distribution of funding will be on a population basis, with early estimates suggesting \$3.77 per head of population. Levy funds are required to be spent on waste minimisation measures that have been provided for in Council's waste management plan.
  
- **Loan Funding:** Major capital projects may be loan funded. When loans are made, the loan is taken for a fixed period, usually 20-30 years, with a fixed annual principal repayment as a capital expense on the account, and interest payments as an operating expense.

## M.2 Projected Fees and Charges

The Council, acting under the Local Government Act 2002, hereby prescribes the following fees and charges for 2012/13 as shown in Table M-1. All charges shall come into force on 1 July 2012 and shall remain in force until amended by resolution. Unless otherwise identified, charges are GST inclusive.

**Table M-1: Projected Gate Fees and Charge Rates**

Solid Waste Charges	Charges proposed from 1 July 2012 including GST
Rubbish Bags (Tasman District Council sale price)	
Small bags (45 litres)	\$1.70 each
Big bags (60 litres)	\$2.00 each
<b>Mixed Refuse</b>	
Account customers and vehicles over 3,500kg gross, where a Council provided weighbridge is available (includes \$10 central government levy)	\$117.30 per tonne
Richmond Resource Recovery Centre	\$128.80 per tonne
Mariri Resouce Recovery Centre	\$134.55 per tonne
Takaka Resource Recovery Centre, Murchison Resource Recovery Centre	\$55.00 per m <sup>3</sup>
Other vehicles (Richmond, Mariri, Takaka, Collingwood, Murchison)	
<b>Greenwaste</b>	\$18.80 per m <sup>3</sup>
<b>Hardfill (where accepted)</b>	
Where a Council provided weighbridge is available	\$20.00 per tonne
At other sites	\$40.00 per m <sup>3</sup>
<b>Scrap Metals</b>	
Scrap steel (sheet)	No charge
Car bodies and other vehicles	No charge
Whiteware	\$6.00 each



Solid Waste Charges	Charges proposed from 1 July 2012 including GST
<p><b>Recyclables (where accepted)</b></p> <p>Domestic customers and quantities less than 1.0m<sup>3</sup></p> <p>Glass (bottles) – clean, colour sorted, Richmond</p> <p>Glass (bottles) – clean, colour sorted, Mariri</p> <p>Glass (bottles, whole) – clean, colour sorted, other locations</p> <p>Glass – mixed colour or contaminated</p> <p>Paper and cardboard (Richmond and Takaka only)</p> <p>Other materials</p>	<p>No charge</p> <p>No charge</p> <p>\$25.30 per tonne</p> <p>\$8.05 per m<sup>3</sup></p> <p>At mixed refuse charge</p> <p>No charge</p> <p>By arrangement</p>
<p><b>Tyres:</b></p> <p>Car</p> <p>Car tyres on rims</p> <p>Truck</p> <p>Loader/Tractor or similar</p>	<p>\$8.00 each</p> <p>\$17.50 each</p> <p>\$25.00 each</p> <p>\$55.00 each</p>
<p><b>Hazardous Waste:</b></p> <p>Oils and Solvents</p> <p>Batteries</p> <p>Gas cylinders</p> <p>Other materials</p>	<p>No charge</p> <p>No charge</p> <p>No charge</p> <p>At disposal cost</p>
<p><b>Eves Valley Landfill charges:</b></p> <p>Approved special wastes</p> <p>Special burial and documentation</p> <p>Light wastes (polystyrene and similar)</p> <p>Marine Waste (shells)</p>	<p>\$202.54 per tonne</p> <p>At cost</p> <p>\$70.50 per m<sup>3</sup></p> <p>\$70.50 per m<sup>3</sup></p>

Table M-2 provides a summary of the projected kerbside recycling targeted rate per property in the rateable area for the next 10 years.

**Table M-2: Proposed Refuse/Recycling Targeted Rate**

Description	Basis of collection	2011/12 \$	2012/13 \$
Kerbside Recycling, rubbish bag collection and other waste related activities (per property in rateable area for kerbside recycling)	\$ per rating unit per year (inclusive GST)	\$ 127.73	\$ 128.04
Kaiteriteri Summer Refuse	\$ per rating unit per year (inclusive GST)	\$ 18.52	\$ 20.14

## APPENDIX N. DEMAND MANAGEMENT

### N.1 Introduction

The objective of demand management (sometimes called non-asset solutions) is to actively seek to modify customer demands for services in order to:

- optimise utilisation/performance of existing assets
- reduce or defer the need for new assets
- meet the Council's strategic objectives
- deliver a more sustainable service
- respond to customer needs.

### N.2 Council's Approach to Demand Management

Council's approach to demand management centres around two key areas:

- education and promotion
- waste minimisation.

Since both of these are such a key part of the activity they have been included as separate entities in Appendix B.

### N.3 Climate Change

#### N.3.1. Changing Climatic Patterns

The RMA 1991 states, in Section 7, that a local authority shall take account of the effects of climate change when developing and managing its resources. To assist local authorities, the Ministry for the Environment (MfE) prepared a report<sup>9</sup> to support councils' assessing expected effects of climate change, and to help them prepare appropriate responses when necessary.

This section summarises information presented in the MfE report and a report by NIWA on Climate Change and Variability in the Tasman district. This section aims to explore the impacts of expected climate changes for the Tasman-Nelson region and will conclude with anticipated impacts on this activity.

#### N.3.2. Temperature Change

**Table N-1: Projected Mean Temperature Change (Upper and Lower Limits) in Tasman-Nelson (in °C)**

	Summer	Autumn	Winter	Spring	Annual
Projected changes 1990-2040	0.2 - 2.2	0.2 - 2.3	0.2 - 2.0	0.1 - 1.18	0.2 – 2.0
Projected changes 1990-2090	0.9 – 5.6	0.6 – 5.1	0.5 – 4.9	0.3 – 4.6	0.6 – 5.0

*Source: Climate Change and Variability – Tasman District (NIWA, June 2008)*

It is the opinion of NIWA<sup>10</sup> scientists that the actual temperature increase this century is very likely to be more than the "low" scenario given here. Under the mid-range scenario for 2090, an increase in mean temperature of 2.0°C would represent annual average temperature in coastal Tasman in 2090.

#### N.3.3. Rainfall Patterns

Table N-2 following shows an expected increase in mean annual precipitation in Tasman-Nelson from 1990 to 2090.

<sup>9</sup> Climate Change Effects and Impacts Assessment A Guidance Manual for Local Government in NZ (MfE, May 2008)

<sup>10</sup> Climate Change and Variability – Tasman District (NIWA, June 2008)

**Table N-2: Projected Mean Precipitation Change (Upper and Lower Limits) in Tasman-Nelson (in %)**

	Summer	Autumn	Winter	Spring	Annual
Projected changes 1990-2040	-14, 27	-2, 19	-4, 9	-8, 9	-3, 9
Projected changes 1990-2090	-13, 30	-4, 18	-2, 19	-20, 19	-3, 14

Source: *Climate Change and Variability – Tasman District (NIWA, June 2008)*

**N.3.4. Heavy Rainfall**

A warmer atmosphere can hold more moisture (about 8% more for every 1<sup>0</sup>C increase in temperature), so there is an obvious potential for heavier extreme rainfall under global warming.

More recent climate model simulations confirm the likelihood that heavy rainfall events will become more frequent.

**N.3.5. Evaporation, Soil Moisture and Drought**

From their report, NIWA conclude that there is a risk that the frequency of drought (in terms of low soil moisture conditions) could increase as the century progresses, for the main agriculturally productive parts of Tasman district.

**N.3.6. Climate Change and Sea Level**

NIWA report that a revised guidance manual for local government on coastal hazards and climate change is currently in preparation. For the interim, NIWA's report suggests.

1. For planning and decision timeframes out to the 2090s (2090-2099) use:
  - a) A base mean sea-level rise of 0.5m relative to the 1980-1999 average.
  - b) An assessment of the sensitivity of the issue is under consideration to possible higher mean sea-levels taking account of possible additional contributions. This level is currently under discussion, but is likely to be no less than 0.8m.
2. For planning and decision timeframes beyond 2100 where, as a result of the particular decision, future adaptation options will be limited, an allowance for mean sea-level rise of 10mm/year beyond 2100 is recommended (in addition to the above recommendation).

These projections are for mean sea levels. Less information is available on how extreme storm sea levels will change with climate change.

N.3.7. Potential Impacts on Council's Infrastructure and Services

Table N-3 lists the potential impacts on Council's infrastructure and services.

**Table N-3: Local Government Functions and Possible Climate Change Outcomes**

Function	Affected Assets or Activities	Key Climate Influences	Possible Effects
Water supply and irrigation.	Infrastructure.	Reduced rainfall, extreme rainfall events and increased temperature.	Reduced security of supply (depending on water source). Contamination of water supply.
Wastewater.	Infrastructure.	Increased rainfall.	More intense rainfall (extreme events) will cause more inflow and infiltration into the wastewater network. Wet weather overflow events will increase in frequency and volume. Longer dry spells will increase the likelihood of blockages and related dry weather overflows.
Stormwater.	Reticulation. Stopbanks.	Increased rainfall. Sea-level rise.	Increased frequency and/or volume of system flooding. Increased peak flows in streams and related erosion. Groundwater level changes. Saltwater intrusion in coastal zones. Changing flood plains and greater likelihood of damage to properties and infrastructure.
Roading.	Road network and associated infrastructure (power, telecommunications, drainage).	Extreme rainfall events, extreme winds, high temperatures.	Disruption due to flooding, landslides, fallen trees and lines. Direct effects of wind exposure on heavy vehicles. Melting of tar.
Planning/policy development.	Management of development in the private sector. Expansion of urban areas. Infrastructure and communications planning.	All.	Inappropriate location of urban expansion areas. Inadequate or inappropriate infrastructure, costly retro-fitting of systems.
Land management.	Rural land management.	Changes in rainfall, wind and temperature.	Enhanced erosion. Changes in type/distribution of pest species. Increased fire risk. Reduction in water availability for irrigation. Changes in appropriate land use. Changes in evapotranspiration.
Water management.	Management of watercourses/ lakes/wetlands.	Changes in rainfall and temperature.	More variation in water volumes possible Reduced water quality. Sedimentation and weed growth. Changes in type/distribution of pest species.
Coastal Management.	Infrastructure. Management of coastal development.	Temperature changes leading to sea-level changes. Extreme storm events.	Coastal erosion and flooding. Disruption in roading, communications. Loss of private property and community assets. Effects on water quality.

Function	Affected Assets or Activities	Key Climate Influences	Possible Effects
Civil defence and emergency management.	Emergency planning and response, and recovery operations.	Extreme events.	Greater risks to public safety, and resources needed to manage flood, rural fire, landslip and storm events.
Bio security.	Pest management.	Temperature and rainfall changes.	Changes in the range of pest species.
Open space and community facilities management.	Planning and management of parks, playing fields and urban open spaces.	Temperature and rainfall changes. Extreme wind and rainfall events.	Changes/reduction in water availability. Changes in biodiversity. Changes in type/distribution of pest species. Groundwater changes. Saltwater intrusion in coastal zones. Need for more shelter in urban spaces.
Transport.	Management of public transport. Provision of footpaths, cycleways etc.	Changes in temperatures, wind and rainfall.	Changed maintenance needs for public transport infrastructure. Disruption due to extreme events.
Waste management.	Transfer stations and landfills.	Changes in rainfall and temperature.	Increased surface flooding risk. Biosecurity changes. Changes in ground water level and leaching.
Water supply and irrigation.	Infrastructure.	Reduced rainfall, extreme rainfall events and increased temperature.	Reduced security of supply (depending on water source). Contamination of water supply.

Source: Climate Change Effects and Impacts Assessment (MfE, May 2008)

Council have incorporated the potential impacts of climate change in the 2008 update of the Engineering Standards and Policies.

**APPENDIX O. NOT RELEVANT TO THIS ACTIVITY**

## APPENDIX P. SIGNIFICANT EFFECTS

The significant negative and positive effects on the community of undertaking the solid waste activity are detailed in Table P-1 and Table P-2.

**Table P-1: Potential Significant Negative Effects**

Effect	Council's Mitigation Measure
<b>Broken refuse bags:</b> may cause windblown litter.	This is managed by the contractor as detailed in the contract specifications.
<b>Recyclables Processing and Recyclables Collection:</b> loose kerbside materials may become windblown litter. The loss of viable markets for recovered materials can have a negative effect on the economic viability of recycling.	Procurement of recycling services requires contractors to provide evidence of experience and track record in recycling markets. Contractors take on the risk of finding markets – it is not Council's responsibility. Recycling commodities can be stockpiled if market prices reduce significantly.
<b>Resource Recovery Centres:</b> can become odorous, dusty and give rise to windblown litter if incorrect operating procedures are not applied. There is also the possibility of stormwater contamination on site.	The development and operation of RRCs must meet certain resource consent conditions. RRCs are also operated in accordance with Site Management Plans. RRC contracts allow for monthly KPI inspections which penalise contractors if the site is untidy or not operated correctly.
<b>Operational Landfills:</b> can become odorous, dusty and give rise to windblown litter if incorrect operating procedures are not applied. Landfills produce leachate – this may cause contamination of groundwater or surface water if not collected and treated appropriately. Landfills produce gas, including methane. Methane contributes 15 times the effect that carbon dioxide does to the "greenhouse effect". There is also the possibility of stormwater contamination on site.	The development and operation of the landfill must meet certain resource consent conditions. The landfill is also operated in accordance with a Landfill Management Plan. The landfill operations contract allows for monthly KPI inspections which penalise the contractor if the site is untidy or not operated correctly within the contract specification / resource consent conditions.
<b>Closed Landfills:</b> if closed landfills are not capped off and vegetated correctly, they may release additional refuse or leachate to the environment or present an opportunity for illegal dumping to occur. Landfills continue to produce leachate, even after they have closed.	Closed landfills are consented under a 'Global Consent' which requires remediation of certain identified landfills and inspections of all closed landfills every two years to determine if further remediation is required.
<b>The Costs of providing the services.</b>	Council uses competitive tendering processes to achieve best value for money for works it undertakes.

**There are no significant negative effects from the educational aspects of this activity.**

**Table P-2: Potential Significant Positive Effects**

Effect	Description
Kerbside Collections	Council provides consistent services to 80% of the district and properties. Waste collection has public health and environmental benefits.
Greenwaste Services / Composting initiatives	These initiatives reduce methane emissions and demand for landfill space.
Recycling Services	Results in the reuse of resources and reduced demand for landfill space.
Financial Impact	Council's management of the Solid Waste activities uses best practice and competitive tendering to provide value for money for rate payers and provides jobs for contractors.



## APPENDIX Q. SIGNIFICANT ASSUMPTIONS, UNCERTAINTIES, AND RISK MANAGEMENT

### Q.1 Assumptions and Uncertainties

This AMP and the financial forecasts within it have been developed from information that has varying degrees of completeness and accuracy. In order to make decisions in the face of these uncertainties, assumptions have to be made. This section documents the uncertainties and assumptions that Council consider could have a significant effect on the financial forecasts, and discusses the potential risks that this creates.

#### Q.1.1. Financial Assumptions

1. All expenditure is stated in dollar values as at 1 July 2011, with no allowance made for inflation over the planning period.
2. All costs and financial projections are GST exclusive.

#### Q.1.2. Asset Data Knowledge

While the Council has asset registers and many digital systems, processes and records, Council does not have complete knowledge of the assets it owns. To varying degrees the Council has incomplete knowledge of asset location, asset condition, remaining useful life and asset capacities. This requires assumptions to be made on the total value of the assets owned, the time at which assets will need to be replaced and when new assets will need to be constructed to provide better service.

Council considers these assumptions and uncertainties constitute only a small risk to the financial forecasts because:

- significant amounts of asset data is known
- asset performance for the significant structures is well known
- there are plans to upgrade significant extents of poorly performing assets.

The assumption that has been made that is considered significant include:

- the existing asset condition is such that further deterioration will not require renewal or maintenance beyond that currently allowed for.

#### Q.1.3. Activity Specific Assumptions

Council recognises that private sector operators are able to be more responsive to some customer's needs and that there has been a trend for an increasing number of residents in the district to make use of these services. Council has considered withdrawal from the rubbish collection service, with private services being expected to extend into rural areas and to price services accordingly. This option has not been pursued due to the perceived negative impact on waste reduction initiatives and potential for inappropriate rural disposal, but may still be considered in the future.

In light of this, Council has resolved that its role in kerbside collection is currently necessary to reinforce the waste minimisation initiatives introduced to date and to increase recycling and composting rates in the future. This position will be reviewed as part of the development of a new Waste Management and Minimisation Plan.

Since 2004 the level of solid waste data recorded and provided to Council through the solid waste contracts has increased significantly. Data is collected at each of the Resource Recovery Centres (RRC) and reported on a weekly basis. All material disposed of at Eves Valley Landfill site is also weighed prior to disposal and a copy of all weighbridge dockets provided to Council. With the recent installation of weighbridges at Richmond RRC and Mariri RRC, all waste material delivered by commercial operators entering or leaving these sites is also weighed. All transactions at the RRC are also recorded as a volume/number/tonnage as appropriate.

These records enable Council to assess the changes in quantities over time and to predict future demands and capacity requirements.

As part of projecting future waste quantities and costs, a number of assumptions in relation to the amount of waste generated within the district have been made. All these assumptions are contained in the supporting spreadsheets to this AMP and include assumptions on the following:

1. Rateable Properties – projection is directly proportional to population growth in the Council’s Growth Model 2011.
2. Growth rates of wastes – projection is directly proportional to population growth in the Council’s Growth Model 2011.
3. Compaction rates – calculated from weighed loads to landfill.
4. Eves Valley Landfill – calculated from 2011 annual survey.
5. Landfill levy and Emission Trading Scheme costs. Set at \$10 per tonne and \$15 per NZ unit respectively for the purpose of this AMP.
6. Waste and diverted material arisings based on historical trends.
7. Waste Diversion - assumed percentage diverted through recycling and composting schemes set as:

	Average last 3 Years	Year 1 2012/13	Year 2 2013/14	Year 3 2014/15	Year 4 2015/16	Year 5 2016/17	Year 6 2017/18	Year 7 2018/19	Year 8 2019/20	Year 9 2020/21	Year 10 2021/22
Recyclables	8.7%	10.4%	10.9%	11.4%	11.4%	11.4%	11.4%	11.4%	11.4%	11.4%	11.4%
Compostables	10.9%	10.5%	10.5%	10.5%	10.5%	10.5%	10.5%	10.5%	10.5%	10.5%	10.5%

Assume projection of bag sales is directly proportional to population growth in the Council’s Growth Model 2011 and that 83% of bags sold are collected.

1. Recyclable materials collected at kerbside are based on historical trends and assume these will continue.

	Average % of total recyclables collected at the kerbside
Mixed materials	33.2%
Glass	66.8%

2. Percentage of material arising at each RRC is based on historical trends and assumes that the proportion of the total waste handling by RRCs is as follows for each RRC.

RRC	Average Percentage
Richmond	65.0%
Mariri	25.4%
Takaka	7.9%
Collingwood	0.5%
Murchison	1.3%
<b>Totals</b>	<b>100.0%</b>

3. Percentage of the total waste diverted from the pit contributed by each RRC will continue as normal.
4. Contractual Assumptions.

		End Date
C781	Landfill and haulage contract concludes	30-Sep-12
C613	RRC operation and kerbside collections extended to	30-Sep-12
C622	Greenwaste processing rolled over to conclude	18-Nov-14
C652	Murchison RRC operation extended to	30-Sep-12
C706	Murchison RRC waste haulage concludes	30-Sep-12

5. Escalation Factor.

1.015 This factor has been agreed with Tasman District Council to use where Project Estimates from 2008 are not being re-estimated, or Asset Revaluations from June 2009 are being used. It brings the 2008/09 dollar value to 2011 value.

Cost fluctuations have not been included in the projections as these are being incorporated with the inflation factor used by the Council's Accounts Department for inclusion in the LTP.

1. Contract Rates – projection is directly based on 2009/10 contract rates with cost fluctuation of 2.3% applied to bring to 2010/11 dollars. It is assumed that these rates will not change (other than inflation and cost fluctuations applied by Council's Accounts Department for the LTP).
2. Income from landfill revenue and landfill levy. An assumption has been made that the Tasman District and Nelson City Councils will have pricing mechanisms in place that will promote local disposal of waste.

#### Q.1.4. Growth Forecasts

Growth forecasts are inherently uncertain and involve many assumptions. The growth forecasts also have a very strong influence on the financial forecasts, especially in Tasman district where population growth is higher than the national average. The growth forecasts underpin and drive:

- the asset creation programme
- Council income forecasts including rates and development contributions
- funding strategies.

Thus the financial forecasts are sensitive to the assumptions made in the growth forecasts.

The significant assumptions in the growth forecasts are covered in the explanation on method and assumptions in Appendix F: Demand and Future New Capital Requirements.

It has been assumed that there will be no capital works required to meet future growth of the district.

#### Q.1.5. Timing of Capital Projects

Timing of projects is generally determined by legislative requirements, by timeframes set in the levels of service, or by linkages to other projects (sometimes links are to other activities). Renewal projects are generally programmed based on remaining life information combined with condition information from inspections and/or comments from the local operator. The timing of some projects is highly dependent on some factors which are beyond the Council's ability to fully control. These include factors like:

- obtaining resource consent
- securing land purchase and/or land entry agreements
- the effectiveness of waste minimisation initiatives and subsequently increases/decreases in waste quantities disposed of to landfill.

Where these issues may become a factor, allowances have been made to complete in a reasonable timeframe, however these plans are not always achieved. The effect of this will be to defer expenditure. The impact of this on the forward projections is not considered significant.

#### Q.1.6. Funding of Capital Projects

Funding of capital projects is crucial to a successful project. When forecasting projects that will not occur for a number of years, a number of assumptions have to be made about how the scheme will be funded.

Funding assumptions are made about:

- whether projects will qualify for subsidies
- whether and how much should be funded from development contributions
- whether the work will force the need to extend or create new collection routes
- whether land owners will contribute directly to the works
- whether Council or other parties will subsidise the development of the projects.

The correctness of these assumptions has major consequences on the affordability of the works. The Council has a funding strategy for each project. This will form one part of the consultation process as these schemes are advanced toward construction.

Refer to Appendix M for further information.

Q.1.7. Accuracy of Capital Project Cost Estimates

The financial forecasts contain many projects, each of which has been estimated from the best available knowledge. The level of uncertainty inherent in each project is different depending on how much work has been done in defining the problem and determining a solution. In many cases, only a rough order cost estimate is possible because little or no preliminary investigation has been carried out. It is not feasible to have all projects in the next 20 years advanced to a high level of estimate accuracy.

As prescribed in the Local Government Act 2002 Sch.10 2(1)(d), these forecasts include information in detail in relation to each of the first three financial years and in outline in relation to the subsequent years.

To get consistency and formality in cost estimating, the following practices have been followed:

- all expenditure is stated in dollar values as at 1 July 2011, with no allowance made for inflation over the planning period
- all costs and financial projection are GST exclusive
- a project estimating template has been developed that provides a consistent means of preparing estimates
- where practical, a common set of rates has been determined.
- specific provisions have been included to deal with non-construction costs like contract preliminary and general costs, engineering costs, Council staff costs, resource consenting costs and land acquisition costs
- specific provisions have been included to deal with estimate accuracy.

These are described as follows.

A 15% provision has been included to get a “Base Project Estimate” to reflect the uncertainties in the unit rates used. A further provision has been added to reflect the uncertainties in the scope of the project – ie. is the solution adopted the right solution. Often detailed investigation will reveal the need for additional works over and above that initially expected. The amount added depends on the amount of work already done on the project. Each project has been assessed as being at the project lifecycle stage as detailed in Table Q-1, and from this an estimated accuracy assessed. The estimate accuracy is added to the Base Project Estimate to get the Total Project Estimate – the figure that is carried forward into the financial forecasts.

**Table Q-1: Life Cycle Estimate Accuracies**

Stage in Project Lifecycle	Estimate Accuracy
Concept / Feasibility	± 30% (±20% for projects >\$1m)
Preliminary Design / Investigation	± 20% (±15% for projects >\$1m)
Detailed Design	± 10%
Construction	± 5%
Commissioning	± 0%

Table Q-2 details significant uncertainties and percentage accuracies for major projects in the next three years of this AMP.

**Table Q-2: Major Schemes (>\$300K) Assigned to the First Three Years of this AMP**

Project	Project Stage and Estimate Accuracy	Project Value in First Three Years	Factors that Could Affect Estimate Accuracy
Eves Valley - Consent Renewal + closure plan	Commissioning	\$671,185	Consultation with key stakeholders
Mariri RRC - Site Development	Preliminary Design / Investigation	\$814,202	Ground conditions
Richmond RRC - Site Development	Concept / Feasibility	\$378,920	Ground conditions
Takaka RRC - Site Development	Preliminary Design / Investigation	\$378,320	Ground conditions

**Q.1.8. Changes in Legislation and Policy**

Council has assumed that there will be no significant changes in legislation or policy when preparing the financial forecasts. The risk of significant change is high due to the changing nature of the government and politics. If significant changes occur it is likely to have a significant impact on the required expenditure. Council has not mitigated the effect of this.

**Q.1.9. Disaster Fund Reserves**

Council has assumed that the level of funding held in Council's disaster fund reserves and available from insurance claims will be adequate to cover reinstatement following emergency events. The risk of inadequate reserves and insurance claims would mean deferral of future capital projects to provide any financial shortfall required to cover reinstatement costs.

**Q.1.10. Council's Continued Use of Eves Valley Landfill**

Council has assumed that there will be no change to the current process of Council disposing to landfill at Eves Valley. On-going disposal to Eves Valley Landfill will require significant capital expenditure over the period of the AMP. There is a possibility that Council may take some or all of the waste it collects to York Valley Landfill subject to the outcome of the joint WMMP being developed with Nelson City Council and discussions with that Council. If this occurs, the capital expenditure programme at the Eves Valley Landfill would change.

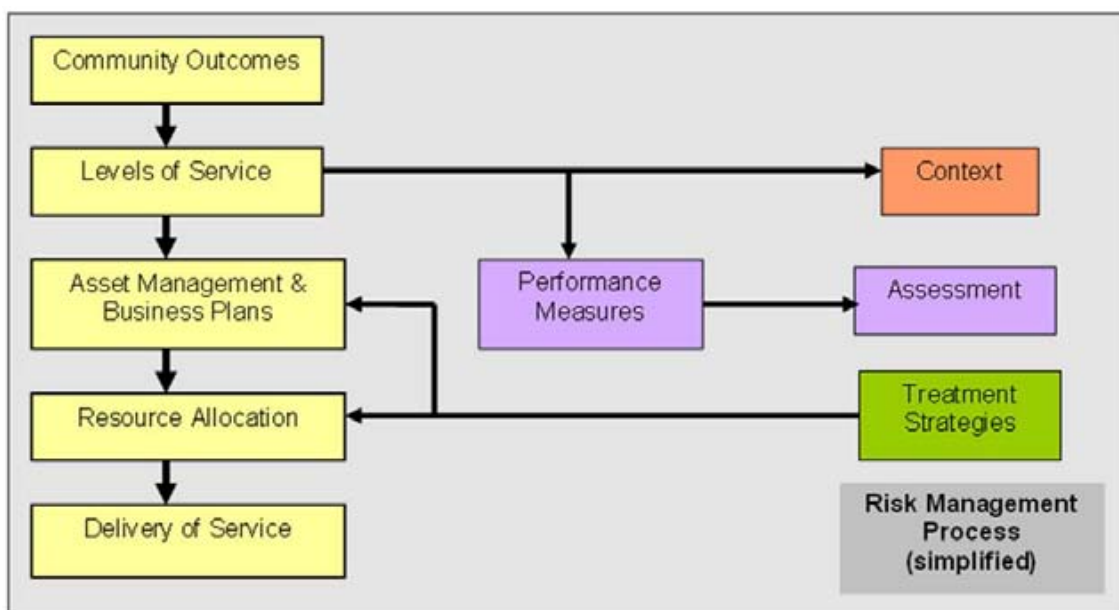
**Q.1.11. Uncertainty of Landfill Disposal Income**

The feasibility of full cost recovery for disposal by gate charges is constrained by the pricing policy of Nelson City Council. Agreement on a joint landfill disposal solution would enable better cost recovery.

**Q.2 Risk Management**

Council has adopted an Integrated Risk Management (IRM) framework and process as the means for managing risk within the organisation. The process integrates with the LTP process as illustrated in Figure Q-1.

The strategic goal of integrated risk management is: *“To integrate risk management into Council’s organisational decision making so that it can achieve its strategic goals cost effectively while optimising opportunities and reducing threats.”*



**Figure Q-1: Integration of Risk Management Process into LTP Process**

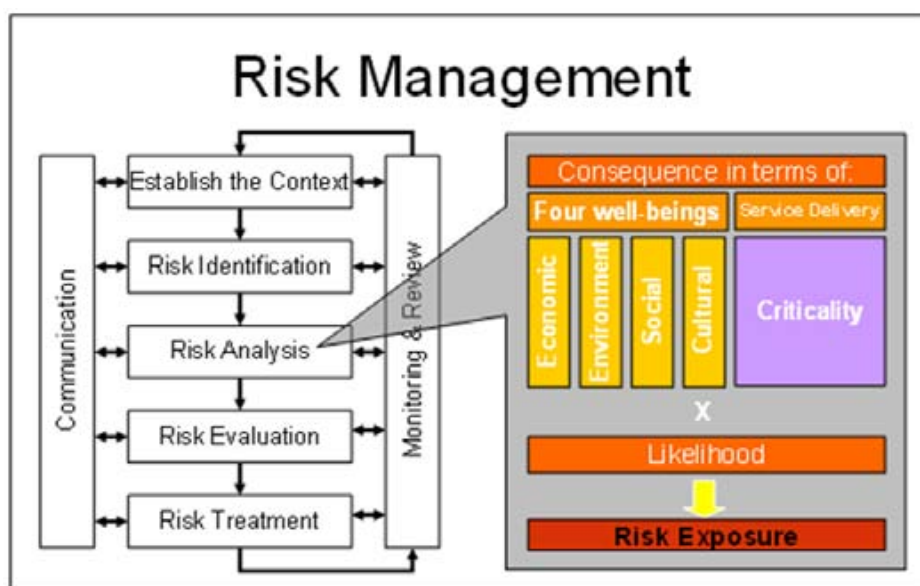
The IRM process and framework is intended to:

- to demonstrate responsible stewardship by Council on behalf of its customers and stakeholders
- to act as a vehicle for communication with all parties with an interest in Council's organisational and asset management practices
- provide a focus within Council for on-going development of good management practices,
- demonstrate good governance
- meet public expectations and compliance obligations
- manage risk from an organisational perspective
- facilitate the effective and transparent allocation of resources to where they will have most effect on the success of the organisation in delivering its services.

Whilst the IRM framework has been adopted within Council, it is primarily used as a process within the individual activities. Council are working towards developing it into a more formally integrated process throughout the whole organisation.

The risk management framework adopted by Council is consistent with AS/NZS 4360:2004 Risk Management and assesses risk exposure by considering the consequence and likelihood of each risk which is identified as having an impact on the achievement of organisational objectives (Figure Q-2).





**Figure Q-2: Integrated Risk Management Process**

Consequence categories (see Table Q-3) have been developed to reflect the impact of risk events on the four well-beings and each consequence category is scored as either “extreme”, “major”, “medium”, “minor”, or “negligible”. These categories address common consequences across any asset or project, however, they do not specifically account for the differences in assets. Therefore an additional category “Service Delivery” is used to reflect the essential reason for the ownership or management of any asset within the local authority – the delivery of a service. This means that the consequence of failure to deliver the service in question (the criticality of the service) can be used to weight the consequences to reflect the relative importance of the asset to the community and in turn to Council.

**Table Q-3: Consequence Categories**

Category		Description
Service Delivery		Assessment based on the asset’s compliance with Performance Measures and value in relation to outcomes and resource usage
Social / Cultural	Health and Safety	Assessment of impact as it relates to death, injury, illness, life expectancy and health
	Community Safety and Security	Assessment of impact based on perceptions of safety and reported levels of crime
	Community / Social / Cultural	Assessment of impact based on damage and disruption to community services and structures, and effect on social quality of life and cultural relationships
	Compliance / Governance	Assessment of effect on governance and statutory compliance of Council
	Reputation / Perceptions of Council	Assessment of public perception of Council and media coverage in relation to Council
Environment	Natural Environment	Effect on the physical and ecological environment, open space and productive land.
	Built Environment	Effect on the amenity, character, heritage and cultural, and economic aspects of the built environment and level of satisfaction with the amenity of the built environment
Economic	Direct Cost / Benefit	Direct cost (or benefit) to Council
	Indirect Cost / Benefit	Direct cost (or benefit) to wider community

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Similarly, the likelihood of the risk occurring is scored on a scale from “almost certain” to “unlikely” with associated probabilities and frequencies provided for guidance.

The risk exposure is then determined for each identified risk by multiplying the consequence and likelihood, and is presented using semantic descriptions ranging from “extreme” to “negligible”.

Treatment strategies, or strategic plans, that mitigate each risk can then be identified, and prioritised based on the risk exposure.

The consequence, likelihood scoring and risk matrix tables are all located in a separate report. This document also contains the outputs from the Level 1 and Level 2 Risk Assessments.

There are essentially three levels of risk assessment that should be considered for each activity within Council:

- Level 1 - Organisational Risk Assessment
- Level 2 – Activity Management Risk Assessment
- Level 3 - Critical Asset Risk Assessment.

#### Q.2.1. Level 1 - Organisational Risk Assessment

The Organisational Risk Assessment focuses on identification and management of significant operational risks that will have an impact beyond the activity itself and will affect the organisation as a whole. This approach allows the Integrated Risk Management framework to address risks at the organisational level, as well as at both the management and operational levels within the particular Council activities.

During the process of developing the integrated risk management process, Council identified a number of risk events and issues at organisational level. These are relatively generic across all activities, but have been reviewed against each particular activity to ensure relevance and adjusted to suit. The decision to implement the treatment measures identified will be at an organisational level, not activity level.

#### Q.2.2. Level 2 – Activity Management Risk Assessment

The Activity Management Risk Assessment uses the same principal and consequence tables, but the focus has been at more detailed level. During this process, specific risk events were identified which would affect the operational ability or management of the activity as a whole. If an individual system within the activity was identified as being at a greater risk or would need to be managed in a different way to the rest of the systems, then it was highlighted for separate consideration.

The outcome from this process is summarised below. Table Q-4 shows the Current Risk Profile of the solid waste activity. By undertaking the Asset Management Activities and Projects detailed, Council will reduce their Risk Profile to that shown in Table Q-5.

Proposed controls falling under the Operational Project, Capital Project or Strategic Study categories have been included within the Financial Forecasts. Those identified as Asset Management Activities will need to form part of the Council's general asset management and have been included in the Improvement Plan to ensure they are not overlooked.

**Table Q-4: Current Risk Profile**

RISK MATRIX - SOLID WASTE CURRENT RISK						
		CONSEQUENCE				
		Negligible (+/-1)	Minor (+/-10)	Medium (+/-40)	Major (+/-70)	Extreme (+/-100)
LIKELIHOOD	Almost Certain (5)					
	Likely (4)	1	6			
	Possible (3)	4	30	14	1	
	Unlikely (2)	1	8	3		
	Very Unlikely (1)		8	3		

**Asset Management Activity**

- Audit contractor emergency response knowledge and review alignment of emergency response plans.
- Improve forecasting and data collection.
- Improve integration with Planning for future land zoning.
- Audit operations compliance.
- Audit/review against consent conditions.
- Review future designs to ensure sufficient storage allowed.
- Review HAZOPs.
- Undertake security review of sites.

**Strategic Study**

- Investigate Joint Waste Management Plan and Waste Strategy.
- Consult on Waste Strategy.
- Submit on TRMP changes.
- Develop resource consent application communication plan.
- Investigate potential future sites.

**Operational Project**

- Ensure all sites have SMS.
- Identify specialist providers.

**Capital Project**

- Redesign Takaka RRC to raise electrics.

**Table Q-5: Target Risk Profile**

RISK MATRIX - SOLID WASTE TARGET RISK						
		CONSEQUENCE				
		Negligible (+/-1)	Minor (+/-10)	Medium (+/-40)	Major (+/-70)	Extreme (+/-100)
LIKELIHOOD	Almost Certain (5)					
	Likely (4)	1	6			
	Possible (3)	4	21	2		
	Unlikely (2)	1	24	2		
	Very Unlikely (1)		8	10		

During the risk assessment process, it was noted that there are some risk events which will remain with a Target Risk of High (detailed in Table Q-6). This is a result of either no proposed controls identified, or those that are identified would not achieve the requisite reduction in risk. The Risk Events remaining with a High Target Risk need to be monitored to determine either; that Council remain comfortable with the Target Risk Level or; if there are any additional proposed controls which could be implemented to reduce the Target Risk Level further.

**Table Q-6: Target Risk Level Remaining High**

Risk	Risk Description	Scope	Current Control	Current Risk Level	Proposed Control	Target Risk Level
<b>Emergency Response</b>						
Resources	Insufficient or inappropriately trained resources to respond to emergency (contractor, council, consultant).	District.	Contractual requirements.	HIGH	Monitor.	HIGH
<b>Integration</b>						
Iwi	Ineffective relationship impacts on renewal of consents.	Landfill and RRCs.	Regular meetings.	HIGH	Monitor.	HIGH
<b>Natural Hazards</b>						
Fire	Landfill fire - inability to fight, closure of site.	Eves Valley	Landfill Management Plan	HIGH	Operate at alternative sites.	HIGH
Fire	Damage to infrastructure.	RRCs.	Fire fighting equipment. LAPP insurance.	HIGH	Review contractual risk provisions and insurance provisions.	HIGH

These high risks have been generalised at the activity level and do not necessarily apply to every site. The following clarification is provided on current controls for each high risk event shown above.

- Resources – All contracts and all sites have up to date Health and Safety Plans in place. There is an Emergency Response Plan for Eves Valley Landfill.
- Iwi – The Council's professional services consultant (MWH New Zealand Ltd) has an iwi Liaison Representative who attends regular meetings with Tiakina te Taiao. The Representative also attends meetings and facilitates consultation on an as-needed basis with Nga ti Kuia, Nga ti Toa Rangatira, Manawhenua ki Mohua in Golden Bay, and Ngai Tahu in Murchison.
- Fire at RRC – All sites currently have water supply on site for fire-fighting purposes (there is a capital project programmed to upgrade fire-fighting tanks, see Appendix B). Any incidences of fire at an RRC would be managed in accordance with the respective Health and Safety Plan.
- Fire at Landfill – Risk is due to combustion of waste as well as fire at site facilities. Fire at site facilities is managed through the Eves Valley Landfill Management Plan. The Plan also outlines procedures for how to handle combustible material before it is added to the landfill. Combustible material is also managed through the Special Waste Application process.

#### Q.2.3. Level 3 – Critical Assets Risk Assessment

Critical assets and those assets considered to be significant within each solid waste site have been identified. A high level risk assessment was undertaken to determine the issues arising from each asset group that may prevent delivering of the required service. Treatment strategies that mitigate each risk for the asset groups were then identified.

Individual risk assessments have not been carried out for each of the assets; however, they have been assessed against the set of mitigation measures. At this level of risk assessment, the risk events considered are physical events only as the management and organisational risk events formed part of the earlier stages of risk assessment.

Table Q-7 lists the critical and significant assets for each Solid Waste site. Where a mitigation measure is felt to be necessary, a capital or operational project has been identified and included in the financial forecasts.

Table Q-7: Significant Asset Level 3 Risk Assessment

				<table border="1" style="float: right; margin-left: auto;"> <tr><td rowspan="4" style="text-align: center;">Key</td><td style="background-color: #d9ead3;">Measure to be considered</td></tr> <tr><td style="background-color: #d9ead3;">Measure in place</td></tr> <tr><td style="background-color: #d9ead3;">No measure in place - not necessary</td></tr> <tr><td style="background-color: #d9ead3;">No measure in place - Project needed</td></tr> </table>																			Key	Measure to be considered	Measure in place	No measure in place - not necessary	No measure in place - Project needed
Key	Measure to be considered																										
	Measure in place																										
	No measure in place - not necessary																										
	No measure in place - Project needed																										
		Mitigation Measure		Additional storage / containment capacity	Signage / access control	Addition of security measures	Safety Enhancements	Lease Agreements	Stormwater Management	Provide Firefighting Capability	Rock Protection	Asset Data Capture	Review or Closed Landfill management Plan	Landfill Capping	Communication plan	Health and Safety Assessments	Site management and operating plans	review of hazardous waste handling procedures	Environmental / performance monitoring	Agreement with Nelson City Council	Maintenance and professional services contracts	Data management systems	Regulatory consents	24hr customer response			
	Project ID	Project Details																									
<b>Kerbside Collection and Waste Transport Services</b>																											
<b>Resource Recovery Centres</b>	<b>Richmond</b>	140	Site Development																								
	<b>Mariri</b>	30 109	Recycling Facilities Site Development																								
	<b>Takaka</b>	143	Site Development																								
	<b>Collingwood</b>	87 54	Site Development Site Fencing																								
	<b>Murchison</b>	110	Site Development																								
<b>Landfills - Operational</b>	<b>Eves Valley</b>	70 72	Stage 3 Development Stage 2 Capping																								
<b>Landfills - Closed</b>	<b>22 sites</b>	116	Mariri Rock Protection																								

#### Q.2.4. System Risk Assessment

Individual system risk assessments have not been formally completed as part of this AMP. It is proposed to undertake system (or site) risk assessments in anticipation of the next update of this document. Provision has been made in the Improvement Plan, see Appendix V.

#### Q.2.5. Asset Insurance

Tasman District Council has various mechanisms to insure assets against damage. These include:

1. Tasman District Council insures its above ground assets, like buildings, through private insurance which is arranged as a shared service with Nelson City and Marlborough District Councils.
2. Tasman District Council is a member of the Local Authority Protection Programme (LAPP) which is a mutual pool created by local authorities to cater for the replacement of some types of infrastructure assets following catastrophic damage by natural disasters like earthquake, storms, floods, cyclones, tornados, volcanic eruption, tsunani. These infrastructure assets are largely stopbanks along rivers and underground assets like water and wastewater pipes and stormwater drainage.
3. Tasman District Council has a Classified Rivers Protection Fund, which is a form of self-insurance. The fund is used to pay the excess on the LAPP insurance, when an event occurs that affects rivers and stopbank assets.
4. Tasman District Council has a General Disaster Fund, which is also a form of self-insurance. Some assets, like roads and bridges, are very difficult to obtain insurance for or it is prohibitively expensive if it can be obtained. For these reasons Council has a fund that it can tap into when events occur which damage Council assets that are not covered by other forms of insurance. Some of the cost of damage to these assets is covered by central government, for example the New Zealand Transport Agency covers around half the cost of damage to local roads and bridges.

#### Q.2.6. Civil Defence Emergency Management

The Civil Defence Emergency Management Act 2002 was developed to ensure that the community is in the best possible position to prepare for, deal with, and recover from local, regional and national emergencies. The Act requires that a risk management approach be taken when dealing with hazards including natural hazards. In identifying and analyzing these risks the Act dictates that consideration is given to both the likelihood of the event occurring and its consequences. The Act sets out the responsibilities for local authorities. These are:

- ensure you are able to function to the fullest possible extent, even though this may be at a reduced level, during and after an emergency
- plan and provide for civil defence emergency management within your own district.

Tasman District Council and Nelson City Council deliver civil defence on a joint basis as the Nelson Tasman Civil Defence Emergency Management (CDEM) Group. The vision of the CDEM Group is to build "A resilient Nelson Tasman community".

Civil Defence services are provided by the Nelson Tasman Emergency Management Office. Other council staff are also heavily involved in preparing for and responding to civil defence events. For example, Council monitors river flows and rainfall, and has a major role in alleviating the effects of flooding.

At the time of writing the Nelson Tasman Civil Defence Emergency Management Group released its Draft Regional Plan for community consultation. The Plan sets out how Civil Defence is organised in the region and describes how the region prepares for, responds to and recovers from emergency events.

#### Q.2.7. Engineering Lifelines

Nelson Tasman Engineering Lifelines (NTEL) project commenced in 2002 and concluded in 2009 with a report and risk assessments titled *Limiting the Impact*. The purpose of the report was:

- to help the Nelson Tasman region reduce its infrastructure vulnerability and improve resilience through working collaboratively
- to assist Lifeline Utilities with their risk reduction programmes and in their preparedness for response and recovery
- to provide a mechanism for information flow during and after an emergency event.



The project was supported and funded by the two controlling authorities, Nelson City Council and Tasman District Council. Following the initial start-up forum in 2002, a Project Steering Group was formed and initial project work was completed. In 2008, the NTEL Group was formed. The initial work to investigate risks and assess vulnerabilities from natural hazard disaster events was divided amongst five task groups:

- Hazards Task Group
- Civil Task Group
- Communications Task Group
- Energy Task Group
- Transportation Task Group.

These groups were then tasked with assessing the risk and vulnerability of segments of their own networks against the impacts of major natural hazard disaster events. These natural hazards included:

- earthquake
- landslide
- coastal / flooding.

The Nelson Tasman region is geotechnically complex with high probabilities of earthquake, river flooding and landslides.

By identifying impacts that these hazards may have on the local communities, NTEL aim to have processes in place to allow the community to return to normal functionality as quickly as possible after a major natural disaster event.

To date the project has identified the impacts of natural hazards and the critical lifelines of the regions service networks including communication, transportation, power and fuel supply, water, sewerage, and stormwater networks.

The initial NTEL assessment work is the first stage of an on-going process to gain a more comprehensive understanding of the impacts of natural hazards in the Nelson Tasman region.

The review date of the NTEL assessments is not rigidly set in place, but it is envisaged that a five-yearly on-going review period is appropriate with more frequent reviews and updates necessary and beneficial as new or updated relevant information becomes available.

There were no areas of the Solid Waste activity identified from Vulnerability Assessments at Critical Risk in the Lifelines report.

#### Q.2.8. Recovery Plans

These plans are designed to come into effect in the aftermath of an event causing widespread damage and guide the restoration of full service.

The Recovery Plan for the Nelson Tasman Civil Defence and Emergency Management Group (June 2008) identifies recovery principles and key tasks, defines recovery organisation, specifies the role of the Recovery Manager, and outlines specific resources and how funds are to be managed.

Information about welfare provision in the Nelson-Tasman region is contained in a Welfare Plan (December 2005), which gives an overview of how welfare will be delivered during the response and recovery phases of an emergency.

The plan is a coordinated approach to welfare services for both people and animals in the Nelson Tasman region following an emergency event.

Q.2.9. Business Continuance

Council has a number of processes and procedures in place to ensure minimum impact to solid waste services in the event of a major emergency or natural hazard event.

- Council have limited business continuity plans that were developed around influenza pandemic planning in 2006.
- Council's solid waste facilities have Site Emergency Response Plans in place.
- Council's solid waste contractors have up to date Health and Safety Plans in place.
- Council's professional services consultant (MWH New Zealand Ltd) have an Emergency Response and Business Continuity Plan.

## APPENDIX R. LEVELS OF SERVICE, PERFORMANCE MEASURES, AND RELATIONSHIP TO COMMUNITY OUTCOMES

### R.1 Introduction Outcomes

A key objective of this AMP is to match the level of service provided by the solid waste activity with agreed expectations of customers and their willingness to pay for that level of service. The levels of service provide the basis for the life cycle management strategies and works programmes identified in the AMP.

The levels of service for solid waste have been developed to contribute to the achievement of the stated Community Outcomes that were developed in consultation with the community, but taking into account:

- the Council's statutory and legal obligations
- the Council's policies and objectives
- the Council's understanding of what the community is able to fund.

### R.2 How Do Our Solid Waste Activities Contribute to the Community Outcomes?

Through consultation, the Council identified eight Community Outcomes. These Community Outcomes are linked to the four well beings and Council Objectives as shown in Table R-1.

**Table R-1: Community Wellbeings, Outcomes, Council Objectives, Groups and Activities**

Community Outcomes	Council Objectives	Council Groups of Activities	Council Activities
Community Wellbeing - Environmental			
Our unique natural environment is healthy and protected	To ensure sustainable management of natural and physical resources and security of environmental standards.	Environment and Planning	Resource Policy Environmental Information Resource Consents and Compliance
Our urban and rural environments are pleasant, safe and sustainably managed.			Environmental Education, Advocacy and Operations  Regulatory services Rivers and Flood Management
Our infrastructure is safe, efficient and sustainably managed.	To sustainably manage infrastructural assets relating to Tasman district.	Transportation	Regional Cycling and Walking Strategy  Land Transportation Coastal Structures Aerodromes
		Sanitation, drainage and water supply	Solid Waste Wastewater Stormwater Water Supply

Community Outcomes	Council Objectives	Council Groups of Activities	Council Activities
--------------------	--------------------	------------------------------	--------------------

### Community Wellbeing - Social and Cultural

Our communities are healthy, resilient and enjoy their quality of life.	To enhance community development and the social, natural, cultural and recreational assets relating to Tasman district.	Cultural services and grants.	<ul style="list-style-type: none"> <li>• Cultural services and community grants</li> </ul>	
Our communities respect regional history, heritage and culture.		Recreation and leisure	<ul style="list-style-type: none"> <li>• Community recreation</li> <li>• Camping grounds</li> <li>• Libraries</li> <li>• Parks and Reserves</li> </ul>	
Our communities have access to a range of cultural, social, educational and recreational services.			Community support services	<ul style="list-style-type: none"> <li>• Community facilities</li> <li>• Emergency management</li> <li>• Community housing</li> <li>• Governance</li> </ul>
Our communities engage with Council's decision-making processes.				

### Community Wellbeing - Economic

Our developing and sustainable economy provides opportunities for us all.	To implement policies and financial management strategies that advance. To promote sustainable development in the Tasman district.	Council Enterprises	<ul style="list-style-type: none"> <li>• Forestry</li> <li>• Property</li> <li>• Council controlled organisations.</li> </ul>
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The table below (Table R-2) describes how the solid waste activities contribute to the community outcomes.

**Table R-2: How Solid Waste Activities Contribute to Community Outcomes**

Community Outcomes	How Our Activity Contributes to the Community Outcome
Our unique natural environment is healthy and protected.	All material that is collected by the Council's operators or delivered to Council-owned facilities is processed or disposed of in an appropriate and sustainable manner. These activities will be managed to minimise the impact on the receiving environment.
Our urban and rural environments are pleasant, safe and sustainably managed.	Our kerbside collections ensure our built urban and rural environments are functional, pleasant and safe by receiving materials from the community and recycling, reusing or disposing of them with a minimum of nuisance and public complaint.
Our infrastructure is safe, efficient and sustainably managed.	Solid waste activities are operated in a safe and efficient manner to provide waste and recycling services that the community is satisfied with and which promote the sustainable use of resources.

### R.3 Level of Service

Levels of service are attributes that Tasman District Council expects of its assets to deliver the required services to stakeholders.

A key objective of this plan is to clarify and define the levels of service for the solid waste assets, and then identify and cost future operations, maintenance, renewal and development works required of these assets to deliver that service level. This requires converting user's needs, expectations and preferences into meaningful levels of service.

Levels of service can be strategic, tactical, operational or implementation and should reflect the current industry standards and be based on.

- **Customer Research and Expectations:** Information gained from stakeholders on expected types and quality of service provided.
- **Statutory Requirements:** Legislation, regulations, environmental standards and Council By-laws that impact on the way assets are managed (ie. resource consents, building regulations, health and safety legislation). These requirements set the minimum level of service to be provided.
- **Strategic and Corporate Goals:** Provide guidelines for the scope of current and future services offered and manner of service delivery, and define specific levels of service, which the organisation wishes to achieve.
- **Best Practices and Standards:** Specify the design and construction requirements to meet the levels of service and needs of stakeholders.

#### R.3.1. Industry Standards and Best Practice

The AMP acknowledges Council's responsibility to act in accordance with the legislative requirements that impact on Council's solid waste activity. A variety of legislation affects the operation of these assets, as detailed in Appendix A.

#### R.3.2. Prioritisation related to available resources

With solid waste assets, there are often higher levels of maintenance and renewal requirements proposed (increased Levels of Service etc) than the resources allow for. Tradeoffs then have to be made as to what impacts on the ability of an asset to provide a service against the nice to have aspects.

### R.4 What Level of Service Do We Seek to Achieve?

There are many factors that need to be considered when deciding what level of service the Council will aim to provide. These factors include:

- Council needs to aim to understand and meet the needs and expectations of the community
- Council must meet its statutory obligations
- the services must be operated within Council policy and objectives and
- the community must be able to fund the level of service provided.

Two tiers of levels of service are outlined, Strategic and Operational.

The operational levels of service and performance measures are used to ensure the service and facilities are able to achieve the strategic levels of service and Councils objectives.

Level of services need to be reviewed and upgraded on a continuous basis in line with legislative and regulatory changes and feedback from customers, consultation, internal assessments, audits and strategic objectives

The levels of service that the Council has adopted for this AMP have been developed from the levels of service prepared in the July 2006 and July 2009 AMPs. They take in account feedback from various parties including Audit New Zealand, industry best practice and ease of measuring and reporting of performance measures.

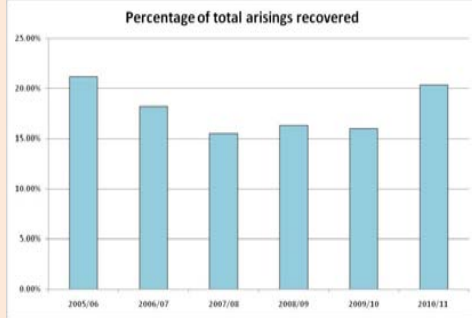
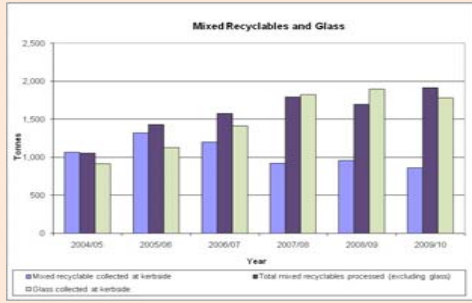
Council has decided to reduce the number of levels of service reported in the LTP, showing only those that are considered to be Customer Focussed. The AMP extends the levels of service and performance measures to include the more technical associated with the management of the activity.

Table R-3 following details the levels of service and associated performance measures for the solid waste activity. Those shaded are the customer focussed measures which are included in the LTP. The table sets out Council's current performance and the targets they aim to achieve within the next three years and by the end of the next 10 year period.

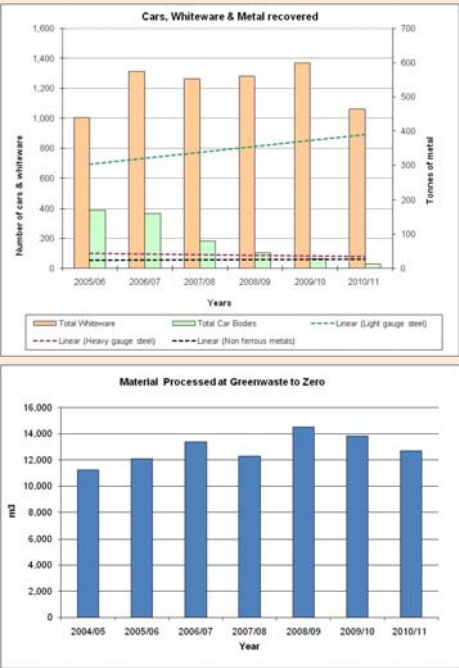
The levels of service and performance measures are consulted on and adopted as part of the LTP consultation process.

**Table R-3: Performance Against Current Levels of Service, and Intended Future Performance**

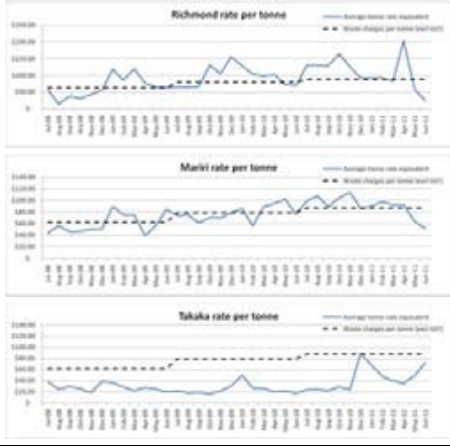

The shaded rows indicate those Levels of Service and performance measures which are included in the Long Term Plan.

ID	Levels of Service (we provide)	Performance Measure (We will know we are meeting the level of service if...)	Current Performance (as at end Year 2 2010/11)	Future Performance			Future Performance (targets) in Year 10 2021/22
				Year 1	Year 2	Year 3	
				2012/13	2013/14	2014/15	
<b>Community Outcome: Our unique natural environment is healthy and protected.</b>							
1	We provide effective waste minimisation activities and services.	% of waste diverted from landfill is maintained or increased. As measured monthly and reported annually.	<p>Actual = 20.3%</p>  	23%	25%	25%	25%



ID	Levels of Service (we provide)	Performance Measure (We will know we are meeting the level of service if...)	Current Performance (as at end Year 2 2010/11)	Future Performance			Future Performance (targets) in Year 10 2021/22
				Year 1	Year 2	Year 3	
				2012/13	2013/14	2014/15	
			 <p><b>Cars, Whiteware &amp; Metal recovered</b></p> <p><b>Material Processed at Greenwaste to Zero</b></p>				
2		<p>There is a reduction in waste per capita going to landfill.</p> <p>As measured by tonnage recorded at landfill.</p>	<p><b>Actual = 415kg / capita</b></p>	<p>400 kg / capita</p>	<p>395 kg / capita</p>	<p>390kg / capita</p>	<p>390 - 400 kg / capita</p>
3		<p>Participation in Council's waste minimisation services increases.</p> <p>As measured on a three yearly basis through resident surveys of those people provided with the opportunity to use kerbside recycling services.</p>	<p><b>Actual = 83%</b></p> <p>The Communitrak™ survey was undertaken in May/June 2011. This survey showed that 83% of residents provided with Council's kerbside recycling services used the service in the last 12 months.</p>	<p>80%</p>	<p>80%</p>	<p>85%</p>	<p>90%</p>

ID	Levels of Service (we provide)	Performance Measure (We will know we are meeting the level of service if...)	Current Performance (as at end Year 2 2010/11)	Future Performance			Future Performance (targets) in Year 10 2021/22
				Year 1	Year 2	Year 1	
				2012/13	2013/14	2012/13	
4		<i>% Compliance with our resource consents.</i>	<b>Actual =</b> Eves Valley Landfill: 95% Murchison RRC: 98% Richmond RRC: 94% Collingwood RRC: 97% Takaka RRC: 99% Mariri RRC: 95% Rototai: 98% Closed Landfills 100%	100%	100%	100%	100%
<b>Community Outcome: Our urban and rural environments are pleasant, safe and sustainably managed.</b>							
5		<i>% of enquiries resolved within 24 hours. As measured through Confirm.</i>	<b>Actual = 90%</b>	95%	95%	95%	95%
6	<b>Our kerbside recycling and bag collection services are reliable, easy to use.</b>	<i>% customer satisfaction with kerbside recycling and bag collection services. As measured through annual resident survey of those provided with Council's kerbside waste collection services.</i>	<b>Actual =</b> Rubbish bag collection = 69% Kerbside recycling = 90%  The Communitrak™ survey was undertaken in May/June 2011. 90% of receivers of Council's kerbside service were found to be satisfied or very satisfied with the service they receive.	70%	70%	70%	70%

ID	Levels of Service (we provide)	Performance Measure (We will know we are meeting the level of service if...)	Current Performance (as at end Year 2 2010/11)	Future Performance			Future Performance (targets) in Year 10 2021/22
				Year 1	Year 2	Year 1	
				2012/13	2013/14	2012/13	
<b>Community Outcome: Our infrastructure is safe, efficient and sustainably managed.</b>							
7	Our Resource Recovery Centres are easy to use and operated in a reliable manner.	Waste entering and leaving site is accurately accounted and charged for. As measured through average tonne rate equivalent.	<p><b>Actual =</b></p> 	95% waste accounted for.	95% waste accounted for.	95% waste accounted for.	95% waste accounted for.
8		% customer satisfaction based on-site surveys. As measured by annual customer surveys at RRCs.	<p><b>Actual =</b> Surveys have been undertaken at the RRCs annually since 2008. The results from the 2010/11 survey showed an overall decrease in the level of satisfaction (fairly satisfied and very satisfied) of users of the RRCs.</p>	75%	75%	75%	75%
9		RRC sites score greater than or equal to 'Acceptable'. As measured by site audits carried out by the Contract Engineer.	<p><b>Actual = 80%</b></p> 	>90%	>90%	>90%	>90%

## **R.5 What Plans Have Council Made to Meet The Levels of Service?**

Council is making a capital works investment of approximately \$25million over the next 20 year period to upgrade existing solid waste assets to improve levels of service.

In preparing the future financial forecasts, Council has included the following specific initiatives to meet the current or intended future levels of service.

- Site development work at Richmond RRC, Mariri RRC, Collingwood RRC, Takaka RRC and Murchison RRC.
- Eves Valley Landfill: Stage 3 Development - Construction of Stage 3 (since Stage 2 will reach capacity by 2016).
- Eves Valley Landfill: Capping of Stage 2 - Use onsite clay to cap Stage 2 as required by resource consent (first two years must be prior to 2019).
- Eves Valley Landfill: Retrofit Landfill Gas Collection System - Install landfill gas collection system into Stage 2 (required by ETS regulations by 2013).
- Closed Landfill: Mariri Old Rock Protection and Resource Consent - Rock protection works are required (as identified in the Closed Landfills Visual Inspection Report dated 4 April 2011).

Please refer to Appendix F for specific projects.

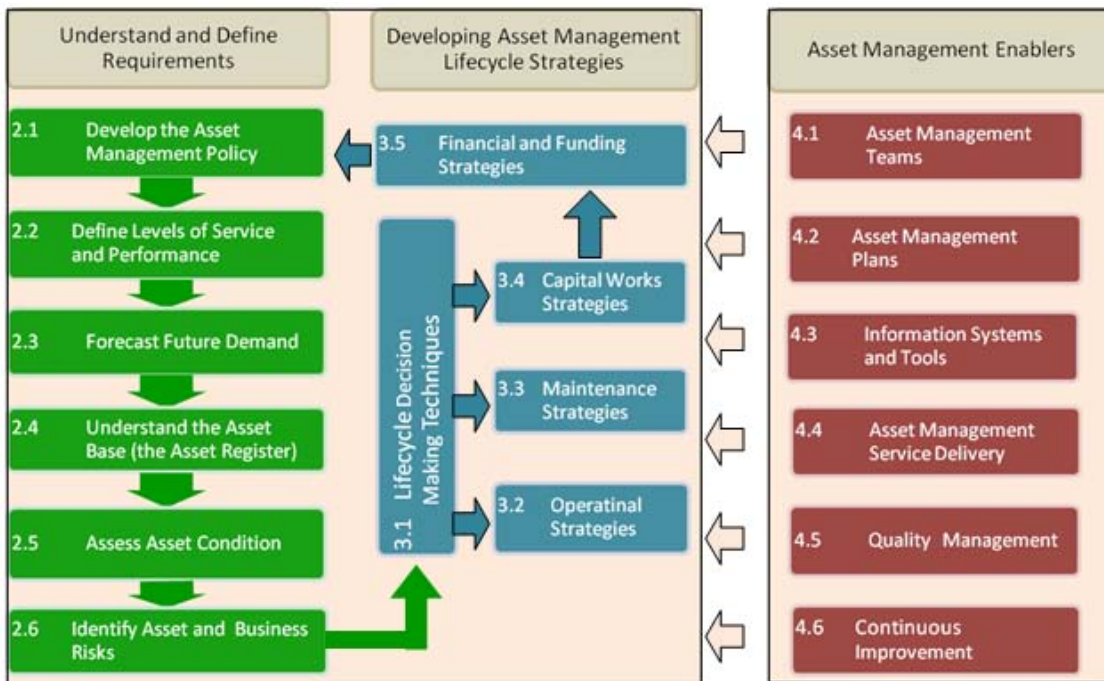
## **R.6 Levels of Service Linked to Legislation**

Whilst Council are required to comply with various legislation and regulations when managing the solid waste activity, no specific levels of service are included which relate to legislation.

## APPENDIX S. COUNCIL'S ASSET MANAGEMENT PROCESSES, SYSTEMS AND DATA MANAGEMENT

### S.1 Introduction

This Activity Management Plan has been developed as a tool for Council to describe how they intend to manage their assets, meet the levels of service agreed with the community and to explain the expenditure and funding requirement. It forms part of Council's Asset Management Process which is in general alignment with the International Infrastructure Management Manual (IIMM) as shown below in Figure S-1.



**Figure S-1: The Asset Management Process**

### S.2 Understanding and Defining Requirements

#### S.2.1. Develop the Asset Management Policy

##### S.2.1.1 Selecting the Appropriate Level of Asset Management

The Asset Management Policy provides the direction as to the level of Asset Management expected and can differ between activities. Council underwent a process in 2010 with asset management consultants Waugh Infrastructure Management Ltd in which they identified the appropriate level of asset management to target for their engineering activities. During this process, Council and consultant staff assessed a range of parameters to establish the base level of asset management to provide the community for each activity including:

- district and community populations
- issues affecting the district and each activity
- the costs and benefits to the community
- legislative requirements
- the size, condition and complexity of the assets

- the risk associated with failures
- the skills and resources available to the organization
- customer expectation.

IIMM (2006) identified two levels of asset management; Core and Advanced. Waugh Infrastructure Management Ltd classed the transition between the two as being Core Plus. Core Plus is above Core asset management but below being fully compliant with Advanced asset management and can vary between Core with one or two Advanced categories, through to being substantially or fully compliant with most of the Advanced categories.

Upon completion of the process, Council have set **Core** as the target level at which they want to be managing the solid waste activity. The detail of required category compliance is under separate cover (Selecting the Appropriate Asset Management Level, Waugh August 2010).

#### S.2.1.2 Performance Review of Solid Waste Activity Management Practices

Council underwent a process at the end of the 2009 AMP to undertake a high level review of the AMPs and associated activity management processes against good practice asset management as described in the IIMM and in accordance with the Office of Auditor General. During this process, the AMP and associated practices were scored to give a snap shot of the current status and then set targets as to where Council wished to head. The 2009 AMP Improvement Plan was assessed in its effectiveness to close the gap between actual and target compliance levels and new items added to the Improvement Plan where gaps were identified.

The results of the review are detailed under separate cover (Performance Review of Solid Waste Activity Management Processes, MWH New Zealand Ltd February 2010).

The two reviews described above were carried out independently of each other however the outputs from both were compared to ensure consistency of recommendations. Whilst both reviews focused on slightly different aspects of asset management practices, there was no conflict between the recommendations made. Table S-1 below shows analysis undertaken to link the two reviews to identify the compliance gaps and actions that should be undertaken to address them.

**Table S-1: Asset Data Accuracy Grade**

	Solid Waste		
	CORE	Compliance Status	Compliance Gaps to address to meet CORE
<b>Description of Assets</b>	Advanced	Substantially Compliant	<b>Action:</b> improve level of performance data in Confirm.
<b>Levels of Service</b>	Core	Compliant	
<b>Managing Growth</b>	Core (forecasts to include various factors)	Compliant	<b>Action:</b> More robust translation of demand analysis into new asset works and non-asset solutions.
<b>Risk Management</b>	Core (plus demonstration of IRM)	Partially Compliant	Compliance will improve with implementation of IRM.
<b>Lifecycle Decision Making</b>	Core	Partially Compliant	<b>Action:</b> Improve level of detail in AMP on decision making tools and techniques.
<b>Financial Forecasts</b>	Advanced (with the exception of sensitivity testing of forecasts)	Compliant	No plans to undertake sensitivity testing of forecasts.
<b>Planning Assumptions and Confidence Levels</b>	Core (plus assumptions listed)	Compliant	<b>Action:</b> Identify and capture assets not currently in formal system.
<b>Outline Improvement Programmes</b>	Advanced	Partially Compliant	<b>Action:</b> Identify timeframes, priorities and resources for Improvement Plan actions.
<b>Planning by Qualified Persons</b>	Core	Compliant	Intending to achieve Advanced by undertaking Peer Review.
<b>Commitment</b>	Advanced	Substantially Compliant	<b>Action:</b> More emphasis and commitment needed to Improvement Plan.

S.2.2. Define Level of Service and Performance

Levels of service have been reviewed since the 2009 AMP, taking account of Community Outcomes, Legislative Requirements, financial constraints and knowledge of asset performance. Community Outcomes, Levels of Service, Performance Measures and current performance are detailed in Appendix R of this AMP.

S.2.3. Forecast Future Demand

Population and demand forecasting has been updated since the 2009 AMP and is described in Appendix F.



Demand Management has been undertaken as described in Appendix N.

S.2.4. Understand the Asset Base

Council has a wealth of information on their assets which is collected, recorded and stored through a number of different systems. Data is graded for accuracy and completeness as shown in Table S-2.

**Table S-2: Asset Data Accuracy and Completeness Grades**

Grade	Description	Accuracy	Grade	Description	Completeness
1	Accurate	100%	1	Complete	100%
2	Minor inaccuracies	± 5%	2	Minor Gaps	90 – 99%
3	50% estimated	± 20%	3	Major Gaps	60 – 90%
4	Significant Data estimated	± 30%	4	Significant Gaps	20 – 60%
5	All data estimated	± 40%	5	Limited Data Available	20% or less

Table S-3 summarises the various data types, data source and how they are managed within Council. It also provides a grading on data accuracy and completeness where appropriate. Council is constantly improving the accuracy and completeness of their data.

Council's Confirm system is the primary asset management system and data management tool for the transportation activity. Confirm is a modular system and is a powerful tool used for the storage, interrogation and reporting of asset and maintenance data.

**Table S-3: Asset Data Completeness Grade**

Information System	Data Type	Management Strategy	Data Confidence	
			Accuracy	Completeness
Excel	Asset Register	Most asset descriptions recorded but not down to component level.	2	3
Confirm	Customer Service Requests	Confirm is used for processing refuse enquiries (ie. from public).	n/a	n/a
NM2	Resource Consents	NM2 is owned and managed by Councils' consultants, MWH New Zealand Ltd. It holds all resource consents for water, wastewater, stormwater, solid waste and roading. NM2 is used to manage the accurate programming of actions required by the consents.	2	2
NCS	Financial Information	Council Accounting and Financial systems are based on Napier Computer Systems (NCS) software and GAAP Guidelines. Long term financial decisions are based on the development of 20-year financial plans.	2	2
CMS	Operational Performance	A database containing data information about pump types and operational performance (totalised flow etc.) is maintained. It is intended that this will be transferred eventually into Confirm. CMS is being phased out and the process will be replaced by Confirm (anticipated for 2011/12).	2	2
Hilltop	Environmental Monitoring	Holds records and results of consent monitoring for closed landfills and for resource recovery centres. Hilltop is not suitable for viewing, managing or manipulating data, so this is done through alternative software.	2	2
GIS	Asset Location	GIS is compiled from as-built information and should be the first port of call for asset location. However, there is a short time delay with importing the data into GIS so it is sometimes necessary to refer to the as-builts.	2	2
SilentOne	As-Builts	As-builts are the primary source of asset location data. As-built plans of all new assets are scanned and incorporated into SILENTONE. This allows digital retrieval of as-builts from the GIS system. Early as-builts are to a lesser quality, however in recent years as-builts quality has been significantly improved and are now prepared to specific standards and reviewed/audited on receipt.	2	2
Growth Model Database	Growth and Demand Supply Model (GDSM)	The GDSM underpins Council's long term planning. It is not an isolated tool that calculates a development forecast, it is a number of linked processes that involve assessment of base data, expert interpretation and assessment, calculation and forecasting.	2	2
Trifecta	Road Corridor forward programmes	Council uploads their forward programme for Council activities, along with other service providers such as Telecom in order to identify programme clashes and opportunities.	2	3

Information System	Data Type	Management Strategy	Data Confidence	
			Accuracy	Completeness
Tenderlink	Tenders	Council upload all Request for Tender documents onto the Tenderlink system which allows Contractors to download for tender. The system also holds key information for tenderers. Tenderlink is a national database.	1	1
Various	Other Data Types	A large amount of information is not yet stored centrally within Council and is held and updated by Councils' consultants or contractors. Council are moving towards Confirm being the primary source for all asset information, so these data sources will eventually migrate to Confirm.	2	2
	Asset Photos	Council's intention is that a library of asset photos will be stored within Confirm. At present however, electronic asset photographs are held by MWH New Zealand Ltd (with the exception of Streetlight which are stored in SilentOne).	2	2

Council's corporate Asset Management System (AMS) is Confirm Enterprise. The Engineering department uses Confirm to record and track customer enquiries, maintain its asset register and for tracking non-routine maintenance of assets. Valuations of assets is also run from Confirm. The Asset Information team, Asset Managers, Councils' consultants and contractors all have access to the system with levels of access appropriate to their needs.

S.2.5. Assess Asset Condition

Council undertook a comprehensive condition assessment of its solid waste assets in a valuation exercise in 1998. Subsequent valuations have used the pre-existing condition assessment, but reviewing and amending with the asset management knowledge and experience gained through operation of the assets. This draws from knowledge based on operator knowledge.

S.2.6. Identify Asset and Business Risks

Council have adopted an Integrated Risk Management framework to manage risks, both at corporate and activity level. This is detailed further in Appendix Q.

**S.3 Developing Asset Management Strategies**

There are many different types of decision making techniques that have been applied by Council during the development of the management plans. These are better described in relevant appendices, but are summarised here.

**Table S-4: Asset Management Strategies Summary**

Strategy	Processes and Systems
Renewals Management (Appendix I)	<ul style="list-style-type: none"> <li>• Renewals first identified from valuation data in Confirm – when remaining life expires.</li> <li>• Forecast renewals are then field justified by reviewing with operations staff and asset management staff to confirm renewal requirements from valuation information and add to where there is specific knowledge of additional renewal requirements.</li> <li>• Optimising review undertaken to identify opportunities for:               <ul style="list-style-type: none"> <li>○ “bundling” with other projects – across assets and services – eg. roading, wastewater, power, telecom</li> <li>○ optimised replacement – ie. whether the replacement asset should be the same size, capacity or manufacture, or are there justifications to replace with something different</li> <li>○ smoothing of expenditure.</li> </ul> </li> <li>• On an annual basis renewal work is programmed for implementation and managed as a programme – either through the operations and maintenance contract, or through specific tendered construction projects.</li> </ul>
Asset Creation Management (Appendix F)	<ul style="list-style-type: none"> <li>• Asset creation forecasts are developed every three years when updating this AMP.</li> <li>• The 10 year forecast from the last update of the AMP is taken as a starting point, and then the outcomes of growth and demand forecasts, level of service and performance review, the risk management and a workshop with asset managers are used to identify upgrade projects needed.</li> <li>• All capital projects identified are listed and a cost estimate developed. For consistency, a cost estimating spreadsheet has been developed and a series of base rates developed after consultation with suppliers and recent contract prices for the more common work elements. The cost estimating spreadsheets require:               <ul style="list-style-type: none"> <li>○ assessment of construction and non-construction costs (ie. engineering, consenting costs, land costs)</li> <li>○ an assessment of contingency needed – on a consistent basis between estimates</li> <li>○ an evaluation of the project drivers – increased level of service, growth or renewal</li> <li>○ an evaluation of a programme of implementation – spanning years</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>to ensure appropriate time allowed for developing the project             <ul style="list-style-type: none"> <li>o a statement of the scope of the upgrade and a statement of risks and assumptions made in preparing the estimate.</li> </ul> </li> <li>• Once estimated the forecasts are combined in a capital expenditure forecast database that records the outcomes of the estimate in a manner that allows summation of the work value against various criteria – scheme, project driver (growth, increased LOS or renewal), year or project. It is also used as an input into Council’s financial system.</li> <li>• The funding of the capital forecast is modelled in Council’s financial system NCS, and the implications for the forecast review at Council officer level and Councillor level. Any changes made to the projection in terms of deferring, adding or deleting projects is recorded and the implications on risk, growth or level of service stated.</li> <li>• The records of the individual project estimate sheets and the overall capital forecast spreadsheet are filed and retained.</li> </ul>
Operational and Maintenance (Appendix E)	<ul style="list-style-type: none"> <li>• Includes Strategic Studies such as demand management.</li> </ul>

#### S.4 Asset Management Enablers

The Asset Management Enablers are the aspects that underpin the whole asset management decision making at each stage of the Asset Management Process. These are summarised here, but detailed further throughout this AMP.

Asset Management Teams – consists of Asset Managers and their consultants

Asset Management Plans – this AMP is a key part of the asset management process and is updated on a regular basis.

Information Systems and Tools – these are detailed in Table S-3.

Asset Management Service Delivery – includes the procurement strategies that ensure Council delivers the asset management activities in the most cost-effective way. This is primarily managed through a professional services contract with MWH New Zealand Ltd for consultation services and five solid waste contracts and through a special procurement and tender process for construction work.

Quality Management – there are a variety of rigorous quality assurance processes involved in management of the solid waste activity.

Continuous Improvement – covered by Appendix V. The Improvement Programme shown in this document is a snapshot of the programme in its current state. The Improvement Programme is reviewed and updated on a regular basis.

## APPENDIX T. BYLAWS

The following bylaws have been adopted by Council:

- Consolidated Bylaws 2006 - Introduction
- Control of Liquor in Public Places 2007
- Dog Control Bylaw 2009
- Freedom Camping Bylaw 2011
- Navigation Safety Bylaw 2006
- Speed Limits Bylaw 2004
- Stock Control and Droving Bylaw 2005
- **Trade Waste Bylaw 2005\***
- Trading in Public Places Bylaw 2010
- Traffic Control Bylaw 2005
- Water Supply Bylaw 2009.

In accordance with the Local Government Act 2002, these bylaws will be reviewed no later than 10 years after they were last reviewed.

**\*Bylaws of direct relevance in to this activity.**

At this stage, solid waste bylaw management or solid waste bylaws have been prepared.

## APPENDIX U. STAKEHOLDERS AND CONSULTATION

### U.1 Stakeholders

There are many individuals and organisations that have an interest in the management and / or operation of Council's assets. Council underwent a process whereby they identified an extensive list of these stakeholders and what aspects they value in the activity. The outcomes of that process are summarised below in Table U-1.

A full list is detailed under separate cover in levels of service Gap Analysis MWH New Zealand Ltd, December 2010.

**Table U-1: Stakeholders**

Stakeholder Group	Core Values
Customers / users	Quality Reliability / responsiveness Environmental sustainability
Regulatory	Reliability / responsiveness Compliance
Service Providers / Suppliers	Customer Service Reliability / Responsiveness
Council internal	Compliance Risk mitigation
Elected members	Customer service
Media	Customer service
Approval authority (funding)	Affordability Customer service Compliance
Funder	Affordability
Others (industry bodies, lobby groups, government departments, other affected parties)	Customer service

### U.2 Consultation

#### U.2.1. Purpose of Consultation and Types of Consultation

Council consults with the public to gain an understanding of customer expectations and preferences. This enables Council to provide a level of service that better meets the community's needs.

The Council's knowledge of customer expectations and preferences is based on:

- feedback from surveys
- public meetings
- feedback from elected members, advisory groups and working parties
- analysis of customer service requests and complaints
- consultation via the Annual Plan and LTP process.



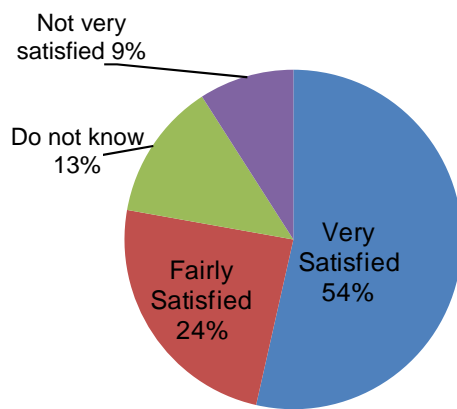
Council commissions customer surveys on a regular basis, usually every three years, from the National Research Bureau Ltd<sup>11</sup> (NRB), but more recently on an annual basis. These Communitrak™ surveys assess the levels of satisfaction with key services, including solid waste services, and the willingness across the community to pay to improve services.

Council at times will undertake focussed surveys to get information on specific subjects or projects.

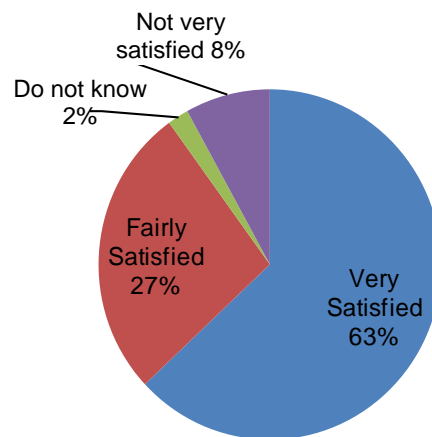
### U.2.2. Consultation Outcomes

The most recent NRB Communitrak™ survey was undertaken in May/June 2011. This asked whether residents were satisfied with “rubbish collection and kerbside recycling services” and included residents that had a Council service and some that were not on a Council service. The results from this survey are summarised in Figure U-1 and Figure U-2.

**Overall Satisfaction with Council Kerbside Recycling**



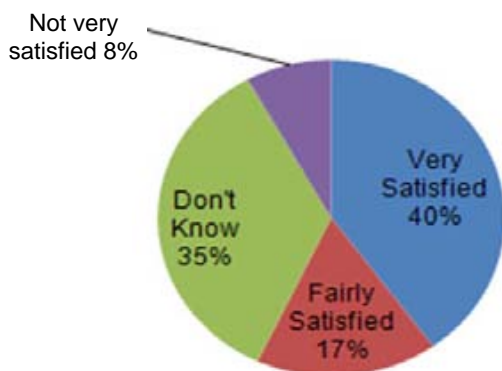
**Satisfaction where Service Provided**



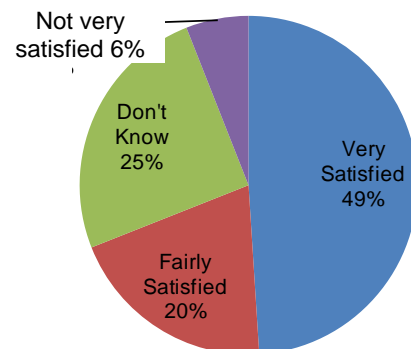
**Figure U-1: Satisfaction with Kerbside Recycling – Overall**

Eighty-three percent of households had used Council’s kerbside recycling services in the last 12 months. Of those users, 90% were satisfied.

**Overall Satisfaction with Council Rubbish Collection**



**Satisfaction where Service Provided**

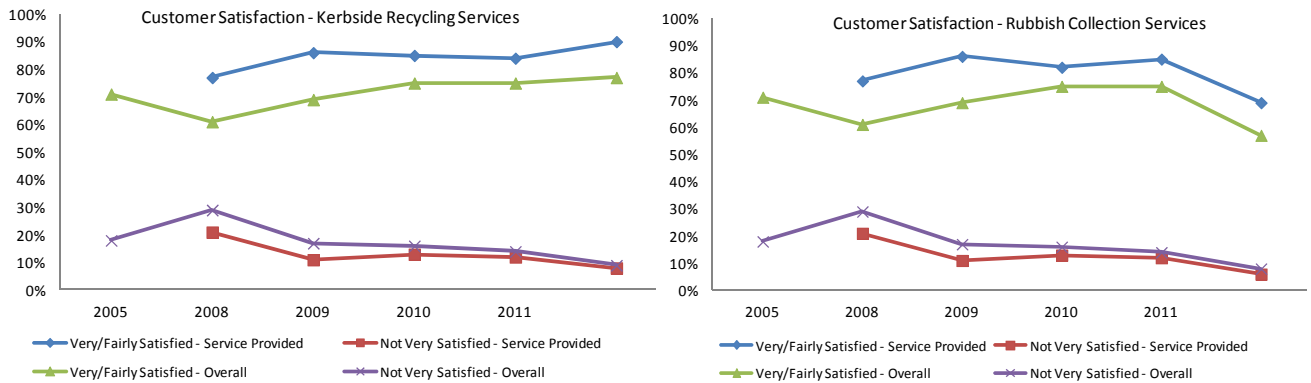


**Figure U-2: Satisfaction with Rubbish Collection – Overall**

Seventy-seven percent of residents said they were provided with a regular rubbish collection. Of these, 69% were satisfied with the service.

Figure U-3 shows that the number of residents satisfied with rubbish collection services has declined since the 2008 survey. However the satisfaction with kerbside recycling has increased.

<sup>11</sup> Communitrak™: Public Perceptions and Interpretations of Council Services / Facilities and Representation, NRB Ltd May/June 2011.



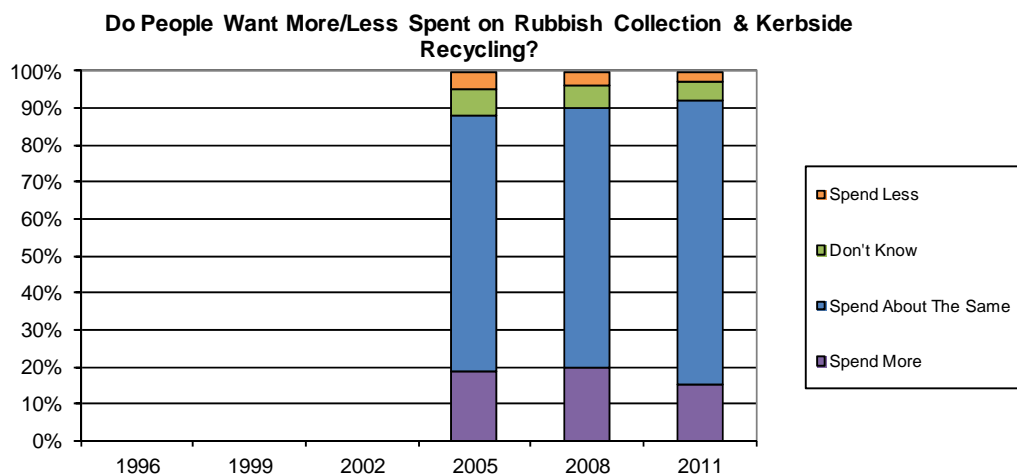
**Figure U-3: Satisfaction with Recycling and Rubbish Collections**

The results show that the number of residents satisfied with rubbish collection services decreased from 69% in 2008 to 57% in 2011, whereas satisfaction with kerbside recycling increased. This is similar to the Peer Group Average but below the National average.

The main reasons given by residents for why they are “not very satisfied” with rubbish collection and kerbside recycling services were:

- do not take everything / too selective
- no kerbside recycling
- bins are too small / need more / better bins.

When asked whether they would like more to be spent, less or about the same on kerbside recycling and rubbish collection services, 91% said more or about the same for kerbside recycling and 85% said more or about the same for rubbish collection (see Figure U-4).



**Figure U-4: Do People want More or Less Spent on Solid Waste**

It is concluded from this survey that.

- The majority of residents are satisfied with the kerbside recycling service provided by Council and their contractors but satisfaction with the rubbish collection is reducing.
- There is a high level of participation and satisfaction in the Council recycling scheme.
- There has been an on-going decline in the percentage of residents who are “not very satisfied” with the solid waste services in the district. To ensure this continues to decline, on-going work will need to be undertaken to ensure services are consistent, reliable and material is picked up on time.
- Less than 5% of residents surveyed in 2011 said they would like to see less spent on the services.

## **APPENDIX V. IMPLEMENTATION AND IMPROVEMENT PROGRAMME**

### **V.1 General**

The Activity Management Plans have been developed as a tool to help Council manage their assets, deliver the levels of service and identify the expenditure and funding requirements of the activity. Continuous improvements are necessary to ensure Council continues to achieve the appropriate (and desired) level of activity management practice; delivering services in the most sustainable way while meeting the community's needs.

Establishment of a robust, continuous improvement process ensures Council is making the most effective use of resources to achieve an appropriate level of asset management practice.

The continuous improvement process includes:

- identification of improvements
- prioritisation of improvements
- establishment of an improvement programme
- delivery of improvements
- on-going review and monitoring of the programme.

All improvements identified are included in a single improvement programme encompassing all activities managed by Council's Engineering Services. In this way, opportunities to identify and deliver cross-activity improvements can be managed more efficiently, and overall delivery of improvement can be monitored across this part of Council's business.

### **V.2 Strategic Improvements**

In April 2010 Council identified the key cross activity improvement actions within Engineering Services for implementation prior to development of the AMPs for the 2012 to 2022 long term plan period. These were:

- update the growth strategy for the changed economic climate
- review levels of service to ensure they adequately cover core customer values
- implement Council's integrated risk management approach to activity level.

These actions were all completed and have fed into the development of the current Activity Management Plan.

### **V.3 Training**

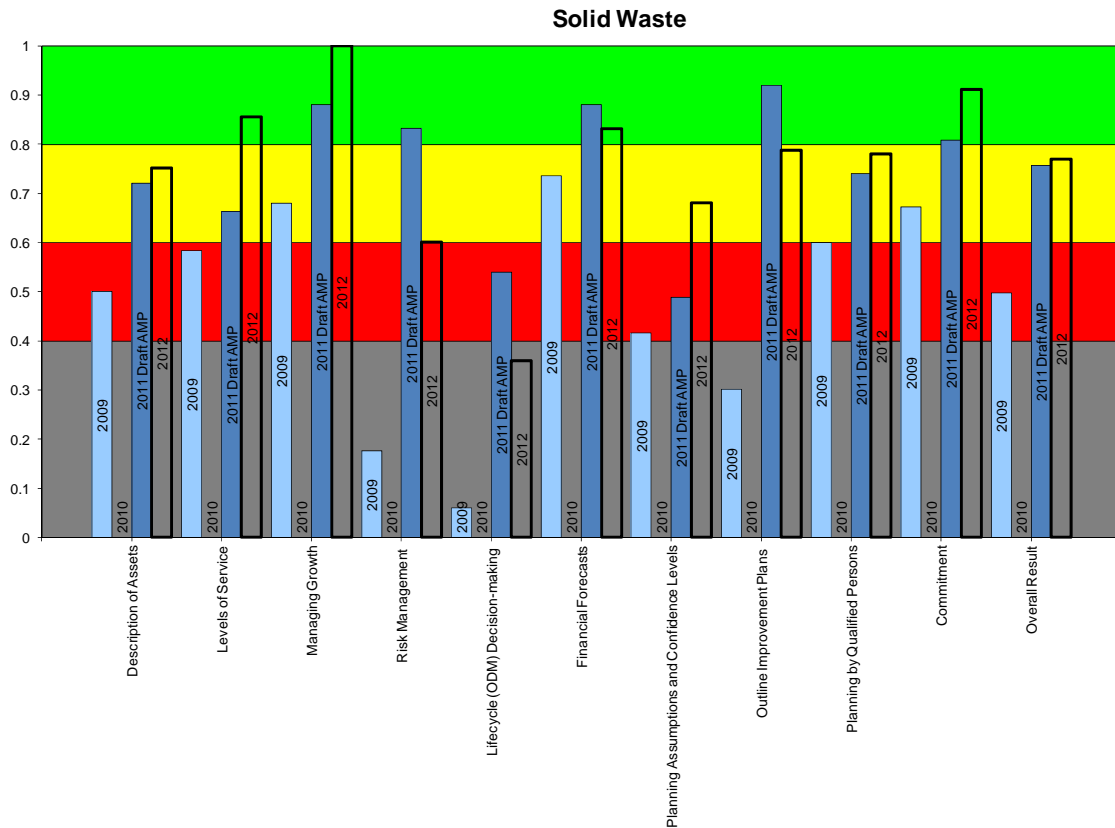
Council do not have a formal schedule of required training, however both Council's staff and its consultants participate in training on a regular basis to ensure that best practice is maintained. This also helps to maintain a good asset management culture.

Council and its consultants are structured in a way that encompasses succession planning to prevent the loss of knowledge in the event of staff turnover. This AMP document also prevents loss of knowledge by documenting practices and process associated with this activity.

### **V.4 Asset Management Practice Reviews**

Since the last AMP review, Council has undertaken a performance review of all Engineering Services activity management practices to compare how they align with the requirements of the Local Government Act 2002, Office of Auditor General (OAG) and industry best practices. This review process has been applied to identify improvement actions, and to monitor achievement of improvements against industry practice areas and Council priorities.

The results of reviews in 2009 and 2011 are shown in the following figure (Figure V-1) for this activity. Overall the targeted level (hollow bars) of improvement has been achieved or exceeded (results are shown as solid colour bars).



**Figure V-1: Results of Benchmarking Review of Draft AMP**

The methodology and the findings from the review are detailed in a separate report (*Performance Review of Solid Waste Activity Management Practices*; MWH New Zealand Ltd, February 2010, and separate benchmarking review tables completed September 2011).

Council also sought consultation on selecting the appropriate level of activity management (*Selecting the Appropriate AM Level*; Waugh, August 2010).

Improvement actions identified in both of these review processes were included in the improvement programme.

Council will review the currency of the performance review checklist used to identify improvement actions as a result of the recent update to the International Infrastructure Management Manual (NAMS,2011), and will update this checklist as appropriate. This is an Engineering Services improvement item encompassing all activities and is therefore not identified on the improvements list for this activity.

### V.5 Peer Review

This AMP document was subject to a peer review in its Draft format by Waugh Infrastructure Management Ltd in October 2011. The document was reviewed for compliance with the requirements of the LGA 2002. The findings from the review indicated a need to present further discussion or evidence in the AMP to support the practices and processes in place in the operation, management and administration of the activity.

The findings and suggestions were assessed and prioritised by the asset management team. Those items that proved to be of sufficiently high value and efficiency to address were included in the Draft for Consultation (Version 4) of this document. The remainder were added to the Improvement Plan where necessary.

Version 4 of this document was then reviewed a final time by Waugh Infrastructure Management Ltd in May 2012. The report produced has been included at the end of this Appendix.

## V.6 Improvement Programme Status

A summary on the status of all improvement items related to this activity are shown in the table below, and are split by the year that they were identified.

Table V-1 details the key improvements to activity management practices that have been achieved since the last AMP.

**Table V-1: Status of Improvement Items**

Count of AMP Action Reference Row Labels	Column Labels			
	In Progress	Not Started	Complete	Grand Total
<b>2009</b>	<b>5</b>	<b>2</b>	<b>3</b>	<b>10</b>
2 - Levels of Service	1			1
3 - Managing Growth	1		1	2
4 - Risk Management			2	2
6 - Financial Forecasts		1		1
7 - Planning Assumptions and Confidence Levels	1			1
10 - Commitment	2	1		3
<b>2010</b>	<b>6</b>		<b>40</b>	<b>46</b>
1 - Description of Assets			7	7
2 - Levels of Service			7	7
3 - Managing Growth	1		4	5
4 - Risk Management			1	1
5 - Lifecycle (Optimised) Decision-making			4	4
6 - Financial Forecasts	1		1	2
7 - Planning Assumptions and Confidence Levels			4	4
8 - Outline Improvement Programmes	4		3	7
9 - Planning by Qualified Persons			5	5
10 - Commitment			4	4
<b>2011</b>		<b>35</b>		<b>35</b>
1 - Description of Assets		3		3
2 - Levels of Service		1		1
3 - Managing Growth		3		3
4 - Risk Management		6		6
5 - Lifecycle (Optimised) Decision-making		13		13
6 - Financial Forecasts		2		2
7 - Planning Assumptions & Confidence Levels		4		4
8 - Outline Improvement Programmes		2		2
9 - Planning by Qualified Persons		1		1
<b>(blank)</b>		<b>1</b>		<b>1</b>
3 - Managing Growth		1		1
<b>Grand Total</b>	<b>11</b>	<b>38</b>	<b>43</b>	<b>92</b>

The Improvement Programme will be adopted in line with the adoption of the LTP and this AMP. It will be continuously monitored with a full review on an annual basis and the status of the improvement items assessed and reported.

## V.7 Improvement Actions Completed

Improvement items completed for the period (or requiring no future action) are shown in Table V-2 below.

**Table V-2: Improvement Actions Complete**

AMP Action Reference	Improvement Action	Further Information	Status	Comment	Year that Improvement Action was Identified
B.001	<b>Asset Performance:</b> document which assets are not performing to standard in AMP.		Complete	Due for Draft version complete by Oct 2011	2010
B.002	<b>Condition Data Collection:</b> document how condition data is collected in AMP.		Complete	Due for Draft version complete by Oct 2011	2010
E.002	<b>Maintenance Strategies:</b> outline maintenance strategies in AMP.		Complete	Due for Draft version complete by Oct 2011	2010
E.003	<b>Maintenance Standards:</b> document maintenance standards in AMP.		Complete	Due for Draft version complete by Oct 2011	2010
F.001	<b>New Capital:</b> document the selection criteria for ranking new projects in AMP.		Complete	Due for Draft version complete by Oct 2011	2010
I.001	<b>Asset Renewals:</b> indicate basis for renewals in AMP.		Complete	Due for Draft version complete by Oct 2011	2010
I.002	<b>Deferred Renewals:</b> indicate extent of deferred renewals in AMP.		Complete	Due for Draft version complete by Oct 2011	2010
A.003	<b>Activity Links:</b> show clear linkages to Activity Strategies / Programmes.	Documenting - paragraph detailing link between Solid Waste activities and programmes.	Complete	Due for Draft version complete by Oct 2011	2010
A.004	<b>Regional Policy Links:</b> show clear linkages to Regional Policy Statements.		Complete	Due for Draft version complete by Oct 2011	2010
A.005	<b>Other AMP Links:</b> show clear linkages to other relevant AMPs.		Complete	Due for Draft version complete by Oct 2011	2010
A.006	<b>Funding Policy Links:</b> show clear linkages to Funding Policies.		Complete	Due for Draft version complete by Oct 2011	2010
R.008	<b>Performance Measures:</b> document all benchmarking being completed in AMP.		Complete		2010
N.005	<b>Commonality of Approach:</b> ensure that there is consistency between the demand management approach in the AMP to that in any Activity related strategy.		Complete	Due for Draft version complete by Oct 2011	2010
N.001	<b>Demand Factors:</b> document factors and influences on demand.		Complete	To be developed for inclusion in the AMP - start 2010/11	2010

AMP Action Reference	Improvement Action	Further Information	Status	Comment	Year that Improvement Action was Identified
N.002	<b>Demand Forecast:</b> indicate a clear appreciation of future demand for all aspects of the activity in AMP.		Complete		2010
N.003	<b>Demand Management Analysis:</b> robustly translate demand analysis into new asset works.		Complete		2010
R.001	<b>Waste Data Management and Reporting:</b> Continue to monitor waste quantities being disposed to landfill and amount of material being diverted by re-use, recycle and reduction initiatives.	Financial provision made in the AMP forecasts. Section L - Waste Minimisation Activities. GL Codes 0718252608 and 0718252613	Complete		2009
I.003	<b>Renewal Prioritisation:</b> indicate how renewals are prioritised in AMP.		Complete	Due for Draft version complete by Oct 2011	2010
S.005	<b>Decision Making Tools:</b> identify and document the tools and techniques used and applied for deciding on treatment options.		Complete		2010
S.006	<b>Decision Making Balance:</b> indicate the appropriate balance between ODM tools and engineering judgement / experience knowledge.		Complete		2010
S.007	<b>Cross-infrastructure planning:</b> show the link between ODM decisions in other cross-infrastructure work planning.		Complete		2010
D.002	<b>Valuations:</b> show the latest valuations including annual and forecast replacement costs, depreciated replacement costs and annual depreciation.		Complete	Due for Draft version complete by Oct 2011	2010
S.001	<b>Asset systems:</b> Identify and document the strengths and weaknesses of asset information systems, including where assets cross activity boundaries.		Complete	Due for Draft version complete by Oct 2011	2010
S.002	<b>Non-recorded Assets:</b> identify and capture any assets that are not in a formal system or process.	Minor project likely to be needed	Complete	Due for Draft version complete by Oct 2011	2010
S.003	<b>Asset Data Completeness:</b> indicate the completeness of physical data.		Complete	Due for Draft version complete by Oct 2011	2010
S.004	<b>Asset Data Reliability:</b> indicate the accuracy and reliability of asset data.		Complete	Due for Draft version complete by Oct 2011	2010



AMP Action Reference	Improvement Action	Further Information	Status	Comment	Year that Improvement Action was Identified
V.001	<b>Activity Management Gap Analysis:</b> record all weaknesses / issues in all aspects of activity management.	Documenting - develop improvement planning	Complete		2010
V.002	<b>Activity Management Gap Extent:</b> show the extent of the gap between existing practice and best appropriate practice.	Documenting - develop improvement planning	Complete		2010
V.003	<b>Improvement Options:</b> outline the details of all improvement options.		Complete		2010
Q.001	<b>Risk Management:</b> Council intends to apply a consistent approach to risk management across all asset groups. Three levels of risk assessment will be carried out; Organisation, Asset Group and Critical Assets.	Combined project for Organisational IRM, also need to develop at Ops level per activity	Complete		2009
E.001	<b>Safety Audits:</b> Regular safety audits of contractors systems and processes.		Complete		2009
D.001	<b>Asset Valuations:</b> Review and update the water Asset Valuation on a three yearly cycle. Next review due in 2010.		Complete		2009

Current improvement actions are detailed in Table V-3 following.

V.8 Table V-3: Current Improvement Actions

AMP Action Reference	Improvement Action	Further Info	Priority (High, Medium, Low)	Status	Year that Improvement Action was Identified	Forecast Completion Date	Procurement / Delivery Strategy	Council Person Responsible for Managing to Close	Cost Estimate for Years 1 - 3
A.001	<b>AMP Update:</b> Review and update AMP on a 3 year cycle. Next due in 2014	Financial provision made in the AMP forecasts.	H	In Progress	2009	End Oct 14	Consultant		\$50,000
A.002	<b>WMMP Update:</b> Development of a waste management and minimisation plan	Financial provision made in the AMP forecasts.	H	In Progress	2009	2012	Consultant		\$195,000
D.001	<b>Asset Valuations:</b> Review and update the water Asset Valuation on a 2 yearly cycle. Next review due in 2012		H	Not Started	2009		Consultant		
E.004	<b>Lifecycle Decision Making:</b> Detail how options have been identified for asset maintenance to achieve optimal costs over life		M	Not Started	2011	2014	Consultant	Jeff Cuthbertson	
G.001	<b>Financial Assessment:</b> Collate historic and new information on Development Contributions to allow analysis of DCs paid vs. forecasts and trending		M	Not Started	2011	2014	In-House	Peter Thomson	
H.001	<b>Resource Consent Database:</b> Continue to maintain database and improve reporting of resource consents related to the solid waste	Review current status and develop further.	M	In Progress	2009		Consultant		
K.001	<b>Financial Assessment:</b> Explore if Councils policy around debt funding is specific enough		M	Not Started	2011	2014	In-House	Peter Thomson	
M.001	<b>Local Share Funding:</b> provide confidence that the local share of funding is reasonable and affordable	Due for Draft version complete by October 2011.	M	In Progress	2010	31-Oct-11	Consultant		
N.004	<b>Demand Reduction:</b> robustly translate demand analysis into non-asset solutions (demand reduction)		M	In Progress	2010		Consultant		
N.006	<b>Demand Management:</b> Collate historical information on demand to enable demand trending and analysis		M	Not Started	2011	2014	Consultant	Jeff Cuthbertson	
N.007	<b>Demand Management:</b> Provide greater detail on the effects of changing demographics rather than population growth		M	Not Started	2011	2014	Consultant	Jeff Cuthbertson	
N.008	<b>Demand Management:</b> Undertake sensitivity analysis on growth and demand and the effect on activity requirements		M	Not Started	2011	2014	In-house with consultant support	Jeff Cuthbertson	
P.001	<b>Sustainability:</b> Explore the need to develop a Council-wide sustainability Policy		M	Not Started	2011	2014	In-House	Peter Thomson	
P.002	<b>Sustainability:</b> Expand detail on sustainability for the activity. Develop KPIs for environmental, economic and social aspects of sustainable development		M	Not Started	2011	2014	In-house with consultant support	Peter Thomson	
Q.003	<b>Cost/Benefit Analysis:</b> Detail and demonstrate the level of cost/benefit analysis undertaken for projects within the activity		M	Not Started	2011	2014	Consultant	Jeff Cuthbertson	
Q.004	<b>Risk Management:</b> Implement IRM across Council. Currently being used within individual activities		M	Not Started	2011	2014	In-House	Peter Thomson	
Q.005	<b>Risk Management:</b> Detail and demonstrate how asset criticality and risk analysis is used to develop maintenance strategies		M	Not Started	2011	2014	In-house with consultant support	Jeff Cuthbertson	
Q.006	<b>Risk Management:</b> Detail and demonstrate how asset criticality and risk analysis is used to develop renewals strategies		M	Not Started	2011	2014	In-house with consultant support	Jeff Cuthbertson	
Q.007	<b>Lifecycle Decision Making:</b> Further develop and detail process for decision making with regards to O&M, renewals, capex and disposals		M	Not Started	2011	2014	In-house with consultant support	Jeff Cuthbertson	
Q.008	<b>Assumptions &amp; Uncertainties:</b> Identify the uncertainty level of the more significant assumptions and detail the possible effects.		M	Not Started	2011	2014	In-house with consultant support	Jeff Cuthbertson	
Q.009	<b>Asset Data:</b> Identify and document process for knowing and updating/reporting on confidence levels of asset condition and performance		M	Not Started	2011	2014		Jeff Cuthbertson	
Q.010	<b>Assumptions &amp; Uncertainties:</b> Identify and state the confidence levels for the growth/demand forecasts		M	Not Started	2011	2014	In-house with consultant support	Jeff Cuthbertson	
R.002	<b>Investigation of diversion options:</b> Research information on the extent of waste diversion that can be achieved with particular waste minimisation initiatives		M	In Progress	2009		Consultant		
R.003	<b>Levels of Service reporting:</b> Increased monitoring to record compliance with new levels of service		H	In Progress	2009		Consultant		\$24,000

R.011	<b>Levels of Service:</b> Develop and incorporate sustainability strategies and operations into Levels of Service and performance measures		M	Not Started	2011	2014	In-house with consultant support	Peter Thomson	
S.008	<b>Description of Assets:</b> - consider adding asset hierarchy into the Confirm system. The capabilities are there, but not yet used by Council		M	Not Started	2011	2014	In-House	Peter Thomson	
S.009	<b>Description of Assets:</b> Improve information on the level of recording, monitoring and reporting of asset information		M	Not Started	2011	2014	In-house with consultant support	Jeff Cuthbertson	
S.010	<b>Critical Assets:</b> Create ability to separately identify Critical Assets in Confirm. Be able to report on this information easily.		M	Not Started	2011	2014	In-house	Jeff Cuthbertson	
S.011	<b>Asset Information:</b> Collate and provide information on how asset condition is monitored		M	Not Started	2011	2014	In-house with consultant support	Jeff Cuthbertson	
S.012	<b>Asset Condition Data:</b> Detail how asset condition is monitored and reported for key asset types		M	Not Started	2011	2014	In-house with consultant support	Jeff Cuthbertson	
S.013	<b>Asset Performance Data:</b> Detail how asset performance is monitored and reported for key asset types		M	Not Started	2011	2014	In-house with consultant support	Jeff Cuthbertson	
S.014	<b>Lifecycle Decision Making:</b> detail and demonstrate how trade-offs are made between renewals and maintenance expenditure		M	Not Started	2011	2014	Consultant	Jeff Cuthbertson	
S.015	<b>Lifecycle Decision Making:</b> show alignment with maintenance plan for auditing, supervision and performance measures		M	Not Started	2011	2014	In-house with consultant support	Jeff Cuthbertson	
T.001	<b>Bylaw review:</b> Investigation of local or regional bylaws		M	Not Started	2009		In-house		
V.004	<b>Improvement Priorities:</b> outline improvement programme priorities		M	In Progress	2010	31-Oct-11	In-house		
V.005	<b>Improvement Timeline:</b> outline improvement programme timeline		M	In Progress	2010	31-Oct-11	In-house		
V.006	<b>Improvement Resources:</b> outline resources required for improvement programme and whether resources have been approved		M	In Progress	2010	31-Oct-11	In-house		
V.007	<b>Improvement External Involvement:</b> outline what further input is required from users or stakeholders		M	In Progress	2010	31-Oct-11	In-house		
V.008	<b>Improvement Plans:</b> formalise timeframes and budgets for improvement actions		M	Not Started	2011	2014	In-house with consultant support	Jeff Cuthbertson	
V.009	<b>Improvement Plans:</b> develop and implement process for monitoring and reporting against the Improvement Plan		M	Not Started	2011	2014	In-house with consultant support	Jeff Cuthbertson	
E.004	<b>Closed Landfill Audit:</b> Biennial closed landfill audit to improve asset information		H	Not Started	2011	30-Dec-12	Consultant		\$25,000
E.005	<b>Review of Closed Landfill Management Plan:</b> prior to biennial audit Nov/Dev 2012		H	Not Started	2011	30-Oct-12	Consultant		\$10,000
E.006	<b>Lease Agreements:</b> Prepare scope for property to review lease/licence and site maintenance requirements on all sites owned or occupied by others as identified in the Closed Landfills Visual Inspection Report (April 2011)		H	Not Started	2011	30-Jun-13	In-house		\$15,000
E.007	<b>Capacity Assessment:</b> Develop procedure to record capacity information in Confirm.		M	Not Started					
F.001	<b>Lifecycle costing:</b> Consider lifecycle costings (especially of low impact design solutions)		M	Not Started	2011	2014	Consultant		
N.006	Research information on the extent of waste diversion that can be achieved with particular waste minimisation initiatives		M	Not Started	2011	2014	Consultant		
Q.003	<b>System Risk Analysis:</b> Carry out system risk assessments at each site.		M	Not Started	2011	2014	Consultant		
Q.004	<b>Lifelines:</b> Develop procedures for management of solid waste in the event of civil defence emergency. Identify critical assets. Provide input into the next Engineering Lifelines Assessment		M	Not Started	2011	2014	In-house		
S.008	<b>Asset Data:</b> Improve level of asset data in Confirm. Visit every site and confirm asset register, detail all new assets and details, update confirm.		H	Not Started	2011	2014	In-house		\$12,000

## V.9 AMP Peer Review

*Infrastructure Management*

**Tasman District Council**

**Water, Wastewater, Stormwater,  
Solid Waste, Aerodromes, Transport,  
Rivers and Coastal Structures  
AMPs Peer Review**

**October 2011 & May 2012**



**WAUGH**

ideas | analysis | solutions



# WAUGH

## Quality Record Sheet

**Tasman District Council**  
**Water, Wastewater, Stormwater,**  
**Solid Waste, Transport, Aerodromes, Rivers**  
**and Coastal Structures**  
**AMP Peer Review**  
**October 2011 and May 2012**

### Issue Information

Issue Purpose	Final
Issue Date	8 <sup>th</sup> May 2012
Version Number	1.1

### Authorisation

Tasman District Council	Peter Thomson
Prepared by	Andrew Iremonger
Internal Reviewed by	Ross Waugh
Date	8 <sup>th</sup> May 2012
Report Number	64-065-1002

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## 1.0 EXECUTIVE SUMMARY

### 1.1 Introduction

The purpose of this report is to:

- Provide a regulatory review of the October 2011 Tasman District Council (TDC) Water, Wastewater, Stormwater, Solid Waste, Aerodromes, Transport, Rivers and Coastal Structures Asset Management Plans for compliance with the primary legislation driving local government, this being the Local Government Act 2002
- Considers associated legislation and standards such as Financial Reporting Standards, Resource Management Act and Health Act as well as industry appropriate practice

### 1.2 Methodology

Waugh Infrastructure Management Ltd assessed in October 2011 the eight individual draft AMP's content in comparison to; the 12 assessment criteria and a number of elements for each assessment criteria, and to an assessed appropriate asset management level for Tasman District Council. These elements generally follow the Appropriate AM (from IIMM 2006: Section 2.2.4). The assessment criteria are:

- Description of Assets
- Levels of Service
- Managing Growth
- Risk Management
- Lifecycle Decision Making
- Financial Forecasts
- Planning Assumptions and Confidence Levels
- Outline Improvement Programmes
- Councils Commitment
- Planning by Qualified Persons
- Sustainability within the activity by using the Councils sustainability objectives
- The AMP Format (presented in a way that can be readily utilised by the required audience)

Following this review TDC made amendments to the AMP's that encompassed the inclusion of financial details, significant additions to the improvement program along with other items.

In May 2012 the amendments to the October AMPs were assessed by Waugh Infrastructure and the compliance status was reassessed. It should be noted that the May 2012 assessment only considered the items shown in the "Peer review improvement table" provided by MWH in their letter dated 3<sup>rd</sup> April 2012.

### 1.3 Overall Conclusion of Asset Management Plans Assessment

The AMP's indicate that TDC has developed good practices and processes in the operation, management and administration of their activities but the discussion or evidence presented within the individual AMP's is often insufficient to substantiate this.

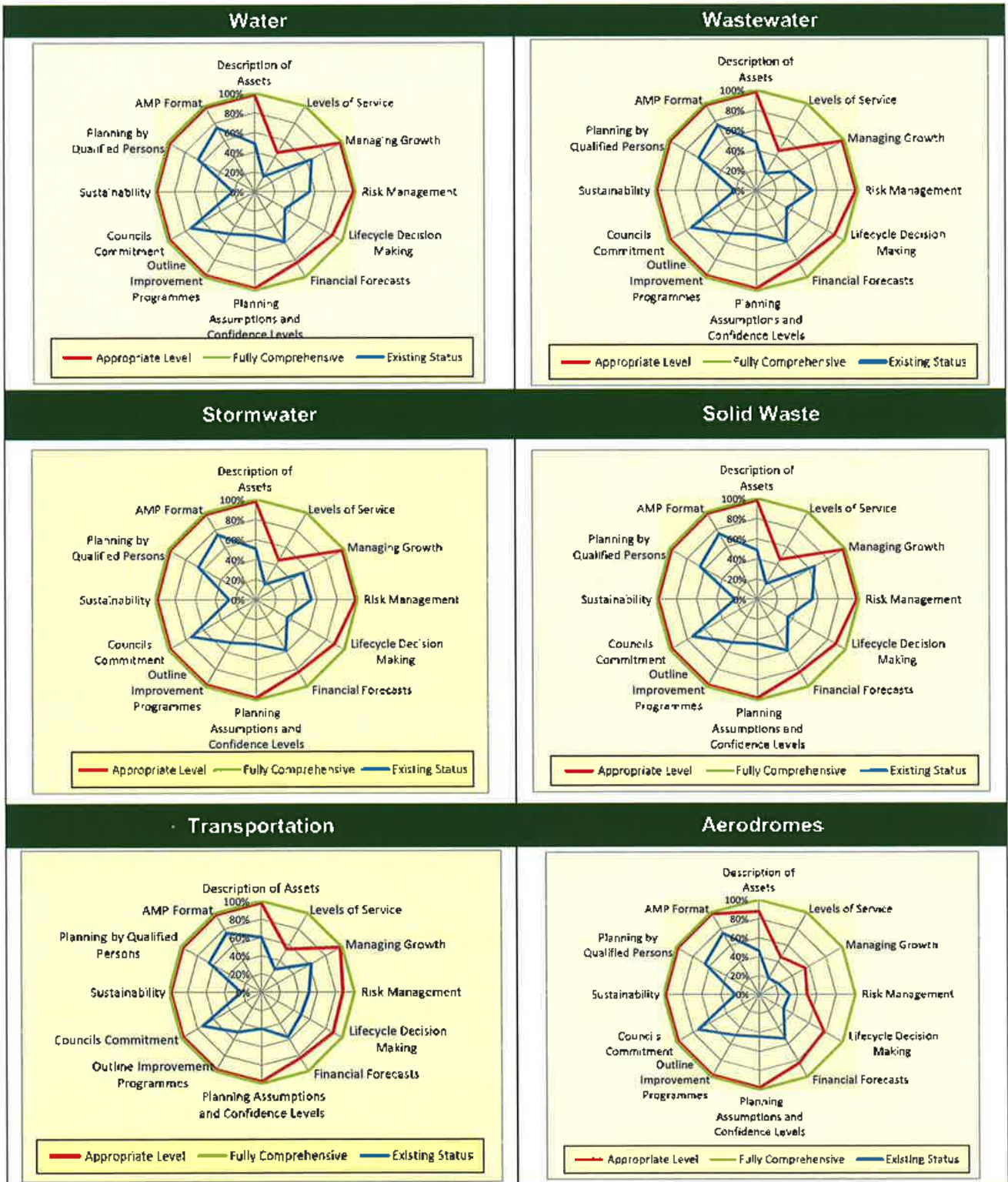
The AMP's provided in May 2012 indicates that many of the issues raised in the October review have been addressed in the subsequent version of the AMPs as amendments or improvement plan items. Completion of these actions would assist to achieve the Councils targeted asset management level.

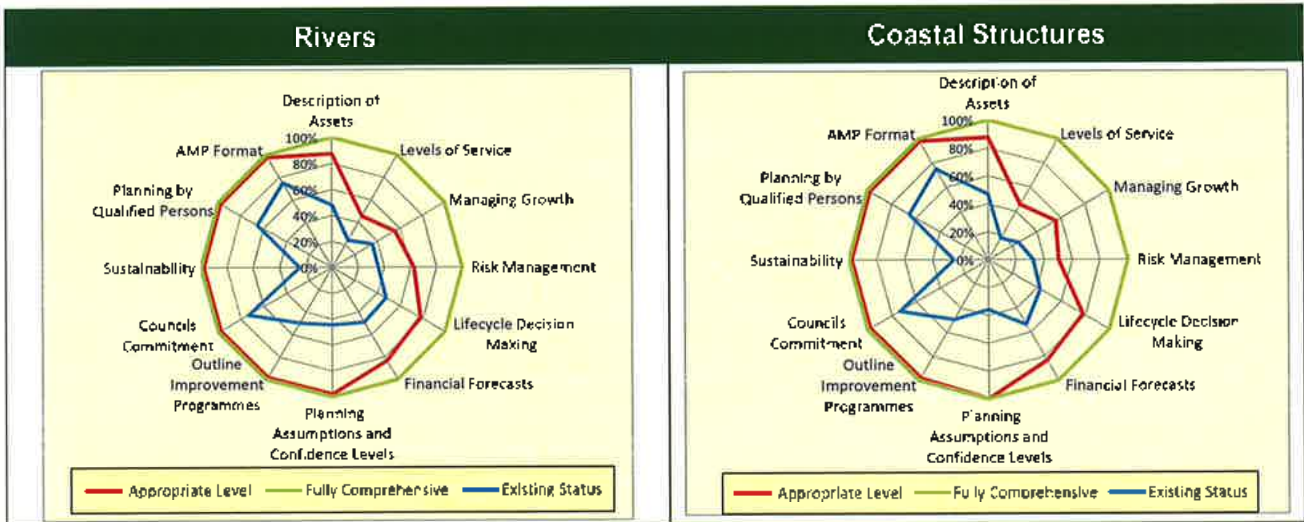
The AMPs assessed in May 2012 do provide Council with an adequate basis on which to make decisions between competing priorities for infrastructure funding and to understand the impact on

service levels in the longer term. On-going commitment is required to complete the actions identified to progress to the high levels of Asset Management practice.

An overview of the AMP Compliance status of the eight AMP's (dated February 2012) is provided in a graphical manner below.

**Figure 1-1: AMP Compliance Status Graphs**





### 1.4 Peer Review Limitations and Disclaimer

This Peer Review has been undertaken by Waugh Infrastructure Management Limited, based solely on the information presented in the Tasman District Council Water, Wastewater and Stormwater, Solid Wastes, Transportation, Aerodromes, Rivers and Coastal Structures Asset Management Plans. This report has been prepared solely for the benefit of the Tasman District Council. Waugh Infrastructure Management Limited does not warranty statements made in the eight Asset Management Plans subject to this peer review

This Peer Review represents the experienced opinion of the Reviewers, based on the available information and standards of practice extracted from the information.

This Peer Review makes no representation to reflect the views or standards of Audit NZ, nor does it warrant or certify (in any way) any compliance with possible Audit NZ and/or Office of the Auditor General requirements for Asset Plans.

## 2.0 RECORD OF PEER REVIEW ENGAGEMENT

Council Name	Tasman District Council
AMP Titles	Water, Wastewater, Stormwater, Solid Wastes, Transportation, Aerodromes, Rivers and Coastal Structures Asset Management Plans
Plan Sponsor	Peter Thomson, Engineering Manager
AMP Prepared By (Plan Writer)	Council Staff - Water: David Light - Wastewater: David Light - Stormwater: Katie Henderson - Solid Waste: Katie Henderson - Transportation: Jenna Viogt - Aerodromes: Jenna Viogt - Rivers: Jenna Viogt - Coastal Structures: Jenna Viogt
AMP Publish Date	October 2011 and February 2012
Peer Reviewer (Waugh Infrastructure Management Ltd)	Ross Waugh Andrew Iremonger Grant Holland
Internal Review (Waugh Infrastructure Management Ltd)	Ross Waugh
Peer Review Dates	26 October 2011 and 4 <sup>th</sup> May 2012 (review of additions from October 2011 to February 2012)

### **3.0 SCOPE AND USE OF PEER REVIEW**

The Scope of the Peer Review is to provide a regulatory review of the Tasman District Council (TDC) Water, Wastewater, Stormwater, Solid Wastes, Transportation, Aerodromes, Rivers and Coastal Structures Asset Plans (dated October 2011 and February 2012) for compliance with the primary legislation driving local government, this being the Local Government Act 2002.

The Peer Review also considers associated legislation and standards such as Financial Reporting Standards, Resource Management Act and Health Act as well as industry appropriate practice as set by the International Infrastructure Management Manual.

The Peer Review is to comment on the Plan in relation to the following aspects in keeping with the following guidelines of the Office of the Auditor General:

- Transparency
- Inclusivity
- Sustainable Development Approach
- Completeness
- Neutrality
- Comparability
- Accuracy

The intended use of this Peer Review is for the Tasman District Council.

## 4.0 ASSESSMENT METHODOLOGY

Waugh Infrastructure Management Ltd assessed in October 2011 the eight individual draft AMP's content in comparison to; the 12 assessment criteria and a number of elements for each assessment criteria, and to an assessed appropriate asset management level for Tasman District Council. These elements generally follow the Appropriate AM (from IIMM 2006: Section 2.2.4). The assessment criteria are:

- Description of Assets
- Levels of Service
- Managing Growth
- Risk Management
- Lifecycle Decision Making
- Financial Forecasts
- Planning Assumptions and Confidence Levels
- Outline Improvement Programmes
- Councils Commitment
- Planning by Qualified Persons
- Sustainability within the activity by using the Councils sustainability objectives
- The AMP Format (presented in a way that can be readily utilised by the required audience)

Following this review TDC made amendments to the AMP's that encompassed the inclusion of financial details, significant additions to the improvement program along with other items.

In May 2012 the amendments to the October AMPs were assessed by Waugh Infrastructure and the compliance status was reassessed. It should be noted that the May 2012 assessment only considered the items shown in the "Peer review improvement table" provided by MWH in their letter dated 3rd April 2012.

### 4.1 Scoring Methodology

The marking of each question area ranges from nil (no reference shown) to 5 (fully compliant) as shown in Table 4-1 below. Following the Fulfilment marking the comments field will indicate any issue considered relevant.

**Table 4-1: Scoring Methodology**

Fulfilment Requirements	AMP Details
Nil (0)	Not shown or no reference to
Minimal and fragmented (1)	20% compliant - Disjointed
Basic alignment (2)	30% compliant -
Partially (3)	50% compliant -
High level of alignment (4)	80% compliant - minor defects or admissions
Fully Compliant (5)	All areas within this section are fully compliant

The sum of each Assessment area score was then compared to the maximum score required using the Appropriate Practice for the component area i.e. description of assets, LoS etc. This data is shown in the overall AMP Compliance Status excel tables and the AMP Compliance Status graphs.

It should be noted that where there is no information or reference for any question area the score assigned is zero; this will result in a low overall score.



## 4.2 Appropriate Practice for Tasman District Council Asset Management

### Objective of the Asset Management Policy

The objective of the Tasman District Council's Asset Management Policy for the eight utility Activities is to ensure that Council's service delivery is optimised to deliver agreed community outcomes and levels of service, manage related risks, and optimise expenditure over the entire life cycle of the service delivery, using appropriate assets as required.

The Asset Management Policy requires that the management of assets be in a systematic process to guide planning, acquisition, operation and maintenance, renewal and disposal of the required assets.

Delivery of service is required to be sustainable in the long term and deliver on Council's economic, environmental, social, and cultural objectives.

The Council's Asset Management Policy sets the appropriate level of asset management practice for Council's Activity as:

- Transportation: Core Plus with demand management and resource availability drivers
- 3 Waters: Core Plus with demand and risk management drivers
- Solid Waste: Core with risk management drivers
- Coastal structures: Core
- Rivers: Core
- Aerodromes: Core

The appropriate practice status analysis for all eight services is shown in the following table as highlighted green.

**Table 4-2: Utilities Asset Management Appropriate Practice Assessment**

Assessment Criteria (as outlined in IIMM 2006)		Appropriate Practice Status Analysis							
		Water	Wastewater	Stormwater	Solid Waste	Transportation	Aerodromes	Rivers	Coastal Structures
<b>Description of Assets</b>									
<b>Core</b>	Adequate Description of Asset								
	Financial Description of Asset								
	Remaining useful life								
	Aggregate & Disaggregate Information								
<b>Advanced</b>	Reliable Physical inventory								
	- Physical attributes (location, material, age etc.)								
	- Systematic monitoring of condition								
	- Systematic measurement performance- Utilisation/capacity								
<b>Levels of Service</b>									
<b>Core</b>	Define LOS or performance								
	Linkage to strategic/community outcomes								
	Links to other planning documents								
	Levels of consultation identified and agreement								
	Service life of network stated								
<b>Advanced</b>	For Significant Services								
	- Evaluating LOS Options								
	- Consult LOS options with community								
	- Adoption LOS & Standards after consultation								
	- Public communication of service level								
	- Monitoring & public reporting								
AMP's reflect agreed LOS & how service is delivered									
<b>Managing Growth</b>									
<b>Core</b>	Demand Forecasts (10 year)								
	Demand Management drivers								
	Demand Management strategies								
	Sustainability Strategies								
<b>Advanced</b>	Forecasts include factors that comprise demand								
	Sensitivity of asset development (Capital Works) to demand changes								

Assessment Criteria (as outlined in IIMM 2006)		Appropriate Practice Status Analysis							
		Water	Wastewater	Stormwater	Solid Waste	Transportation	Aerodromes	Rivers	Coastal Structures
	Asset Utilisation/ Demand Modelling								
<b>Risk Management</b>									
Core	Identify critical assets								
	Identify significant negative effects								
	Identify associated risks and RM strategies								
Advanced	Recognition & application of principles of integrated risk management to assets								
	Apply standards & industry good practice (e.g. NZS4360 and Local Government Handbook)								
	RM integrated with Lifelines, disasters recovery, Continuity plans..								
	Integrate with maintenance and replacement strategies								
<b>Lifecycle Decision Making</b>									
Core	Lifecycle and Asset Management Practices								
	Service capacity gap analysis								
	Evaluation and ranking based on criteria of options for significant capital invest decisions for								
	Maintenance Outcomes, Strategies, Standards and Plan								
Advanced	Identify options for asset maintenance to achieve optimal costs over life of asset								
	- Apply agreed evaluation tools to prioritise work programmes								
	- Predictive modelling to support long-term financial forecasts for maintenance, renewals & new capital								
<b>Financial Forecasts</b>									
Core	10 year Financial plan Maintenance, Renewals, New Capital (LOS and demand).								
	Validate the Depreciation/Decline in Service Potential								
Advanced	Translate operational, planned maintenance, renewal & new work into financial terms over period of strategic plan								
	Provide consistent financial forecasts & Substantiate								
	Sensitivity of forecasts								
<b>Planning Assumptions and Confidence Levels</b>									
Core	List all assumptions and possible effects								
	Confidence level on asset condition, performance								
	Accuracy of asset inventory								

Assessment Criteria (as outlined in IIMM 2006)		Appropriate Practice Status Analysis							
		Water	Wastewater	Stormwater	Solid Waste	Transportation	Aerodromes	Rivers	Coastal Structures
	Confidence level demand/growth forecasts								
	Confidence level on financial forecasts								
Advanced	List all assumptions including organisations strategic plan that support AM – linkages with other planning doc								
	Confidence levels (IIMM 4.3.7)								
	- Inventory Data Critical Assets (Grade 1) Non Critical Assets (Grade 2)								
	- Condition Data Critical Assets (Grades 1 or 2) Non Critical Assets (Grades 1, 2 or 3)								
	- Performance Data Critical Assets (Grades 1 or 2) Non Critical Assets (Grades 1, 2 or 3)								
<b>Outline Improvement Programmes</b>									
Core	Identify improvements to AM processes & techniques								
	Identify weak areas & how they will be addressed								
	Timeframes for improvements								
	Identify resources required (human & financial)								
Advanced	Improvement programmes are monitored against KPI's								
	Previous improvements identified and formally reported against KPI's								
<b>Planning by qualified persons</b>									
	AM Planning should be undertaken by a suitably qualified person								
Core & Advanced	Process should be Peer reviewed								
<b>Commitment</b>									
Core	Plan adopted by Council including improvement programme								
	Plan key tool to support LTCCP								
	AM Plan regularly updated and should reflect progress on improvement plan								
Advanced	AM Plan requirements are being implemented and discrepancies formally reported								
	AM Plans evolving as AM systems provide better information								
	AM Plans updated every 3 years along with organisations strategic planning cycles								
	Council has defined the Appropriate AM Practice it is adopting								



## 5.0 OUTCOMES AND RESULTS OF REVIEW

### 5.1 Compliance Status Key Findings

The AMP Compliance Status is summarised in Table 5-1 below with an overview of the AMP Compliance status provided in a graphical manner in Figure 5-1. The individual AMP assessments are shown in an excel spreadsheet to allow an alternative viewing method.

The AMP's indicate that TDC has developed good practices and processes in the operation, management and administration of their activities but the discussion or evidence presented within the individual AMP's is often insufficient to substantiate this.

The AMP's provided in May 2012 indicates that many of the issues raised in the October review have been addressed in the subsequent version of the AMPs as amendments or improvement plan items. Completion of these actions would assist to achieve their targeted asset management level.

The AMPs assessed in May 2012 do provide Council with an adequate basis on which to make decisions between competing priorities for infrastructure funding and to understand the impact on service levels in the longer term. On-going commitment is required to complete the actions identified to progress to the high levels of Asset Management practice.

The areas that we consider will have most impact on the AMPs are those that have lower scores over all AMPs. These are:

- Description of assets – More information on the range of assets within each activity's asset register, the asset groups and the practices and processes that are associated with these along with a greater understanding of the condition and performance of the critical assets
- Levels of Service:
  - Levels of Service changes from 2009 (AMP and LTP) should be shown along with reasons and effects of these changes
  - While the Levels of Service listed in the AMP's may be appropriate for Council, there is little demonstration of how they were developed and the linkage with the community's priorities. Trends for performance to date should be shown along with a discussion on any Levels of Service gaps and link the initiatives proposed to close those gaps
- Lifecycle – Need to demonstrate the practices and processes carried out by TDC and those shown in the AMP are used on an on-going basis for the successful operation and renewal of the assets
- Growth – Additional information on utilisation especially at a higher level to enable a district wide assessment and the effects of the change in growth rates on infrastructure requirements
- Sustainability: All AMP's scored very low in this area
- Improvement Plan:
  - Improvement Program that details the requirements to achieve the appropriate AM level over the long term

### 5.2 General Comments

#### Water, Wastewater and Stormwater

These three services with appropriate AM practice set as Core Plus with demand and risk management drivers. AMP strengths in risk management in the 3Waters and growth for water services.

#### Solid Waste

An important Council asset and activity with appropriate AM practice set as Core. AMP provides good analysis of future growth and regional integration. AMP weakness in asset description, levels of

service, and asset lifecycle decision making are reflective of the entire AMP suite and the template approach.

### **Transportation**

Given the extended of the asset involved in the AMP provided, very limited details are provided to support the narrative of the plan. The maintenance and renewal programmes represent a considerable investment for Council and these are examined or explained in the AMP. There may be issues or challenges such as changes in demand in the rural area, impacts of severe weather, metal availability which are not discussed.

### **Aerodromes**

Asset and activity with appropriate AM practice set as Core. AMP weakness in asset description, levels of service, and asset lifecycle decision making are reflective of the entire AMP suite and the template approach

### **Rivers**

Asset and activity with appropriate AM practice set as Core. AMP weakness in asset description, levels of service, and asset lifecycle decision making are reflective of the entire AMP suite and the template approach.

### **Coastal Structures**

Asset and activity with appropriate AM practice set as Core. An important Council activity with relatively minor expenditure. AMP weakness in asset description, levels of service, managing growth and asset lifecycle decision making are reflective of the entire AMP suite and the template approach.

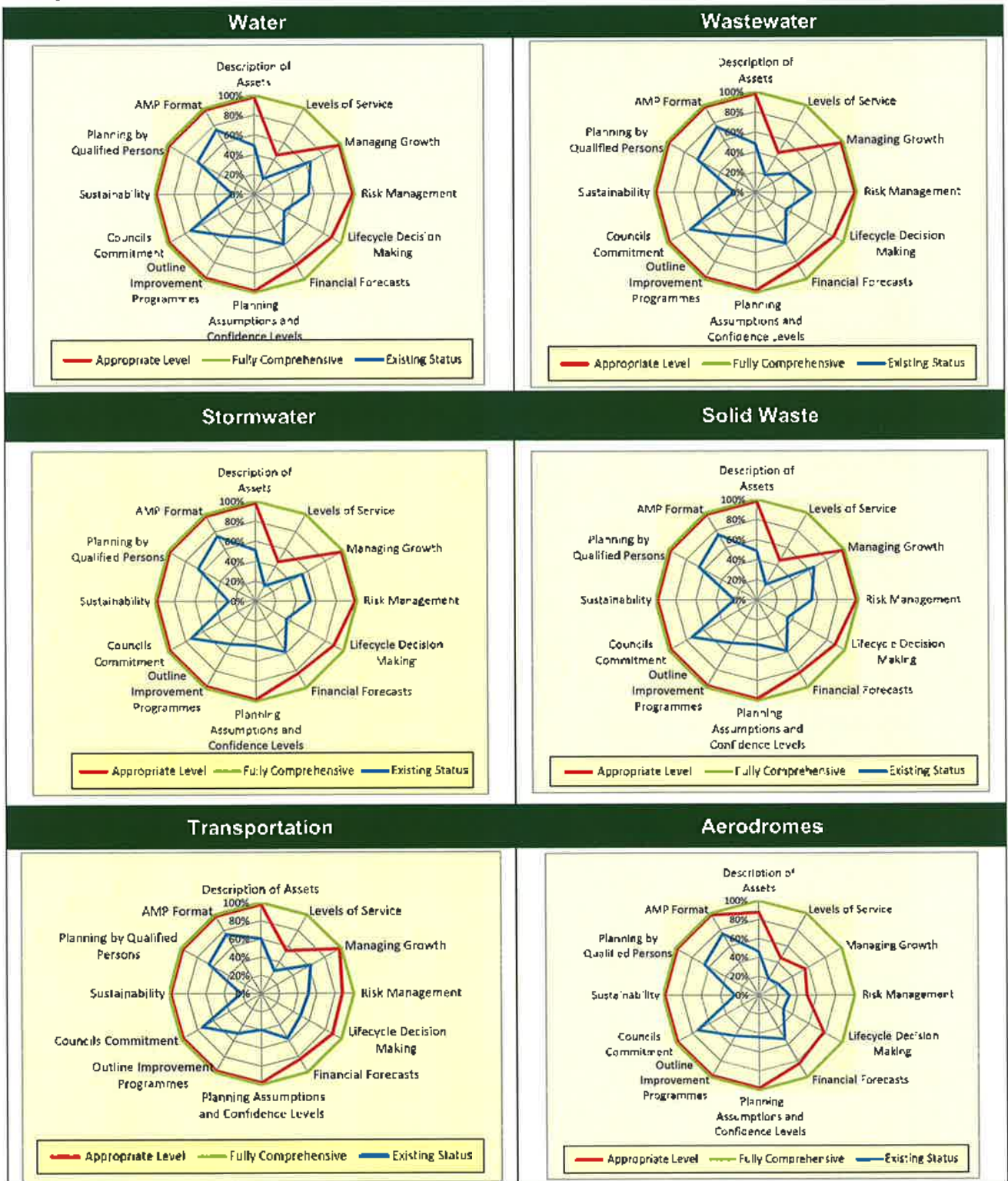
Table 5-1: AMP Compliance Status

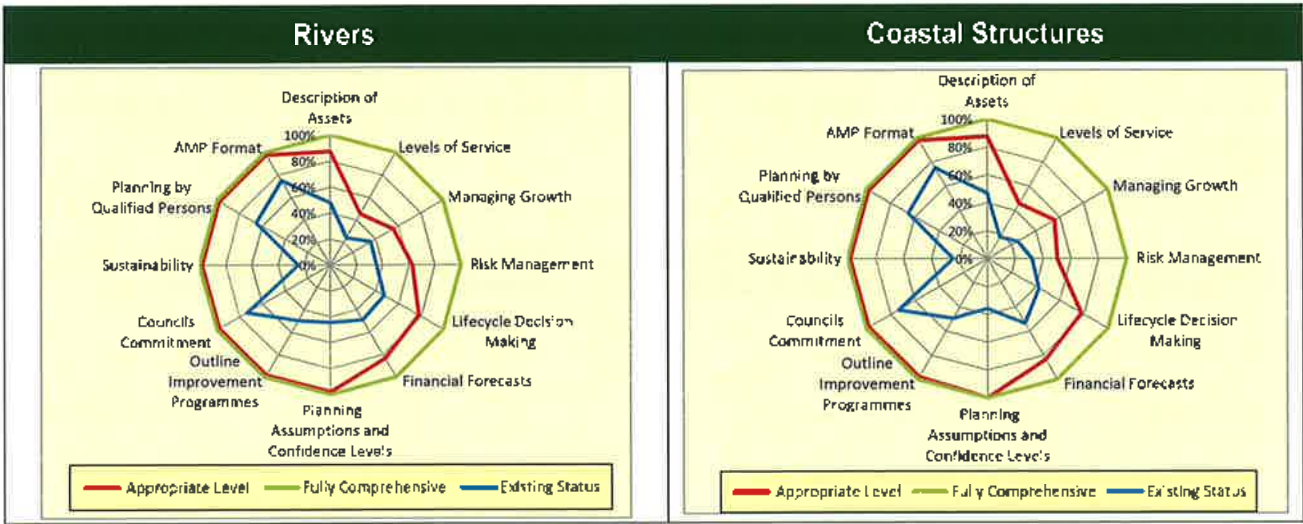
Service		Description of Assets	Levels of Service	Managing Growth	Risk Management	Lifecycle Decision making	Financial Forecasts	Planning Assumptions & Confidence Levels	Outline Improvement Programmes	Councils Commitment	Sustainability	Planning by Qualified Persons	AMP Format
Water	Existing Status	49%	18%	65%	54%	35%	58%	44%	49%	74%	22%	65%	75%
	Appropriate AM Level	100%	45%	100%	100%	89%	83%	100%	100%	100%	100%	100%	100%
Wastewater	Existing Status	48%	20%	38%	55%	35%	58%	44%	49%	74%	21%	65%	75%
	Appropriate AM Level	100%	45%	100%	100%	89%	83%	100%	100%	100%	100%	100%	100%
Stormwater	Existing Status	51%	18%	54%	54%	35%	58%	44%	49%	74%	26%	65%	75%
	Appropriate AM Level	100%	45%	100%	100%	89%	83%	100%	100%	100%	100%	100%	100%
Solid Waste	Existing Status	51%	20%	53%	55%	20%	53%	51%	49%	74%	57%	65%	75%
	Appropriate AM Level	100%	45%	67%	75%	44%	83%	100%	100%	100%	100%	100%	100%
Transportation	Existing Status	60%	29%	62%	51%	49%	57%	40%	50%	74%	22%	65%	75%
	Appropriate AM Level	100%	55%	100%	88%	89%	83%	100%	100%	100%	100%	100%	100%
Aerodromes	Existing Status	46%	20%	24%	32%	29%	53%	44%	49%	74%	25%	65%	75%
	Appropriate AM Level	88%	45%	56%	50%	78%	83%	100%	100%	100%	100%	100%	100%
Rivers	Existing Status	48%	24%	36%	36%	48%	49%	44%	49%	74%	25%	65%	75%
	Appropriate AM Level	88%	45%	56%	63%	78%	83%	100%	100%	100%	100%	100%	100%
Coastal Structures	Existing Status	47%	18%	25%	32%	43%	53%	36%	49%	74%	25%	65%	75%
	Appropriate AM Level	88%	45%	56%	50%	78%	83%	100%	100%	100%	100%	100%	100%

Note: The Existing Status and Estimated Appropriate AM level are expressed as a % of compliance



Figure 5-1: AMP Compliance Status Graphs





## 6.0 ASSESSMENT OF LINKAGES AND IMPLEMENTATION OF PLAN

This Peer Review has been undertaken in terms of, and limited to the instructions provided to Waugh Infrastructure Management Limited.

In the course of the review the documents considered in or excluded from the review are as follows:

Documents considered in the review	Context/Comment
Tasman Water, Wastewater, Stormwater, Solid wastes, Transportation, Aerodromes, Rivers and Coastal structures Asset Management Plans (October 2011 and February 2012). Peer review improvement table provided by MWH in their letter dated 3rd April 2012	Document for Peer Review
INGENIUM Code of Ethics	Reference and guidance
IPENZ Code of Ethics	
NAMs Infrastructure Asset Management Manual 2006	
Local Government Act 2002	Reference
Resource Management Act 1991	
Health Act 1956 and Health (Drinking water) Amendment Act 2007	
Financial Reporting Standards (FRS 3)	

Documents Referred to within this AP and Excluded from the Review	Comment
Tasman District Council Long Term Council Community Plan 2009-2019	Reference to, or abbreviated versions of these documents are included within the Asset Management Plan.
Tasman District Council Assessment of Water and Sanitary Services	Consistency between the Asset Management Plan and the documents listed was not examined as part of this review.
Valuation of Infrastructure of Assets Report 2010	It is assumed that the core consistencies exist between the Management Plan and the Long Term Council Community Plan; Water and Sanitary Assessments; and the current Infrastructure Valuation.
Tasman District Council General and Strategic Policies not included within the Management Plan	Linkages between these documents beyond those described within the Asset Management Plan were not examined.
Tasman District Council Asset Registers	
Tasman District Council Operating Manuals	

The implementation of the Asset Management Plan was not evaluated as part of the Peer Review. An evaluation of the implementation would require interviews with a number of Tasman District Council staff to ascertain the integration of the Asset Management Plan throughout the organisation.

## **7.0 RECORD OF METHODOLOGY OF PEER REVIEW**

Following is the methodology followed by Waugh Infrastructure Management Ltd to carry out the Peer Reviews of the Asset Management Plans:

1. Agree scope and Plans to be reviewed
2. Check for any Peer Reviewer conflicts of interest
3. Arrange for Plan and any other significant documents to be provided to the Peer Reviewer
4. Complete Peer Review of Plan as per Standard Questions/Criteria
5. Carry out Waugh Infrastructure Management internal review of Peer Review Report
6. Provide Draft Peer Review Report to Client
7. Discuss feedback from Client
8. Prepare and issue final Peer Review Report

## **8.0 STATEMENT OF CODE OF ETHICS**

In undertaking this Peer Review, Waugh Infrastructure Management Limited Management, Staff and Associates recognise the professional responsibilities integral to undertaking a review of another professional's work.

The review has been undertaken with particular regard to the following:

### **INGENIUM Code of Ethics**

#### **Clause 2 PROFESSIONALISM AND INTEGRITY**

INGENIUM members shall undertake their duties with professionalism and integrity, and shall work within their levels of competence.

Guidelines - Members need to:

- Exercise initiative, skill and judgement to the best of their ability at all times for the benefit of their employer and/or client
- Give decisions, recommendations or opinions that are honest, objective and factual. If these are ignored or rejected they should ensure that those affected are made aware of the possible consequences
- Accept personal responsibility for their work and work done under their supervision or direction
- Ensure that they do not misrepresent their areas or levels of experience or competence
- Take care not to disclose confidential information relating to their work or knowledge of their employer or client without the agreement of those parties
- Disclose any financial or other interest that may, or may be seen to, impair their professional judgment
- Ensure that they do not promise to, give to, or accept from any third party anything of substantial value by way of inducement
- First inform another member before reviewing their work and refrain from criticising the work of other professionals without due cause
- Uphold the reputation of INGENIUM and its members, and support other members as they seek to comply with the Code of Ethics

### **IPENZ Code of Ethics**

Obligations owed to other engineers:

Clause 11: Not review other Engineers' work without taking reasonable steps to inform them and investigate

Waugh Infrastructure Management Limited acknowledges the cooperation of the Plan Sponsor and the Plan Writers in undertaking this Peer Review.

## **9.0 APPENDICES**

### **9.1 Appendix A – Statement of Experience of Reviewers**

#### **Andrew Iremonger**

Andrew is a utilities engineer and asset management specialist with 30 years experience in Local Government Asset Management and Engineering. Andrew specialises in strategic Asset Management, specifically the development and updating of Activity and Asset Management Plans, Water and Sanitary Assessments and also Lifeline Utility Plans.

#### **Ross Waugh**

Ross is a strategic asset management and systems integration specialist with over 25 years experience in Local Government Asset Management and Engineering. Major consulting strengths include Strategic Asset Management Analysis, Asset Management Planning and the integration of asset management principles into Council processes and operations.

#### **Grant Holland**

Grant is an Asset Management specialist with a wide variety of experience in local government asset management and engineering. Grant's interest in supporting communities shows through his development of models for developing Levels of Service and long term planning through to the preparation of Strategic Plans, Activity Management Plans and Maintenance Contracts.

Grant has a broad background in surveying & land development, asset management system development, and community infrastructure and amenities management.

## 10.0 GLOSSARY OF TERMS

Term	Definition
Peer Review	A Peer Review is an impartial and professional review of another practitioner's work. The review is undertaken in a rigorous and systematic manner with due regard to ethics and confidentiality
Peer Reviewer	A suitably qualified person who may be a staff member of a local authority, or a consultant engaged by a local authority who undertakes or coordinates the review of another organisation or consultant's plan
Plan Sponsor	The staff member of a local authority or utility provider responsible for ensuring a plan is produced. The Plan Sponsor may also fulfil a role in coordinating contributions of staff and consultants towards the development of the plan. This person may be described as the Asset Management Coordinator in the Infrastructure Asset Management Manual
Plan Writer	The author of the plan who may be a staff member of a local authority or utility provider, or a consultant engaged by a local authority. Where a plan is prepared by a number of contributors the editor who compiles the contributions may be identified as the Plan Writer





## **APPENDIX W. ASSET DISPOSALS**

### **W.1 Asset Disposal Strategy**

The Council does not have a formal strategy on asset disposals. When any such assets reach a state where disposal needs to be considered, the Council will treat each case individually.

There are no current, or planned areas of operation that the Council wishes to divest itself of. Asset disposal therefore is a by-product of renewal or upgrade decisions that involve the replacement of assets.

Assets may also 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 (eg. private sector involvement)
- potential risk of ownership (financial, environmental, legal, social, vandalism).

Depending on the nature and value of the assets they are either:

- made safe and left in place
- removed and disposed to landfill
- removed and sold.

### **W.2 Disposal Standards**

Council follows a practice of obtaining best available return from the disposal or sale of assets within an infrastructural activity and any net income is credited to that activity.

### **W.3 Forecast Asset Disposals**

Council has no significant assets that it intends to dispose of in the foreseeable future.

It is not unusual for councils to dispose of closed landfills. Most of these in the Tasman district are located within flood plains, close to rivers and marine environments and it is most likely that Council will elect to retain them so that they can be managed appropriately and where appropriate developed as parks or reserves for public access or re-vegetated with native plants. However, the possibility of disposing of some of them should not be discounted.

## APPENDIX X. GLOSSARY OF ASSET MANAGEMENT TERMS

### List of Acronyms and Abbreviations

AMP	Activity Management Plan
ETS	Emissions Trading Scheme
LGA	Local Government Act
LTP	Long Term Plan
TRMP	Tasman Regional Management Plan
RRC	Refuse Recovery Centre
TDC	Tasman District Council
WMMP	Waste Management and Minimisation Plan

<b>Activity</b>	An activity is the work undertaken on an asset or group of assets to achieve a desired outcome.
<b>Activity Management Plan (AMP)</b>	Activity Management Plans are key strategic documents that describe all aspects of the management of assets and services for an activity. The documents feed information directly in the Council's LTP, and place an emphasis on long term financial planning, community consultation, and a clear definition of service levels and performance standards.
<b>Advanced Asset Management</b>	Asset management which employs predictive modelling, risk management and optimised renewal decision making techniques to establish asset lifecycle treatment options and related long term cashflow predictions. (See Basic Asset Management).
<b>Annual Plan</b>	The Annual Plan provides a statement of the direction of Council and ensures consistency and co-ordination 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 12 months.
<b>Asset 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>Asset 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>Asset Management Plan</b>	A plan developed for the management of one or more infrastructure assets that combines multi-disciplinary 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 cashflow projection for the activities.
<b>Asset Management Strategy</b>	A strategy for asset 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>Basic Asset Management</b>	Asset management which relies primarily on the use of an asset register, maintenance management systems, job/resource management, inventory control, condition assessment and defined levels of service, in order to establish alternative treatment options and long term cashflow predictions. Priorities are usually established on the basis of financial return gained by carrying out the work (rather than risk analysis and optimised renewal decision making).
<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>Business Plan</b>	A plan produced by an organisation (or business units within it) which translate the objectives contained in an Annual Plan into detailed work plans for a particular, or range of, business activities. Activities may include marketing, development, operations, management, personnel, technology and financial planning.
<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>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>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>Facility</b>	A complex comprising many assets (eg. swimming pool complex) which represents a single management unit for financial, operational, maintenance or other purposes.
<b>Geographic Information System (GIS)</b>	Software which provides a means of spatially viewing, searching, manipulating, and analysing an electronic database.

<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>I.M.S.</b>	Infrastructure Management System - computer database
<b>Level of Service</b>	The defined service quality for a particular activity (ie. water) or service area (ie. water quality) 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: The cycle of activities that an asset (or facility) goes through while it retains an identity as a particular asset ie. from planning and design to decommissioning or disposal. The period of time between a selected date and the last year over which the criteria (eg. 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>Life Cycle Maintenance</b>	All actions necessary for retaining an asset as near as practicable to its original condition, but excluding rehabilitation or renewal.
<b>Long Term Plan (LTP)</b>	The Long Term Plan (LTP) is the primary strategic document through which Council communicates its intentions over the next 10 years for meeting community service expectations and how it intends to fund this work. The LTP is a key output required of Local Authorities under the Local Government Act 2002. The LTP replaces the Long Term Council Community Plan (LTCCP).
<b>Net Present Value (NPV)</b>	Net Present Value – Standard method for evaluating long-term projects in capital budgeting.
<b>Maintenance Plan</b>	Collated information, policies and procedures for the optimum maintenance of an asset, or group of assets.
<b>Objective</b>	An objective is a general statement of intention relating to a specific output or activity. They are generally 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 the life cycle costs of an asset.
<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 Measure (PM)</b>	A qualitative or quantitative measure of a service or activity used to compare actual performance against a standard or other target. Performance measures 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>	<p>Planned maintenance activities fall into three categories :</p> <p>Periodic – necessary to ensure the reliability or sustain the design life of an asset.</p> <p>Predictive – condition monitoring activities used to predict failure.</p> <p>Preventive – maintenance that can be initiated without routine or continuous checking (eg. using information contained in maintenance manuals or manufacturers’ recommendations) and is not condition-based.</p>
<b>Recreation</b>	Means voluntary non-work activities for the attainment of personal and social benefits, including restoration (recreation) and social cohesion.
<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 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>Renewal Accounting</b>	A method of infrastructure asset accounting which recognises that infrastructure assets are maintained at an agreed service level through regular planned maintenance, rehabilitation and renewal programmes contained in an AMP. The system as a whole is maintained in perpetuity and therefore does not need to be depreciated. The relevant rehabilitation and renewal costs are treated as operational rather than capital expenditure and any loss in service potential is recognised as deferred maintenance.
<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 (eg. replacement of light bulbs, cleaning of drains, repairing leaks) 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 organisation 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>Upgrading</b>	The replacement of an asset or addition/ replacement of an asset component which materially improves the original service potential of the asset.

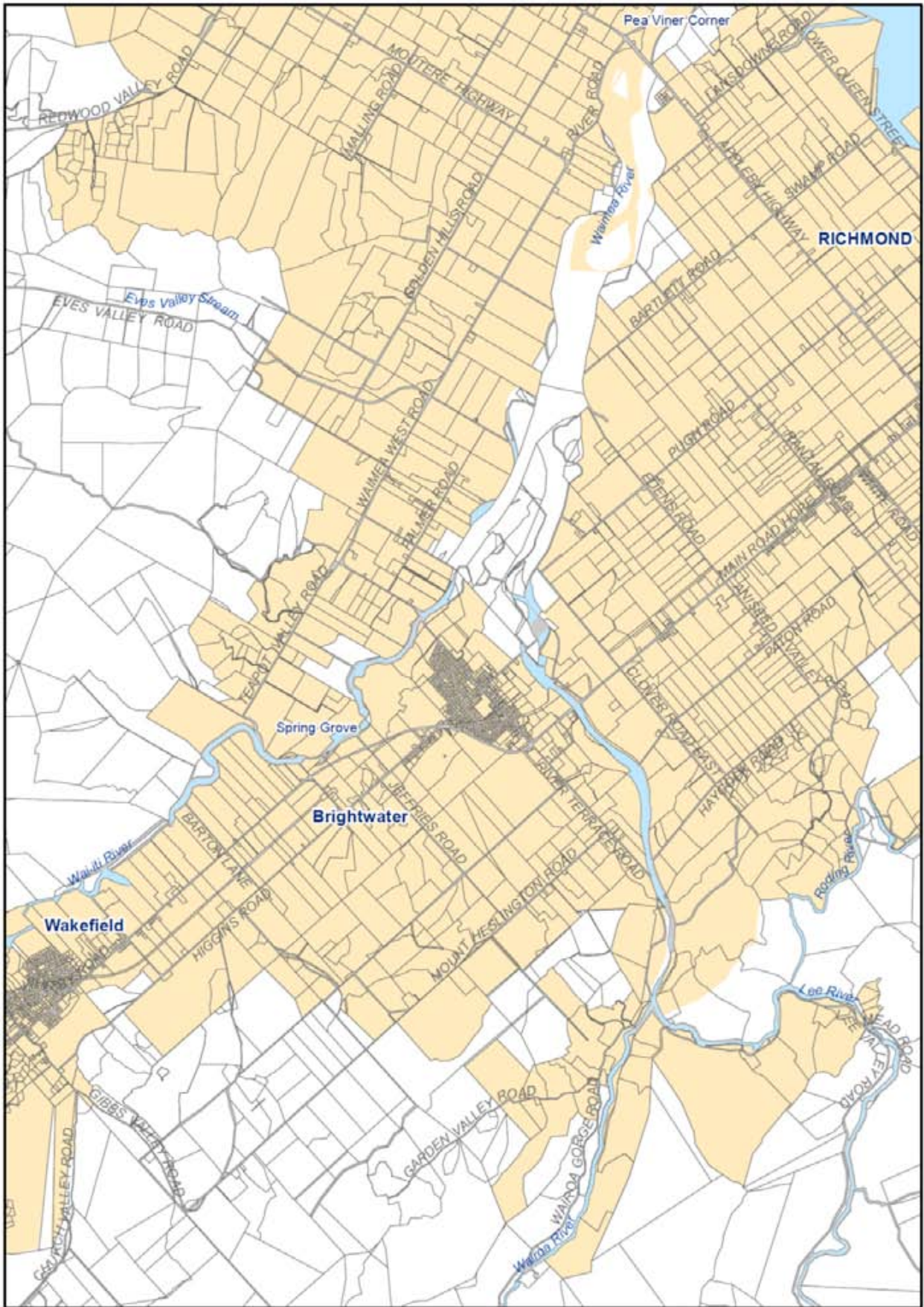
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**Valuation**

Estimated asset value that may depend on the purpose for which the valuation is required, ie. replacement value for determining maintenance levels or market value for life cycle costing.



## APPENDIX Y. RECYCLING RATING AREA MAPS



**Brightwater/Waimea  
Recycling Rating Area**

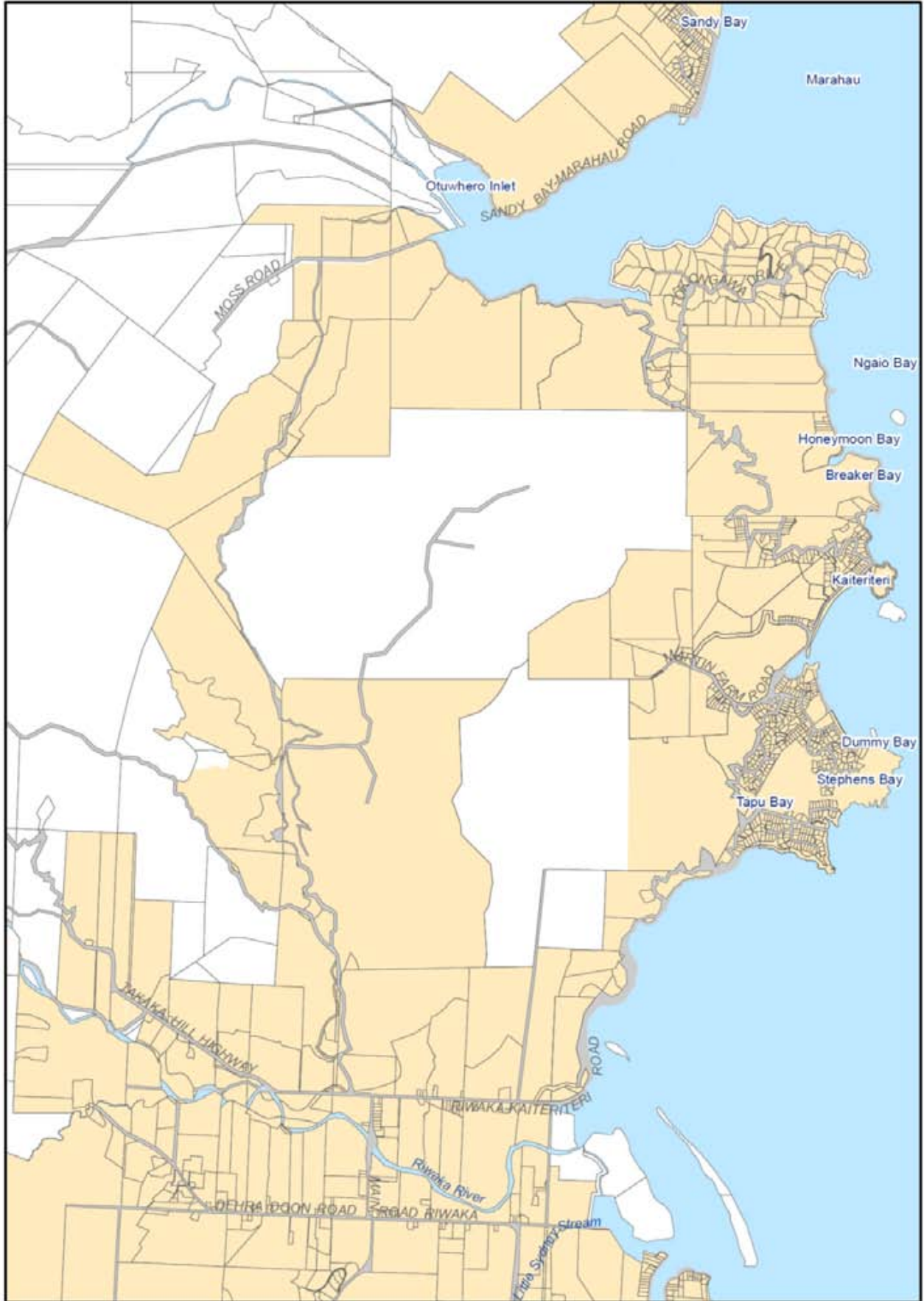




**Collingwood  
Recycling Rating Area**



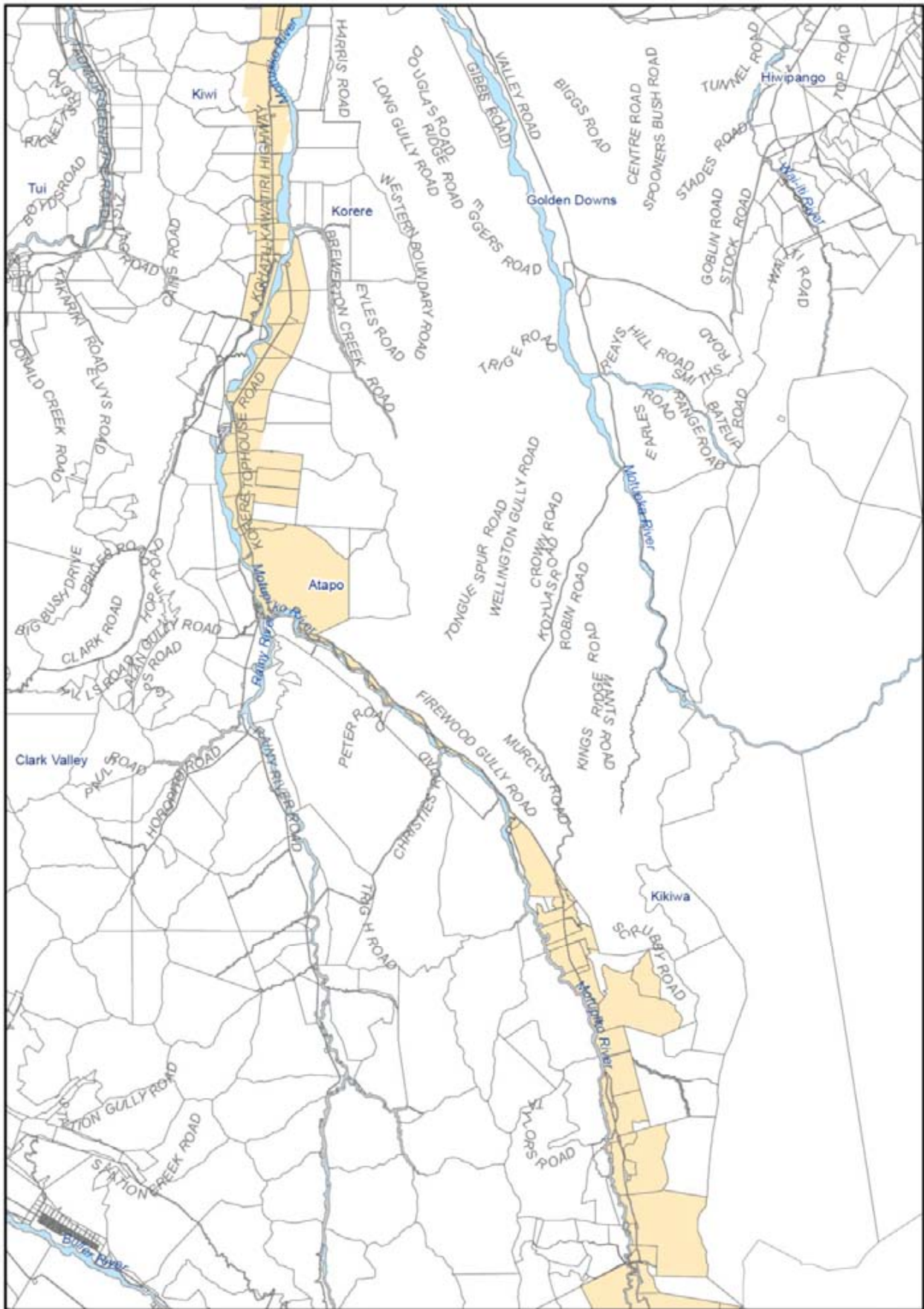
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**Kaiteriteri**  
**Recycling Rating Area**



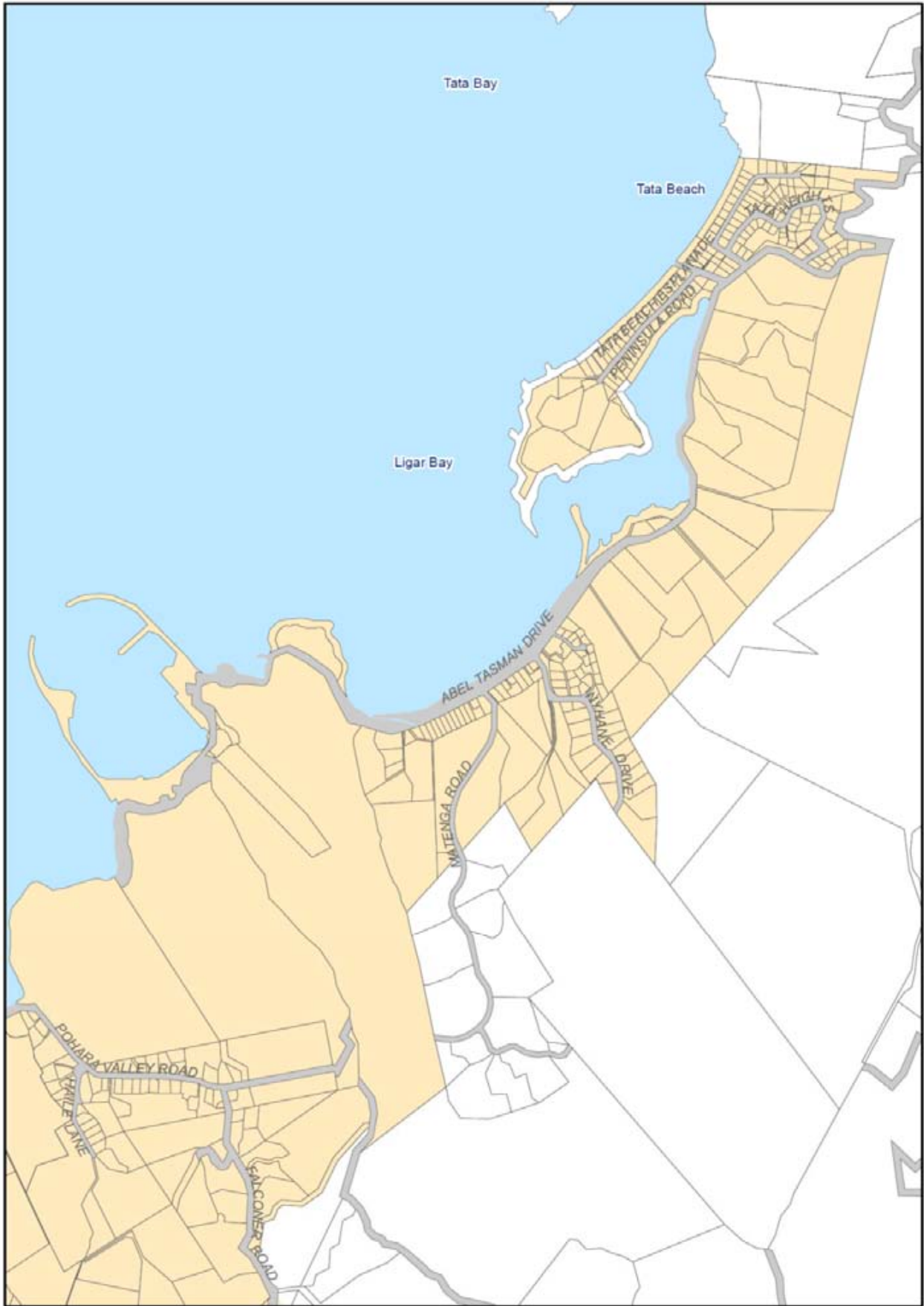




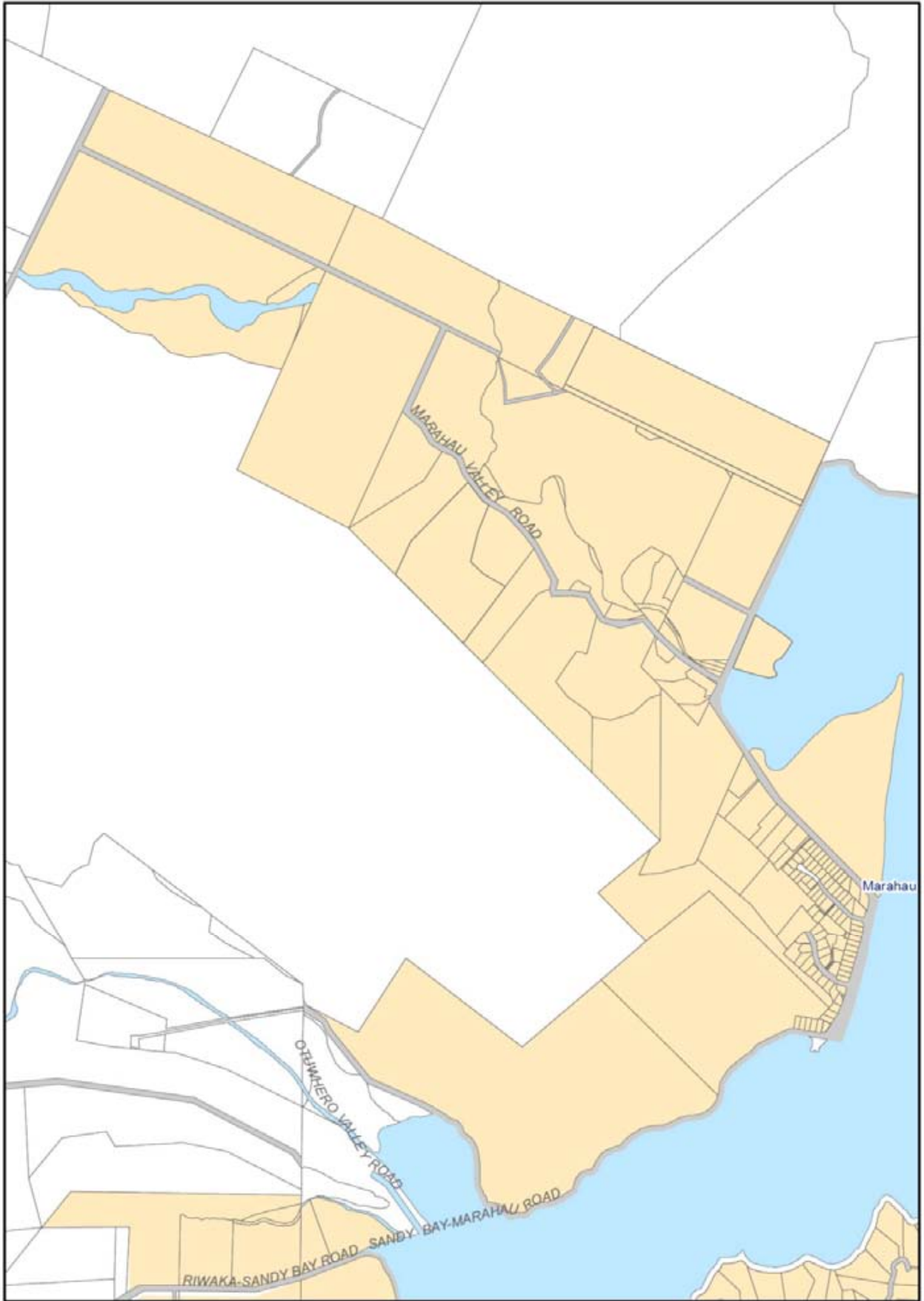
**Korere Tophouse  
Recycling Rating Area**



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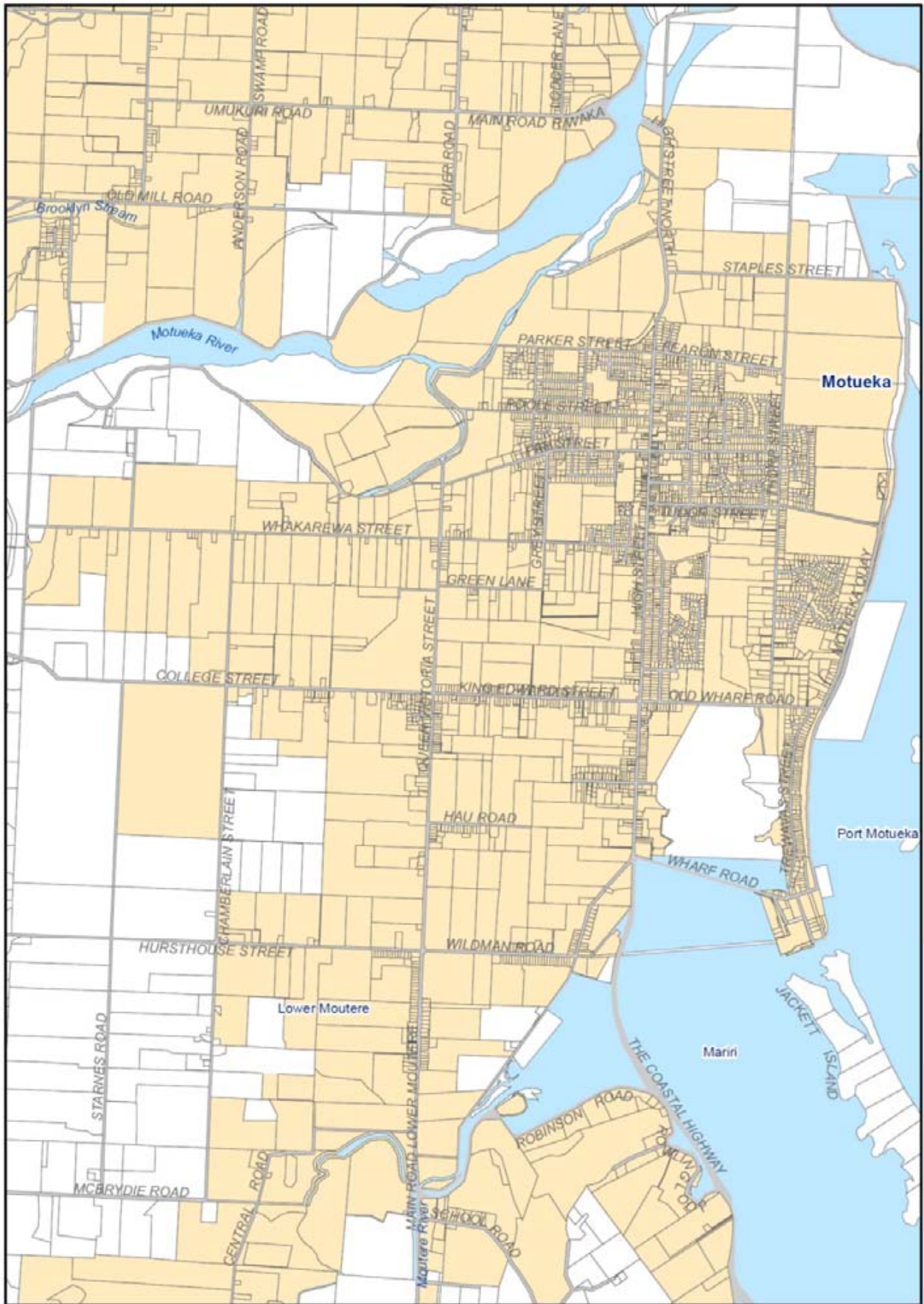
**Ligar Bay - Tata Beach  
Recycling Rating Area**



**Marahau  
Recycling Rating Area**



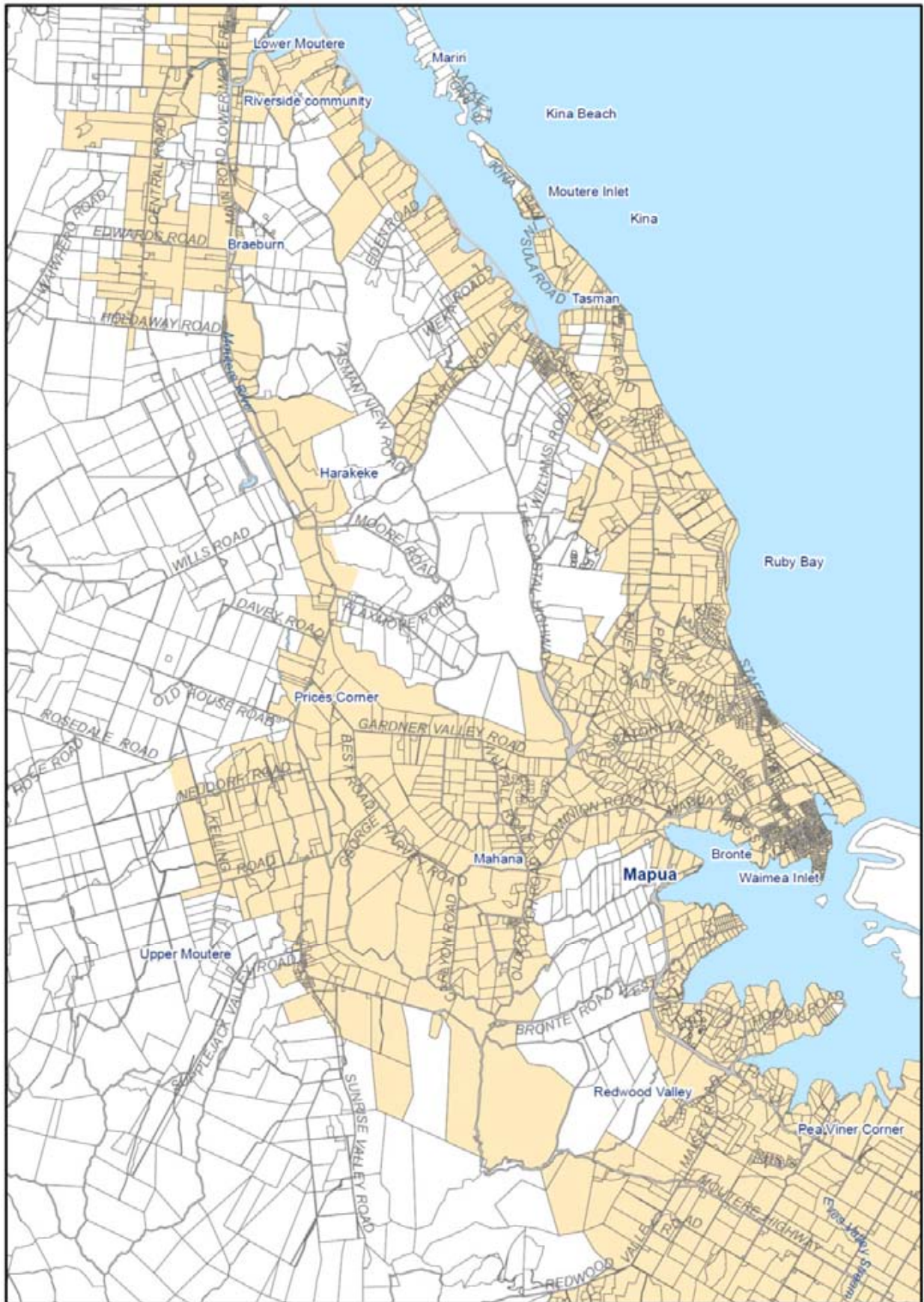




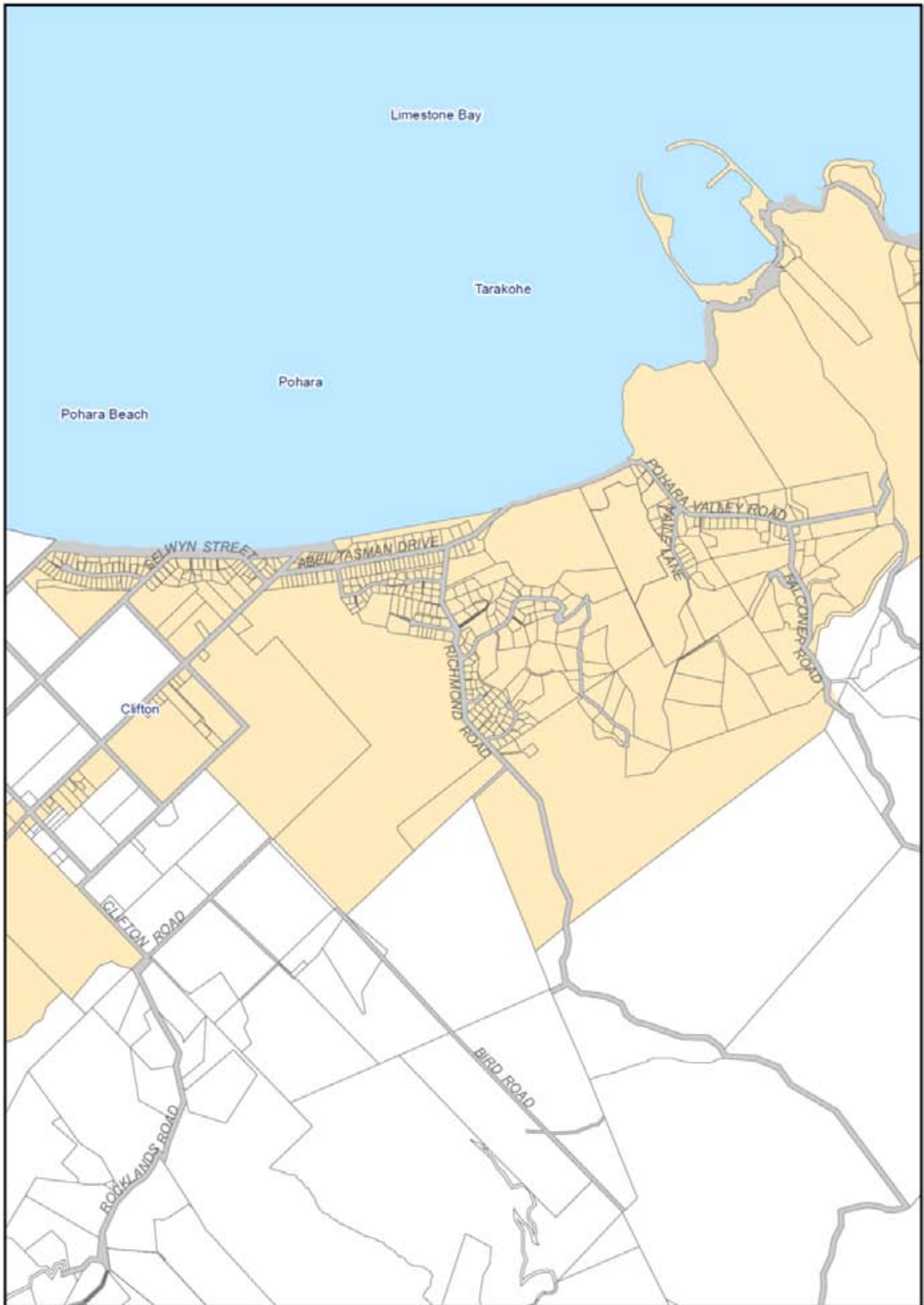
**Motueka  
Recycling Rating Area**







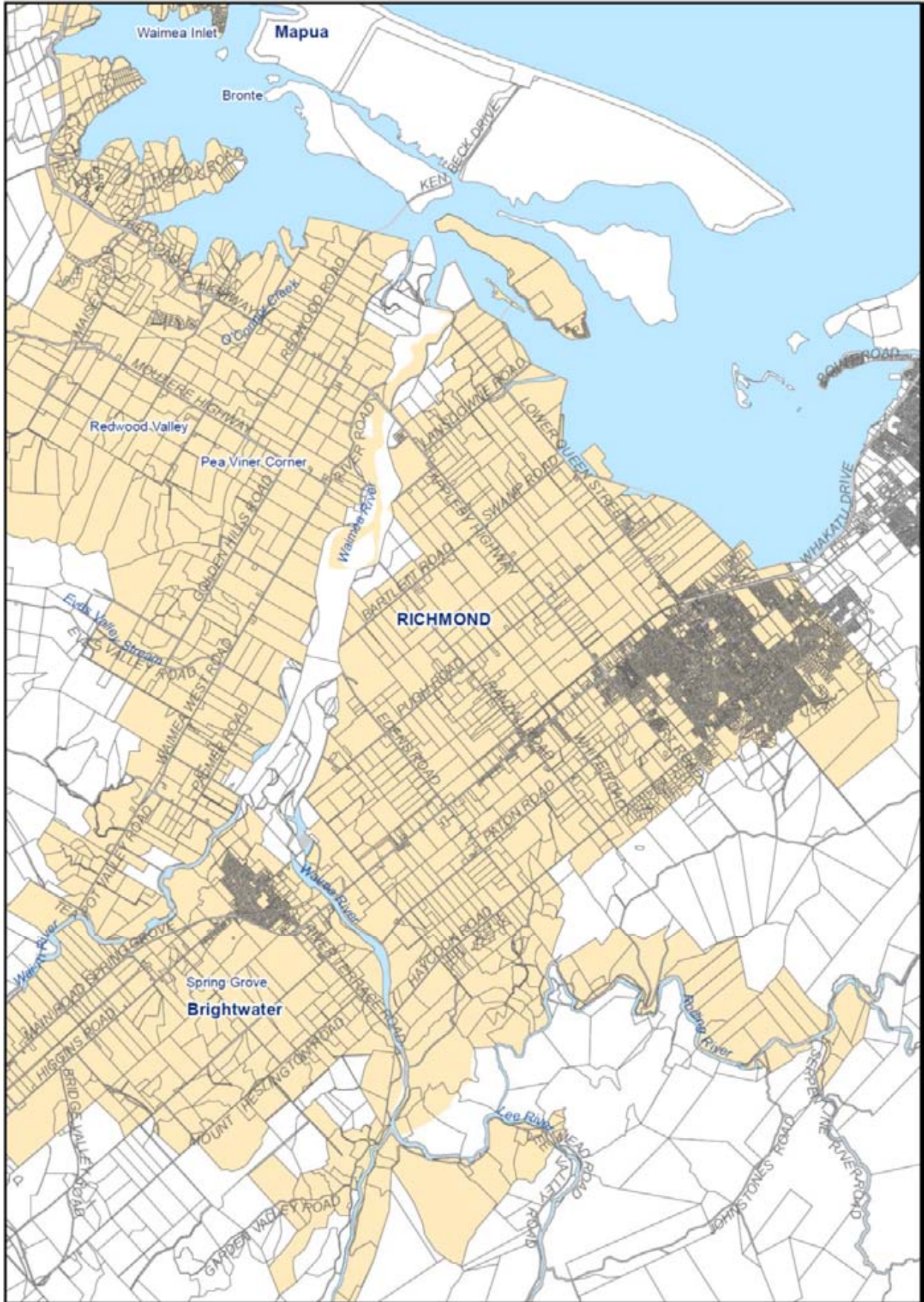
**Moutere  
Recycling Rating Area**



**Pohara  
Recycling Rating Area**

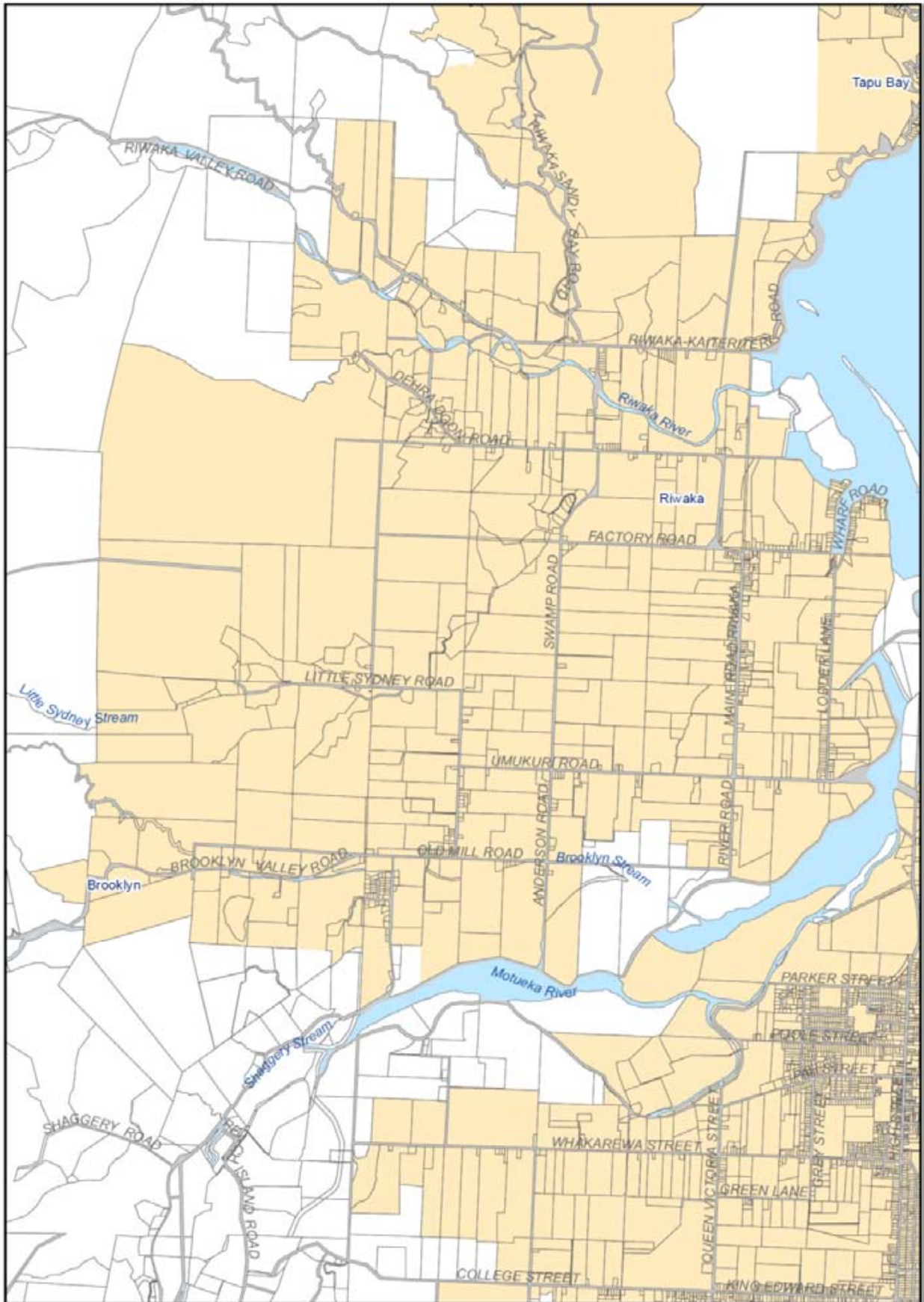






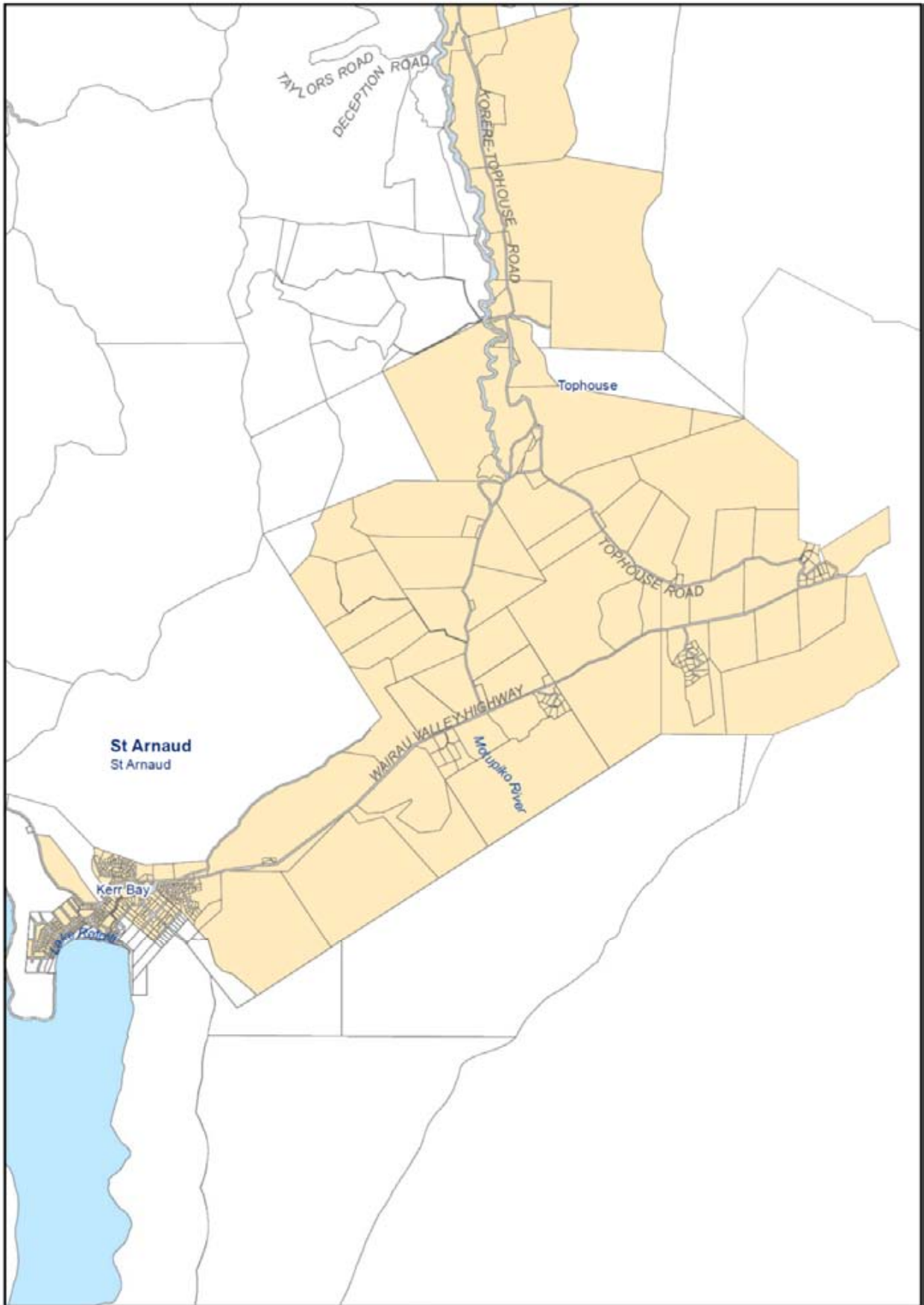
**Richmond  
Recycling Rating Area**





**Riwaka  
Recycling Rating Area**

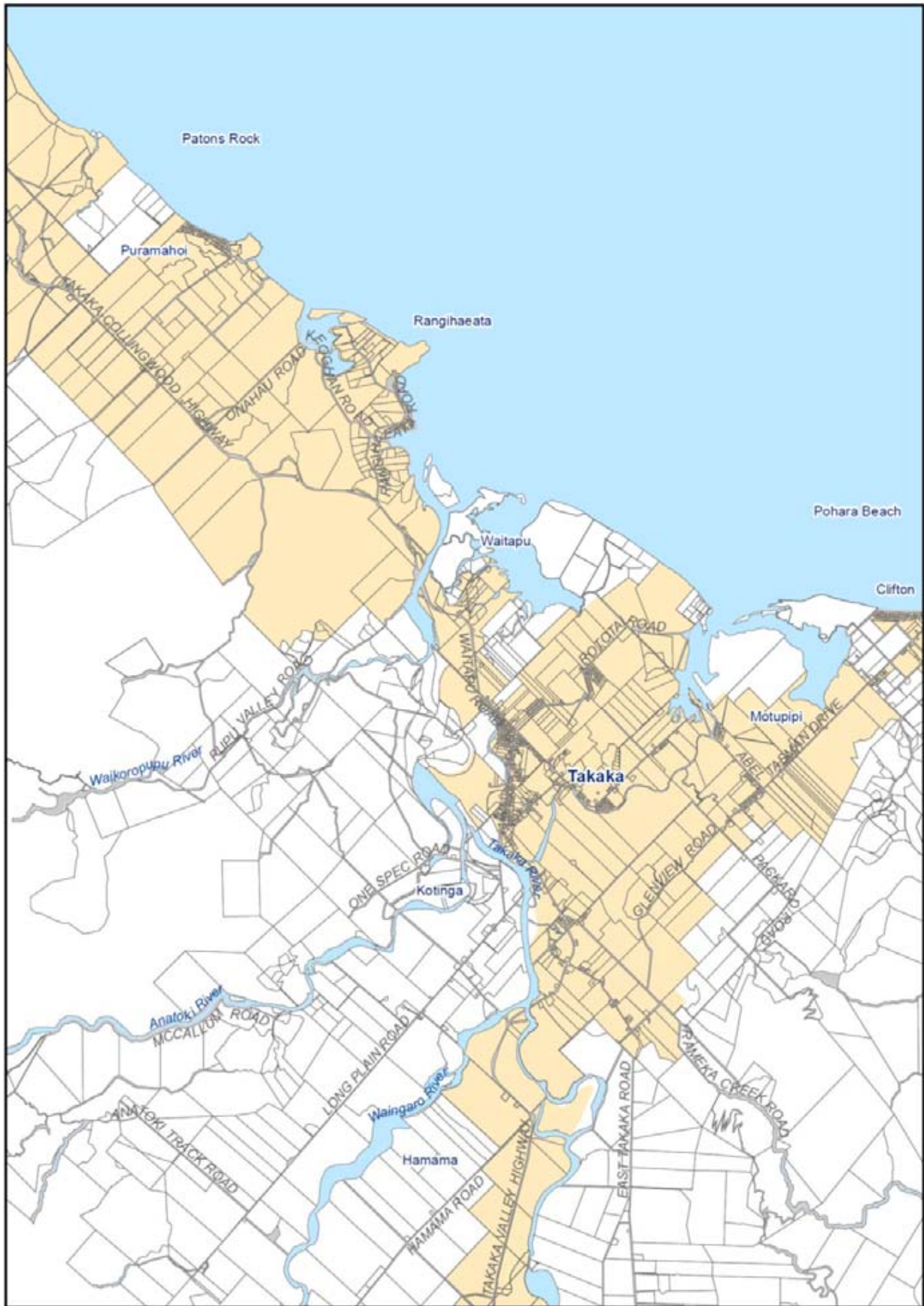




**St Arnaud  
Recycling Rating Area**

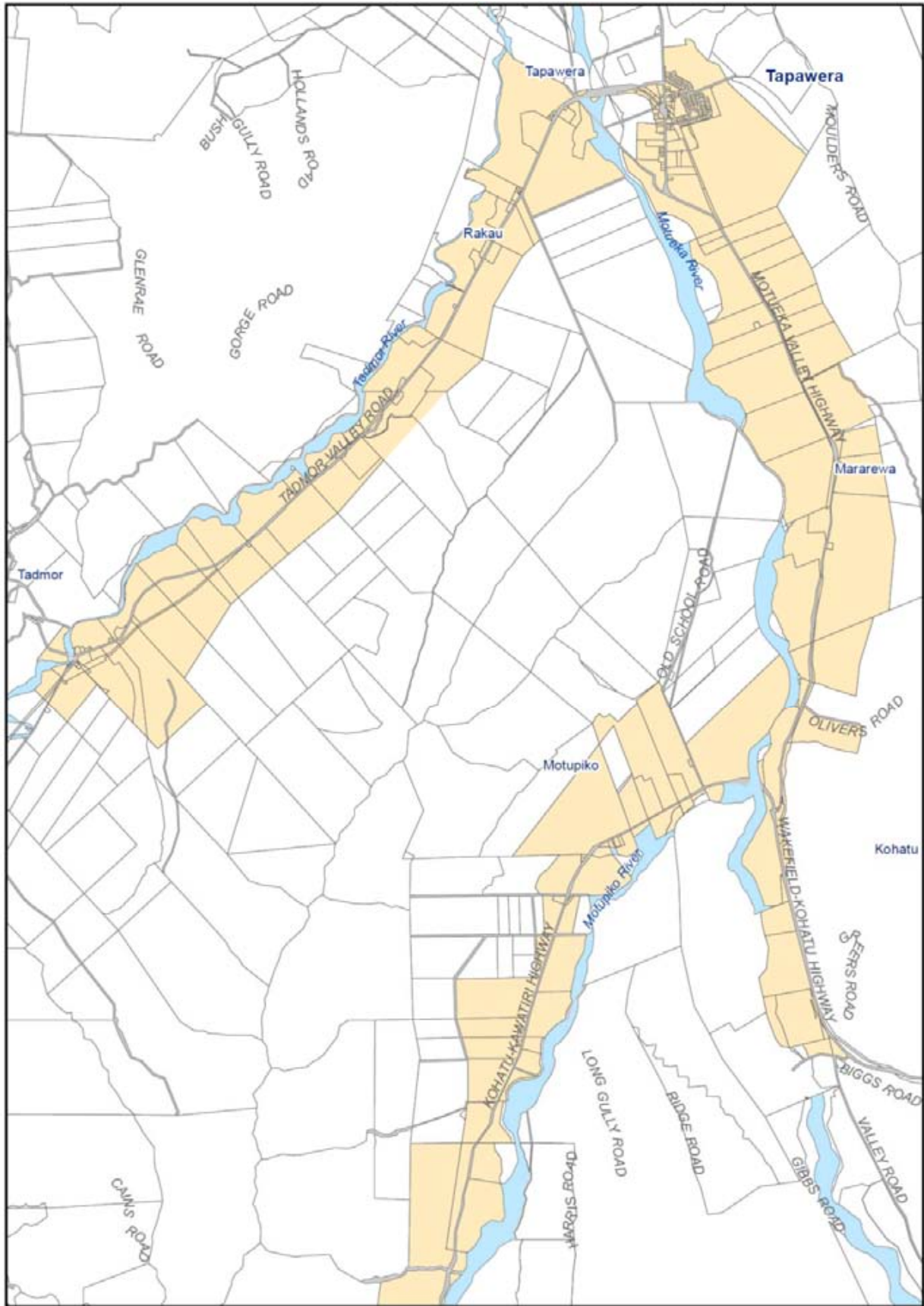




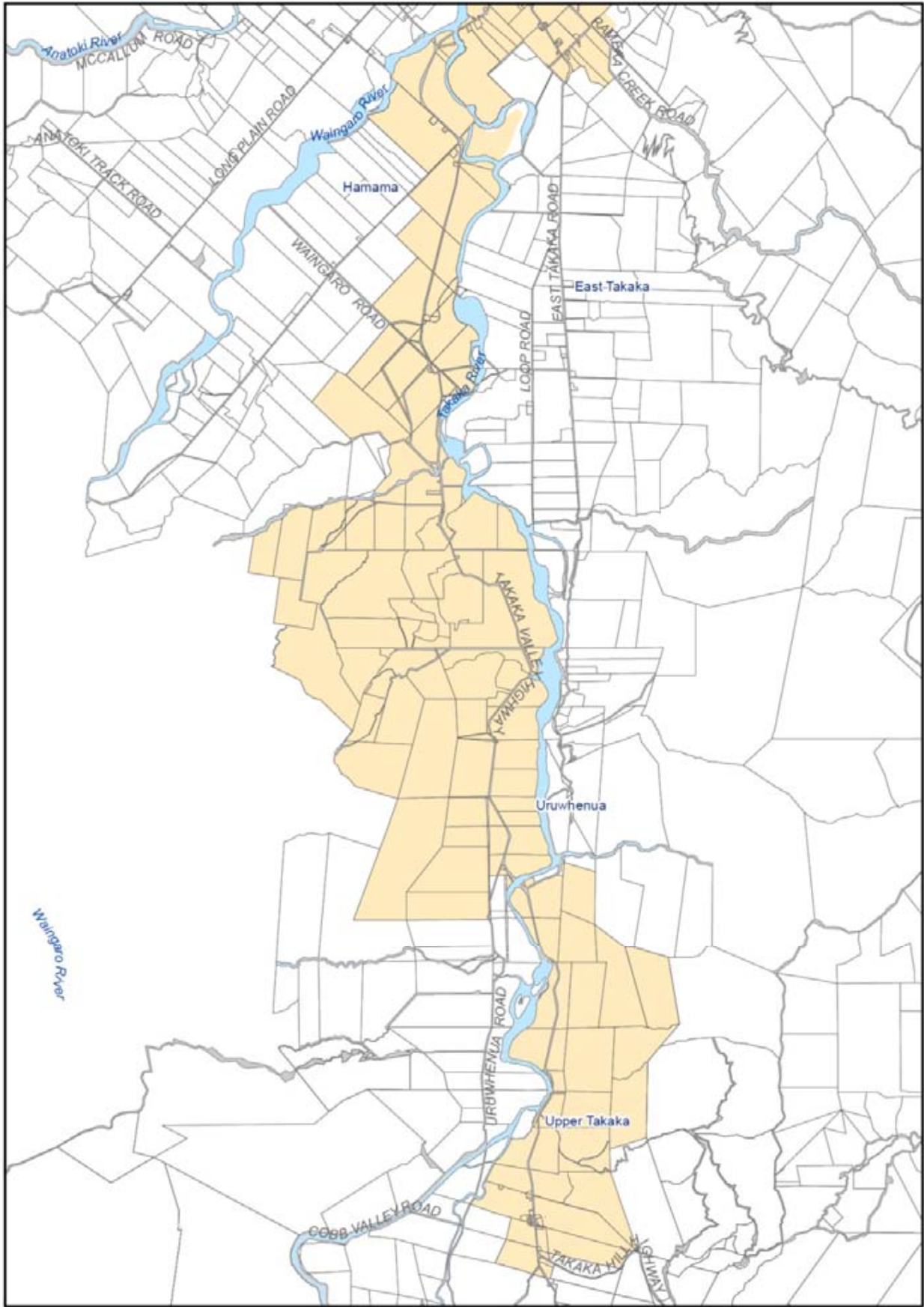


**Takaka  
Recycling Rating Area**



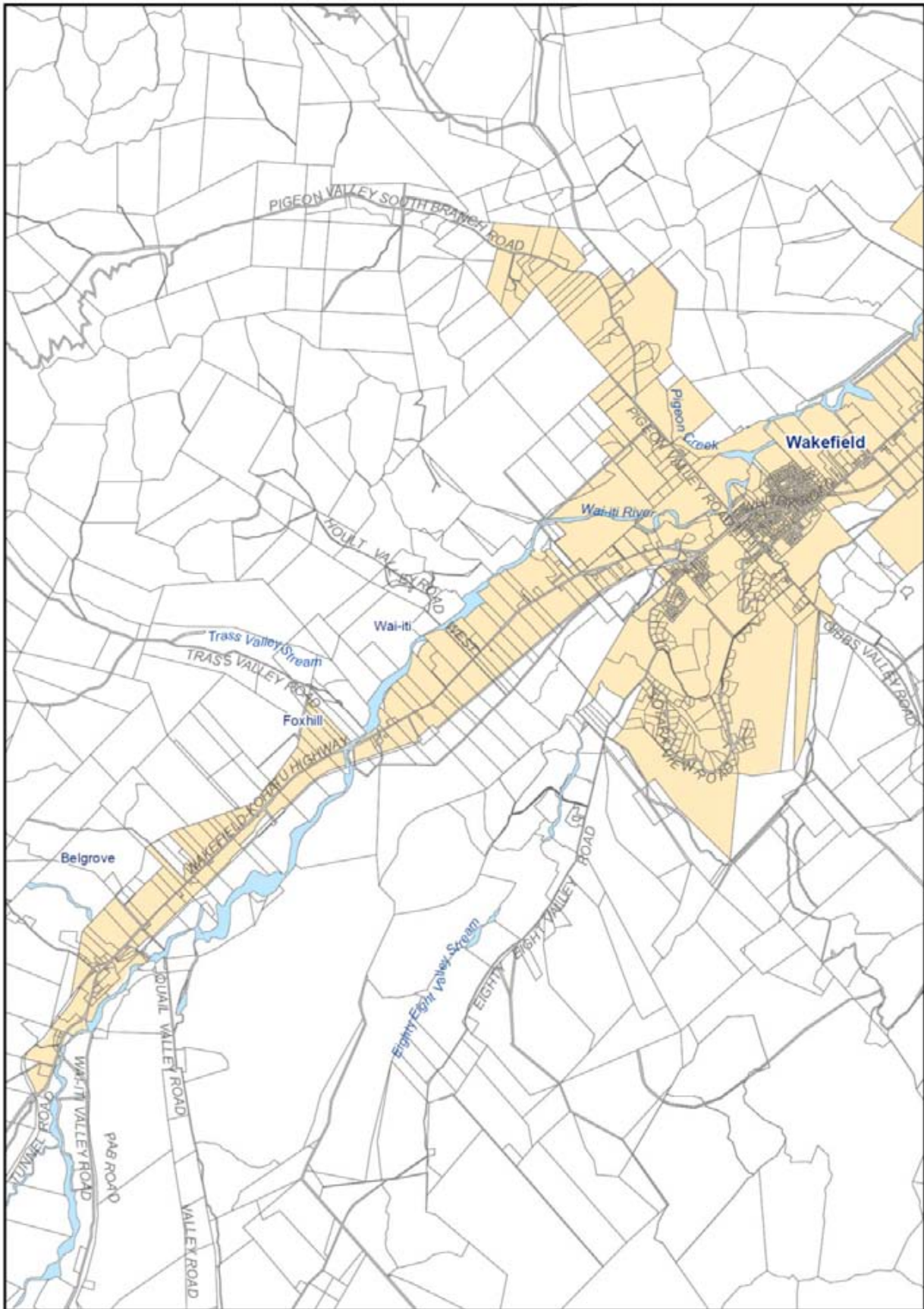


**Tapawera  
Recycling Rating Area**



**Upper Takaka  
Recycling Rating Area**






**Wakefield  
Recycling Rating Area**



## APPENDIX Z. AMP STATUS AND DEVELOPMENT PROCESS

### Z.1 AMP Status

Version	Status	Document Approval	Signature	Date
1	Working Draft			
2	Draft for Council Officer Review	Name: Becky Marsay Authority: Project Technical Lead		16 Feb 2012
3	Draft for Council Review	Name: Jeff Cuthbertson Authority: Asset Manager		
4	Draft for Public Consultation through LTP	Name: Peter Thomson Authority: Engineering Manager		
5	Final Plan Adopted by Council Council Resolution	Name: Richard Kempthorne Authority: Mayor Reference: _____		

### Z.2 AMP Development Process

Project Sponsor: Peter Thomson  
 Asset Manager: Jeff Cuthbertson  
 Project Manager: Stephen Sinclair  
 Project Technical Lead: Becky Marsay  
 AMP Author: Katie Henderson  
 Project Team: Jeff Cuthbertson David Stephenson  
 John Cocks, Kathryn Halder, Jeannie Homesley Phil Landmark, Blair Reid,  
 Dugall Wilson  
 Glenn Thomason (SEL)  
 Chris Burr (Fulton Hogan)

### Z.3 Quality Plan

This quality plan comprises three parts.

1. Quality Requirements and Issues – identification of the quality standards required and the quality issues that might arise.
2. Quality Assurance – the planned approach to ensure quality requirements are pro-actively met – ie. get it right first time.
3. Quality Control – the monitoring of the project implementation to ensure quality outcomes are met.

## Z.4 Quality Requirements and Issues










	Issues and Requirements	Description
1	Fitness for Purpose	The AMP has to be “fit for purpose”. It has to comply with Audit NZ expectations of what an AMP should be to provide them the confidence that the Council is adequately managing the Council activities.
2	AMP Document Consistency	Council want a high level of consistency between AMPs so that a reader can comfortably switch between plans.
3	AMP Document Format	The documents need to be prepared to a consistent and robust format so that the electronic documents are not corrupted (as happens to large documents that have been put together with a lot of cutting and pasting) and can be made available digitally over the internet.
4	AMP Text Accuracy and Currentness	The AMPs are large and include a lot of detail. Errors or outdated statements reduce confidence in the document. The AMPs need to be updated to current information and statistics.
5	AMP Readability	The AMPs in their current form have duplication – where text is repeated in the “front” section and the Appendices. This needs to be rationalised so that the front section is slim and readable and the Appendix contains the detail without unnecessary duplication.
6	Completeness of Required Upgrades/Expenditure Elements	The capital expenditure forecasts and the operations and maintenance forecasts need to be complete. All projects and cost elements need to be included.
7	Accuracy of Cost Estimates	Cost estimates need to be as accurate as the data and present knowledge allows, consistently prepared and decisions made about timing of implementation, drivers for the project and level of accuracy the estimate is prepared to.
8	Correctness of Spreadsheet Templates	The templates prepared for use need to be correct and fit for purpose.
9	Assumptions and Uncertainties	Assumptions and uncertainties need to be explicitly stated on the estimates.
10	Changes Made After Submission to Financial Model	If Council makes decisions on expenditure after they have been submitted into the financial model, the implications of the decisions must be reflected in the financial information and other relevant places in the AMP – eg. Levels of service and performance measures, improvement plans etc.
11	Improvement Plan Adequate	Improvements identified, costed, planned and financially provided for in financial forecasts.

## Z.5 Quality Assurance

	Issues and Requirements	Quality Assurance Approach	Responsible Person
1	Fitness for Purpose	Conduct various reviews of critical elements up front and plan to upgrade the plans to specific requirements: Scoping of AMP Upgrade Project Review of Levels of Service Review of Document Upgrade Needs.	Becky Marsay
		Conduct a Peer Review.	Peter Thomson
2	AMP Document Consistency	Review documents in advance and prepare instructions to authors on how to upgrade.	Becky Marsay
3	AMP Document Format	Central review of AMP document deliverables.	Becky Marsay
4	AMP Readability		
5	AMP Text Accuracy and Currentness	Authors to review each AMP in detail.	Katie Henderson
6	Completeness of Required Upgrades/Expenditure Elements	AMP authors to workshop with relevant project team members to ensure all projects/cost elements covered.	Katie Henderson
		Central list of issues (called a "Parking Lot") that need to be considered in each AMP.	Katie Henderson
7	Accuracy of Cost Estimates	Independent review of all cost estimates.	Katie Henderson
8	Correctness of Spreadsheet Templates	Independent review of all templates.	Becky Marsay
9	Assumptions and Uncertainties and Risk Assessments	Independent review of all cost estimates.	Katie Henderson
10	Changes Made After Submission to Financial Model	Protocol prepared to ensure Teamsite is used and all parties follow instructions on how changes are made.	Becky Marsay
		Ensure there is a place in the AMP documents to record any changes made and the implications of changes.	Becky Marsay
		AMP authors to manage a change log for changes after submission.	Katie Henderson
11	Improvement Plan Adequate	Prepare template in advance to ensure consistent approach.	Becky Marsay
		Central review of Improvement Plans.	Becky Marsay

## Z.6 Quality Control

Quality control checks and reviews are scheduled on the attached table. These shall be progressively completed as the AMP is developed and incorporated in the final AMP Plan in Appendix Z.

Check or Review	Person Responsible	Authority	Signature	Date
Scope of AMP Upgrade Project complete	Peter Thomson	Engineering Manager		
Levels of Service prepared to instructions	Becky Marsay	Project Technical Lead		15 Feb 12
Levels of Service Asset Manager acceptance	Jeff Cuthbertson	Asset Manager		
AMP document prepared to instructions	Becky Marsay	Project Technical Lead		15 Feb 12
AMP text accuracy and currentness	Katie Henderson	AMP Author		15 Feb 12
Capital Upgrade List complete	Dugall Wilson	Programme Manager		
Capital Upgrade List complete - Asset Manager acceptance	Jeff Cuthbertson	Asset Manager		
All issues on "Parking Lot" addressed	Katie Henderson	AMP Author		15 Feb 12
Capex Expenditure spreadsheet template reviewed	Becky Marsay	Project Technical Lead		15 Feb 12
Project Estimate spreadsheet template reviewed	Dugall Wilson	Programme Manager		
All Capex Estimates reviewed and including assessment of Programme, Project Drivers, Levels of Accuracy and assumptions/uncertainty	Katie Henderson	AMP Author		15 Feb 12
Opex Costs spreadsheet arithmetic review	Katie Henderson	AMP Author		15 Feb 12
Opex Cost forecast – fitness for purpose	Jeff Cuthbertson	Asset Manager		
Improvement Plan prepared to instructions	Becky Marsay	Project Technical Lead		15 Feb 12
Improvement Plan Asset Manager acceptance	Jeff Cuthbertson	Asset Manager		
Capital Forecast accepted for input to NCS	Jeff Cuthbertson	Asset Manager		
Change log complete and changes appropriately dealt with – after Council review	Katie Henderson	AMP Author		15 Feb 12
Change log complete and changes appropriately dealt with – after Public consultation	Jeff Cuthbertson	Asset Manager		
Peer Review completed	Peter Thomson	Engineering Manager		