

2018-2028 WASTE MANAGEMENT AND MINIMISATION ASSET MANAGEMENT PLAN
He Rautaki Whakahaere Rawa mō Te Paranga me Te Whakaiti Paranga

WASTE MANAGEMENT AND MINIMISATION TE PARANGA ME TE WHAKAITI PARANGA



Mountain to Sea
Te Kaunihera-ā-Rohe o Ngāmotu
NEW PLYMOUTH DISTRICT COUNCIL
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DOCUMENT CONTROL

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AMP	Asset Management Plan	GIS	Geographic Information System
AP	Annual Plan	HDPE	High Density Polyethylene
ArcGIS	GIS software product	HR	Human Resources
BMX	Bicycle Motocross	HW	Hazardous waste refers to materials that are flammable, explosive, oxidising, corrosive, toxic, ecotoxic, radioactive or infectious. Examples include unused agricultural chemicals, solvents and cleaning fluids, medical waste and many industrial wastes.
Capex	Capital expenditure	LA	Local Authority, council within the meaning of the Local Government Act 2002.
CE	Chief Executive	LTP	Long Term Plan
CM	Cleanfill material, material that when buried will have no adverse effect on people or the environment. Cleanfill material includes virgin natural materials such as clay, soil and rock, and other inert materials such as concrete or brick.	MILES	Online GIS map viewer
C&I	Commercial and industrial wastes, waste sourced from industrial, commercial and institutional sources (i.e. supermarkets, shops, schools, hospitals, offices). This waste can also be referred to as industrial, commercial and institutional waste.	MRF	Material Recovery Facility
C&D	Construction and demolition wastes, waste material from the construction or demolition of a building, including the preparation and or clearance of the property or site.	NPDC	refers to the New Plymouth District Council.
CL	Contaminated land is defined under the RMA as land with hazardous substances in or on it that are reasonably likely to have significant adverse effects on the environment (including human health).	NPWWTP	New Plymouth Wastewater Treatment Plant
COO	Chief Operating Officer	O&M	Operations and Maintenance
CRRC	Community Reuse and Recycle Centre	ODRC	Optimised Depreciated Replacement Cost
CRT	Cathode Ray Tube	Opex	Operating Expenditure
DRC	Depreciated Replacement Cost	PCB	Polychlorinated biphenyl
EAM	Enterprise Asset Management	RRF	Resource Recovery Facility
ELT	Executive Leadership Team	RTS	Refuse Transfer Station
FM	Functional Manager	SDC	Stratford District Council.
GCRC	Gross Current Replacement Cost	STDC	South Taranaki District Council.
		TCC	Taranaki County Council
		TRC	Taranaki Regional Council
		TV	Television
		UAC	Uniform Annual Charge
		WMMP	Waste Management and Minimisation Plan

1. EXECUTIVE SUMMARY

This Waste Management and Minimisation AMP provides an overview of how we manage the assets associated with solid waste management.

We focus on effective and best value service to the community by:

- Fulfilling customer demand and service requirements in a cost-effective manner,
- Maintaining facilities and their assets in good condition, and
- Continuously improving asset management practices.

The future direction and goals for Waste Management and Minimisation are set out in the 2017 Waste Assessment Report (ECM7373274) and the 2017 Waste Management and Minimisation Plan (ECM7572092). These reports detail how we will contribute to the community outcomes and priorities identified in the 2018-2028 Long Term Plan (LTP) and provide the context of this AMP. The key objectives for Waste Management and Minimisation services are to:

- Provide a refuse collection and recycling service to residents and schools within designated areas.
- Provide RRFs and RTSs for handling non-hazardous solid wastes and recyclables, both directly and in conjunction with the private sector.
- Provide a regional landfill to dispose of solid waste to an environmentally acceptable standard.

Managing and maintaining the Waste Management and Minimisation services and assets is resource intensive. To sustain current levels of service, the existing built asset base will require baseline expenditure of \$144.9m Opex and \$21.3m Capex for renewals and level of service projects over the next 10 years.

As at 30 June 2016, the GCRC of our Waste Management and Minimisation assets was \$9.6 million, excluding land and buildings. The DRC of these assets was assessed at \$7.9 million, excluding land and buildings.

Our asset management practices are subject to independent external review and as a council, we are widely recognised for our quality asset management.

Note: All financial forecasts are shown in inflation adjusted dollar values.

1.1 Purpose of the Plan

This AMP contains the information required to make effective decisions about Waste Management and Minimisation services in the New Plymouth District. It underpins the LTP and the AP before those documents go to the community for consultation.

The purpose of this plan is to:

- Demonstrate that our asset management strategies support the core social, economic, environmental and cultural outcomes, identified through community consultation.
- Demonstrate responsible stewardship of Waste Management and Minimisation assets.
- Provide the basis for compliance with the Local Government Act by tracking changes in service potential and determining optimal long-term financial strategies for Waste Management and Minimisation assets.
- Demonstrate cost effective and sustainable management of solid waste demands.
- Demonstrate sustainable and cost effective provision for population growth.
- Demonstrate sound and well substantiated financial forecasts and projections .
- Provide a basis for customer consultation over price/quality trade-offs relating to service level options.
- Manage the environmental, social and financial risks associated with Waste Management and Minimisation assets.
- Achieve savings by optimising life cycle activities.
- Assess the demand and key performance indicators for Waste Management and Minimisation assets.
- Ensure sustainable Waste Management and Minimisation services in the long term
- Ensure we identify and utilise improvement opportunities

1. EXECUTIVE SUMMARY

1.2 Asset Description

The following Waste Management and Minimisation assets are included in this AMP:

- RTSs at Colson Rd (New Plymouth), Inglewood, Okato, Waitara and Tongaporutu.
- RRF at New Plymouth (Colson Rd).
- Operational Landfills at Colson Road (New Plymouth) Stage 3,
- Closed but consented as contingency landfills at Okato and Inglewood.
- Closed Landfills at Okoki Road, Oakura, Waitara, Marfell Park, Waiwhakaiho, Tongaporutu and Colson Road Stages 1 & 2.
- Roadside collections wheelie bins and crates for recyclable materials.

1.3 Levels of Service

The Waste Management and Minimisation service supports our strategic vision *Building a Lifestyle Capital – caring for our place, putting people first and supporting a prosperous community* by ensuring household and business waste is collected and disposed of without significant impact on the environment and public health.

- Encouraging waste minimisation and better waste management practices reduces the amount of waste going to landfill. This supports Caring for our place - Manaaki whenua, manaaki tangata, haere whakamua. It protects our environment for future generations through sustainable management of waste.
- Our Waste Management and Minimisation activity, particularly our kerbside collection service, is also about Putting people first - Aroha ki te tangata as it provides an easy and convenient disposal service for our community.
- The Waste Management and Minimisation service also enables businesses to dispose of their waste, contributing to Supporting a prosperous community - Awhi mai, awhi atu, tātou katoa. There are also opportunities for businesses to provide complementary services to those of the Council, enabling new business opportunities. The kerbside collection area is reviewed to accommodate new development for population growth.

To support our service objective and the community outcomes, we have defined the following levels of service that identify key measures and targets for our Waste Management and Minimisation services. Further details can be found in Section 3.

- We will provide a reliable solid waste collection and management service.
- We will keep customers satisfied with our solid waste collection and management service.
- We will encourage minimisation of waste disposal in our district.
- We will manage our Waste Management and Minimisation service to comply with all resource consents.

1.4 Future Demand

In addition to our growing population, one of our top future focus areas for the district is an aspirational goal to achieve Zero Waste. This is a big challenge considering Taranaki currently produces more than 200,000 tonnes of waste each year, of which 55,000 tonnes ends up in the Colson Road Landfill.

Another significant issue for Waste Management and Minimisation services in the district is the closure of the Colson Road regional landfill scheduled for June 2019. A new regional landfill is planned on a site near Eltham, approximately 50 km from the existing landfill in New Plymouth. This will greatly impact the transportation costs of wastes in the region, more so for NPDC than for SDC and STDC.

1. EXECUTIVE SUMMARY

1.5 Lifecycle Management Plan

The lifecycle of an asset has four main stages:

- Creation (plan, design, procure, construct);
- Operation and maintenance;
- Renewal or rehabilitation; and
- Disposal.

General descriptions of our asset management practices, processes and the systems we use throughout the life cycle of our assets are included in Section 4 of our Asset Management Strategy.

This Waste Management and Minimisation AMP provides details about how the assets in each asset category are managed over their lifecycle in order to optimise lifecycle costs.

1.6 Risk Management Plan

Our Corporate Risk Management Framework is used to identify, record, manage and mitigate key risks to Waste Management and Minimisation services. During project development and system performance analysis, we also investigate and assess opportunities to enhance asset resilience where appropriate.

Although we have yet to conduct criticality assessments for feature assets, the district's RTSs and the RRF, and the regional landfill are considered most critical for the Waste Management and Minimisation services. We will be conducting criticality assessments in the future, which will assist inspection and maintenance planning. **This is recorded as Action 1 in Section 8 – Improvement and Monitoring Plan.**



1. EXECUTIVE SUMMARY

1.7 Financial Summary

Table 1 summarises the total expenditure forecast for Waste Management and Minimisation assets and services over the 10 year life of this plan, including expenditure for kerbside collection services.

Table 1 Expenditure forecast summary

Waste Management and Minimisation Expenditure Forecast (\$000)											
Activity	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	LTP Total
Personnel Costs	168	222	227	231	236	241	418	427	436	446	3,053
General Operating Expenditure	1,176	1,394	1,136	1,111	1,075	1,144	1,092	1,103	1,115	1,141	11,486
Direct Cost of Activities	7,828	10,086	9,386	9,461	9,666	9,885	10,339	10,878	11,146	11,421	100,096
Shared Services (Overhead)	2,577	2,596	2,834	2,991	3,014	3,115	3,219	3,227	3,278	3,390	30,239
Total Opex	11,749	14,297	13,582	13,794	13,991	14,385	15,068	15,635	15,975	16,398	144,874
Renewals	10,170	1,070	127	86	88	90	92	94	97	99	12,013
Service Level	4,593	-	3,598	54	55	663	57	118	60	62	9,260
Growth	-	-	-	-	-	-	-	-	-	-	-
Total Capex	14,763	1,070	3,725	140	143	753	149	212	157	161	21,273
Overall Total	26,512	15,367	17,307	13,934	14,134	15,138	15,217	15,847	16,132	16,559	166,147

1.8 Plan Improvement and Monitoring

Details about our general asset management maturity improvement programme can be found in our Asset Management Strategy. Improvement actions identified for Waste Management and Minimisation asset management can be found in Section 8.

2.1 Background

When planning for waste management and its associated infrastructure services, we plan for all waste generated in the district, including Council-provided kerbside collection services, RTSs and the landfill.

We have detailed information about our own services and facilities and about those services operated on our behalf. However, there are a large number of private companies involved in the collection and diversion of waste and alternative disposal (i.e. clean fills) in the district and the wider region. This makes some information more difficult to capture. Where applicable, we use data from surveys to gain a wider understanding of waste quantities and their destination. It is important to note that the response rate from the surveys is generally low (less than 15%) and we rely heavily on estimates.

In assessing waste services, we have consulted with the community and the commercial sector to gain a broader understanding of waste behaviour and perceptions. Combined with surveys and other data, this has helped to identify priorities and to outline our potential role in resolving issues related to both Council and non-Council controlled waste.

Purpose of Plan

This plan has been developed in accordance with the planning requirements of the LGA 2002. It covers the forecast activities and expenditure for a thirty year planning period, with an emphasis on the 10 year period from 1 July 2018 to 30 June 2028.

The purpose of this plan is to:

- Describe all of the district's collection, recycling, recovery, treatment, and disposal services.
- Forecast future demands for collection, recycling, recovery, treatment, and disposal services in the district.
- Identify our options for meeting forecast demands and assess the suitability of each option.
- Detail our proposals for meeting the forecast demands, including our intended role, and our plans for new or replacement infrastructure.
- Clearly state the extent to which our proposals protect public health and promote effective and efficient waste management and minimisation.
- mote effective and efficient waste management and minimisation.

Relationships with Other Planning Documents

The relationships between AMPs and other Council-wide planning documents are detailed in our Asset Management Strategy. Other documents specific to Waste Management and Minimisation planning documents are listed below:

- Waste Minimisation Act (2008)
- NZ Waste Strategy
- Health Act 1956
- Local Government Act 1974 and 2002
- 2017 Waste Management and Minimisation Plan (ECM7572092)

2. INTRODUCTION

2.2 Assets Included in the Plan

The Waste Management and Minimisation service includes waste and recycling collection from households and schools within defined areas of the district. Our kerbside collection includes mixed recyclables, glass and solid waste. We also operate four RTSs, the Colson Road Regional Landfill and the New Plymouth RRF (which includes a RTS run by a private operator).

Asset Valuation

The value of Waste Management and Minimisation assets is summarised below:

Table 2 Asset valuation

Asset Category	Gross Current Replacement Cost (\$)	Annual Depreciation (\$)	Optimised Depreciated Replacement Cost (\$)
Earthworks	4,123,874	-	4,123,874
Infrastructure - pipes and equipment	177,598	2,295	35,800
Other Infrastructure	3,536,873	56,763	2,257,325
Kerbside collection wheelie bins and crates	1,721,185	191,243	1,529,942
TOTAL	9,559,530	250,301	7,946,941

Assets are valued at ODRC which is calculated by first establishing the GCRC of an asset by applying unit rates to quantifiable asset attributes (length, width, depth, etc.) then deducting an estimate of the asset's accumulated depreciation from its GCRC. Accumulated depreciation is calculated on a straight line basis using estimates of useful lives and remaining useful lives.

NB: All land related to the RTSs and landfills has been accounted for in the Property Land evaluation. All associated buildings and structures are included in the Property AMP: Volume 8 – Water & Waste Buildings.



2.3 Organisational Structure

A range of our staff are involved in preparing and delivering the AMP and providing support services for asset management. How these responsibilities are allocated, managed and delivered is shown in the hierarchical diagram in Table 3.

Table 3 Organisational structure

	Elected Members (Council) Approval of key resolutions, policy, LTP, AP and AMPs to ensure Council's responsibilities to the community are being met in an effective and efficient way.		
Tier 1	Chief Executive Overall management of the organisation's activities to ensure Council objectives are met.		
Tier 2	Chief Operating Officer Manages delivery the services and plans defined in the asset management plans.	Group Strategy Manager Manages production of our LTP, 30-year Blueprint and District Plan.	Chief Financial Officer Manages our information technology services, legal services, records management, property assets, payroll, accounts, rates, procurement and risk management.
Tier 3	Infrastructure Manager Manages day-to-day operations, maintenance, renewal and augmentation of Waste Management and Minimisation services and assets in accordance with the LTP, AP and AMP. Overall management of resources to achieve plans including balance of internal and contract resources. Providing advice and guidance on tactical infrastructure asset management to the COO and CE.	Infrastructure Planning Lead Preparation of strategic asset management plans, asset management objectives, levels of service and the Infrastructure Strategy.	Information Services Manager Support and solutions development for asset management software and systems. Business Services Manager Preparation and monitoring of financial budgets and targets related to asset management planning.
Tier 4	Asset Operations Planning Lead Preparation of the tactical aspects of the AMPs, maintaining the asset inventory and asset records, developing annual work programmes, conducting asset condition assessments and asset valuations. Manager Resource Recovery Delivery of day-to-day operations, maintenance and minor renewals of Waste Management and Minimisation services and assets. Management of internal and contract resources. Manager Infrastructure Projects Delivery of major projects and technical investigations for the renewal and augmentation of Waste Management and Minimisation services and assets.		

2.4 Document Structure

A high level description of how the plan links to our vision, mission, goals and objectives can be found in our overarching LTP, with more specific details in the Infrastructure Strategy and Council Services sections.

The framework and key elements of the overall asset management plan are shown in Table 4.

Table 4 Asset management document structure

No.	Document Name	Key Document Contents
1	Long Term Plan (LTP)	Infrastructure Strategy <ul style="list-style-type: none"> • Strategic Framework • Guiding Themes • High Level Information for Each Asset Class Council Services <ul style="list-style-type: none"> • High Level Information • Levels of Service • Financial Plan
2	Asset Management Strategy	General Asset Management Principles and Overview
3	Asset Management Plan	General Information and Glossary about each asset class <ul style="list-style-type: none"> • Executive Summary • Introduction • Levels of Service • Future Demand • Lifecycle Management Plan • Risk Management Plan • Financial Summary • Plan Improvement and Monitoring

2.5 Asset Information and Data

Information and data about Waste Management and Minimisation assets is stored and managed in various systems including the following:

- Enterprise Asset Management (EAM) system (Technology 1) for document management, financial management, customer information & requests, asset inventory, asset history, work order management and maintenance scheduling;
- ARCGIS for spatial records with general GIS viewer MILES; and
- Drawing Management System in SharePoint on intranet and drawing files stored on server.

3. LEVELS OF SERVICE

Our levels of service are driven by our overall service objective, by customer expectations, and by legislative and technical requirements. The Capex and Opex investment programmes included in this plan are based on effective asset management practices that deliver on these objectives, expectations and requirements.

3.1 Customer Levels of Service

The customer levels of service included in the LTP together with target levels and a snapshot of past performance are show in Table 5.

Table 5 Levels of service

What you can expect	How we measure performance	Actual 2016/17	2018 /19	2019 /20	2020 /12	By 2027 /28
We encourage district wide waste minimisation.	The reduction in landfill waste generated per household (measured as a year on year percentage).	29% decrease from 2015/16 to 2016/17	1%	10%	1%	5%
We comply with all resource consents related to waste management and minimisation.	The number of abatement notices, infringement notices, enforcement orders, and convictions received.	0	0	0	0	0
Customers are satisfied with our waste management and minimisation service.	The number of complaints about the Council's solid waste service received (per 1,000 customers).	1.3	3 or less	3 or less	3 or less	3 or less

3.2 Legislative Requirements

In addition to our levels of service parameters, New Zealand has a range of legislation relating to Waste Management and Minimisation. These are detailed in Figure 1. Of primary importance is the Waste Minimisation Act 2008.

Figure 1 Legislative requirements

NEW ZEALAND WASTE STRATEGY					
Legislative Framework					
Waste Minimisation Act 2008	Local Government Act 2002	Hazardous Substances and new Organisms Act 1996	Climate Change Response Act 2002	Resource Management Act 1991	Other Tools
Waste Minimisation & Management Plan	By-laws	Regulations and group standards related to water	Disposal facility	National environmental standards	International Conventions
Waste Disposal Levy	Long-term council community plans			District and Regional plans and resource consents	Ministry guideline codes of practice and voluntary initiative
Waste Minimisation Fund					
Product Stewardship					
Other regulations					

3. LEVELS OF SERVICE

Waste Minimisation Act (2008)

The Waste Minimisation Act is aimed at reducing the amount of waste we generate and dispose of in New Zealand. Its purpose is to protect the environment from harm and to provide economic, social and cultural benefits for New Zealand. The Act:

- Regulates product stewardship schemes for certain 'priority products' to encourage, and where necessary, enforce producers, brand owners, importers, retailers, consumers and other parties take responsibility for the environmental effects from their products at end-of-life (from 'cradle-to-grave').
- Controls the disposal of material to landfill.
- Provides a mechanism to report disposal tonnages back to the Ministry for the Environment to improve information on waste minimisation.
- Establishes a Waste Advisory Board to advise the Minister for the Environment on best practice in waste management.
- Imposes a levy on all waste disposed of in municipal landfills to generate funding to help local governments, communities and businesses minimise waste.

This Act encourages reduction, re-use, recycling and recovery. It also aims to benefit the economy by encouraging better use of materials throughout the product life cycle, which promotes domestic reprocessing of recovered materials and provides more employment.

Under the Act, we are required to develop and adopt a Waste Management and Minimisation Plan that takes into consideration the goals of the NZ Waste Strategy.

NZ Waste Strategy

The NZ Waste Strategy has two high level goals:

- Reducing the harmful effects of waste, and
- Improving the efficiency of resource use.

Health Act 1956

Under Section 25 of the Health Act 1956 and if required by the Minister of Health, councils have a duty to provide sanitary works, which includes works for collecting and disposing of refuse.

Local Government Act 1974 and 2002

The provisions of the LGA 1974, part 31 and the sanitary assessment provisions for refuse contained in part 7 of the LGA 2002 have been repealed and are now largely embodied in the WMA.

Other legislation

Other legislation relevant to Waste Management and Minimisation includes:

- **Health and Safety at Work (Hazardous Substances) Regulations 2017** addresses the management of substances that pose a significant risk to the environment and/or human health, from manufacture to disposal. In terms of waste, it primarily controls handling and disposal of hazardous substances.
- The **Resource Management Act 1991** addresses Waste Management and Minimisation activity through controls on the environmental effects of waste activities. The National Environmental Standard for Air Quality requires landfills greater than one million tonnes capacity to collect landfill gases and either flare them, or use them as fuel for generating electricity.
- The **Health and Safety at Work Act 2015** is recognised as a key priority for the waste industry. A health and safety industry sector group has developed guidelines for the solid waste industry to ensure best practice in health and safety.

Bylaws

We implement the NPDC Bylaw 2008 Part 9: Solid Waste (as amended and readopted July 2013). This bylaw regulates recycling, ownership of the waste stream, refuse storage, waste management and waste collection to ensure that waste collection and disposal does not have significant impact on the environmental or public health.

3. LEVELS OF SERVICE

3.3 Technical Levels of Service

The TRC also imposes technical level of service parameters on solid waste activities in terms of complying with regional regulations and resource consents. Details of consents can be found in the Intranet Page Resource Consents. Our consented activities relate to discharges to land, water and air and stormwater associated with landfills and RTSs, and to land use.

A number of technical targets relating to waste to landfill, diversion of waste, organic waste, customer satisfaction, public health, environmental health and safety compliance and community engagement are detailed in Section 3.2 of our Waste Management and Minimisation Plan.

Our level of service projects have a total value of \$9.3m over the 10 year period of the AMP. Details can be found in Section 5.7 Acquisitions and Augmentation.



4. FUTURE DEMAND

In addition to the demands of a growing population, one of the most significant issues for Waste Management and Minimisation is our aspirational goal of Zero Waste. Given Taranaki produces more than 200,000 tonnes of waste each year with 55,000 tonnes ending up in the Colson Road Landfill, this is a big challenge.

Another important issue for this service is the closure of the Colson Road regional landfill scheduled for June 2019. A new regional landfill is to be located near Eltham, approximately 50 km from the existing landfill in New Plymouth. This will greatly impact the transportation costs of wastes in the region, more so for NPDC than for SDC and STDC.

The Government's principal policy response to climate change – the New Zealand Emissions Trading Scheme (NZ ETS) – also impacts our service. This NZ ETS supports global efforts to reduce greenhouse gas emissions while maintaining economic productivity, by putting a per unit price on greenhouse gas emissions. It also requires certain sectors to acquire and surrender emission units to account for their direct greenhouse gas emissions, or the emissions associated with their products. As the owner of a landfill, we are required to report annually on emissions and surrender carbon units to offset any landfill emissions.

Current market prices for a carbon unit are \$21, the highest since the NZ ETS began with our ETS costs being \$240,000 in 2016. A gas management system was installed at Colson Road landfill in January 2018, however as a year's worth of gas capture data is required to quantify the reduced carbon emissions, the current ETS cost levels will continue.

International policy such as China's 'National Sword', which has tightened acceptance criteria for imported recyclable bales also has implications for our service, particularly on sorting and baling processes at the MRF. It also highlights the need to better educate our customers about effective recycling.

We currently have limited reuse and recycling infrastructure for commercially generated waste streams, including for the construction industry. With a link between economic growth and waste volumes, we may need to look at future options in this area to reduce the impact of economic growth on the volume of commercial waste going to landfill. Our research shows that our communities value recycling and would like it to remain a Council focus. As a Council, we want to focus in the future on reuse, composting, packaging and the goal of zero waste. Feedback on our kerbside collection system shows a community preference for a greenwaste bin and a general waste bin, and for a move away from bags. To a lesser extent, the community indicated that in addition to current services they would like greenwaste services, composting services and education. There was also some desire for inorganic collections, e-waste recycling, food waste and commercial collection services.

We have no growth projects planned for the 10 year period of the AMP.

5.1 Asset Description

Refuse Transfer Stations

There are five RTSs in the district. Each allows free drop-off for the same recyclable wastes that are collected in kerbside services—glass (bottles, jars), paper, cardboard, plastic containers (grades one to seven), and aluminium and steel cans.

Our RTSs encourage responsible waste disposal while ensuring that any potential adverse effects on the environment are minimised or mitigated. For details of our risk management approach see Section 6: Risk Management.

Currently, our RTSs are situated at the following locations:

- New Plymouth (Colson Road, part of the RRF)
- Inglewood (King Road)
- Okato (Hampton Road)
- Waitara (Norman Street)
- Tongaporutu (Hutiwai Road)

New Plymouth

The New Plymouth RTS caters for the population of New Plymouth, Bell Block and Oakura. It is operated by EnviroWaste Services Ltd (through a Deed of Operation with the Council).

Located adjacent to railway sidings in an industrial area of the city, we lease 2.1 hectares of land from 'Kiwi Rail' and sublease this to EnviroWaste Services Ltd for their RTS operation. Both the original deed of operation and sublease on this land was due to expire in May 2016. However, they were extended as part of a wider contract to operate the RRF and to continue RTS operation beyond the planned closure of the Colson Road landfill in June 2019 on the neighbouring land owned by the Council. RTS and landfill operations are linked by a landfill designation that states all light vehicles being used to transport waste for disposal must be channelled through a RTS.

Our costs for the RTS construction (to Council approved plans and specifications) are recouped from the operator in an annual rental amortised over 20 years. The site operator (EnviroWaste Services Ltd) is entitled to set gate fees and retains income from re-directed waste. They are subject to landfill gate fees for any residual waste they dispose of at the Colson Road landfill. The new RTS proposed at the RRF will operate under a

similar model to the current RTS. However at the end of the 21 year contract, the RTS will be handed back to the Council.

Opening days and times are advertised on the Council website and public information handouts.

- Residual waste is accepted at advertised gate charges (set by the operator).
- Compostable greenwaste is accepted at a reduced charge (set by the operator).
- Standard recyclable products are accepted at no charge— glass (bottles, jars), paper, cardboard, plastic containers (grades one to seven) and aluminium and steel cans.
- Household hazardous waste is accepted at no charge however commercial quantities of hazardous waste incurs a handling fee (set by the Council).

Since 1 October 2015, recyclables from RTSs have been processed at the new site in the MRF alongside recycling from regional kerbside collections.

Inglewood and Okato

The Inglewood and Okato RTSs cater respectively for the populations of Inglewood and Okato, both dealing with similar volumes of waste. Operations at both sites are contracted to EnviroWaste Services Ltd.

Both facilities are situated on old landfill sites and are consented cleanfill sites, with provision to take municipal waste if the Colson Rd Landfill is unable to accept waste.

Each site has bins for residual waste, with a separate bin for co-mingled recyclables. The contractor also collects and on-sells white ware and steel. Greenwaste is either stockpiled or transported off-site to a composting processor.

Residual waste is subject to advertised gate charges (set by the Council). Compostable greenwaste is accepted at a reduced charge (set by the Council). Standard recyclable products are accepted at no charge. Hazardous wastes and wastes requiring special treatment are prohibited.

Opening days and times are advertised on the Council website and in public information handouts.

5. LIFECYCLE MANAGEMENT PLAN

Waitara

This is a purpose built facility to service the population of Waitara, Urenui and Onaero. Customers empty their waste into a pit which is periodically cleaned up by a loader into a large skip bin which the contractor transports to the Colson Road landfill. The contractor on-sells white ware and steel. Greenwaste is transported to a composting operation sited on spare land at the Colson Road landfill. The refuse collection contractor collects, co-mingles and transports standard recyclable products to the New Plymouth MRF.

The Waitara site also has a separate Ag-chemical containers collection as part of a nationwide collection service. Since 1 October 2006, the Waitara Transfer Station has been operated under the regional collection contract.

Residual waste is subject to advertised gate charges (set by the Council). Compostable greenwaste is accepted at a reduced charge (set by the Council). Standard recyclable products are accepted at no charge. Hazardous wastes and wastes requiring special treatment are prohibited.

Opening days and times are advertised on the Council website and public information handouts.

Tongaporutu

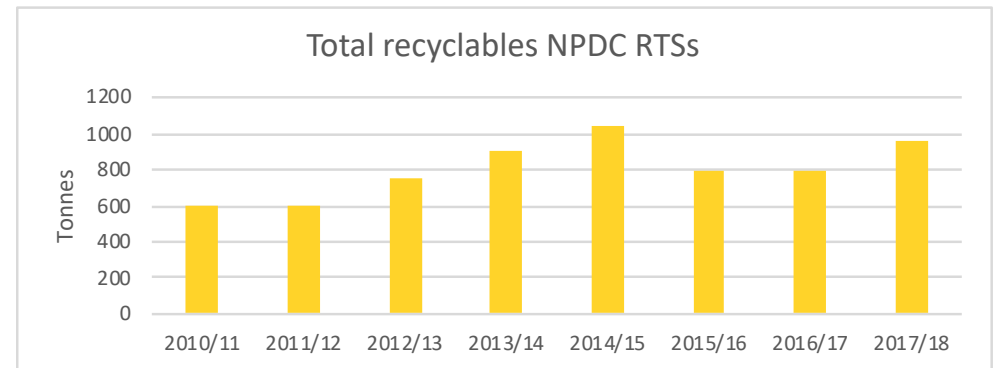
Established across the road from a closed landfill on the edge of the Tongaporutu River this RTS is on the Hutuwai Road about 2 km from the state highway. Servicing the area of the district north of Mt Messenger, customers are able to offload rubbish into a skip for three hours a week, each Sunday. Because of the geographic location and the cost of transport, recycling is limited to two products, glass and aluminium. Greenwaste is collected and disposed of at the back of the property.

The site contractor transports residual waste to the Colson Rd landfill. Because there is no weekly refuse collection in the Tongaporutu village a coin operated 'Jack Trash' unit is available. The unit is sited on reserve land at the southern end of the State Highway 3/ Tongaporutu River Bridge. Glass recycling is available at this unit. The site is operated under the regional collection contract.

Volumes of waste at RTSS

The graph in Figure 2 shows a variable rate of recyclables being dropped off at the RTSS year on year, with an increasing trend up until the 2015/2016 year.

Figure 2 Total recyclables NPDC RTSS

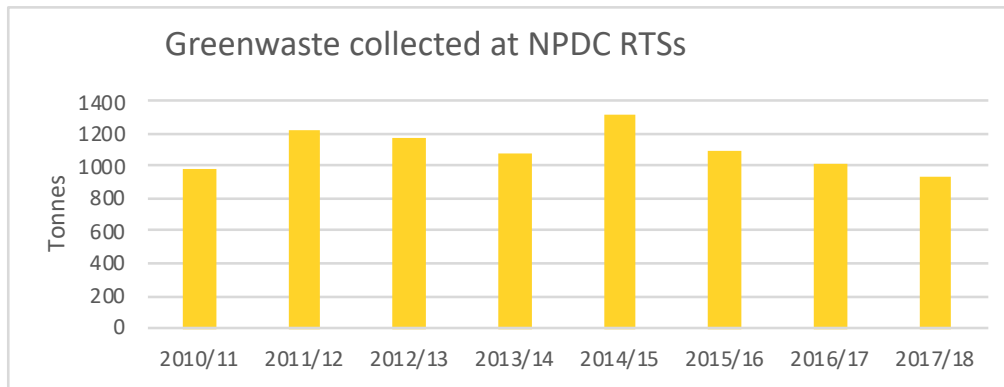


5. LIFECYCLE MANAGEMENT PLAN

Compostable greenwaste can be disposed of at all RTs in New Plymouth at a reduced fee. It is diverted to a composting operation on land adjacent to the Landfill.

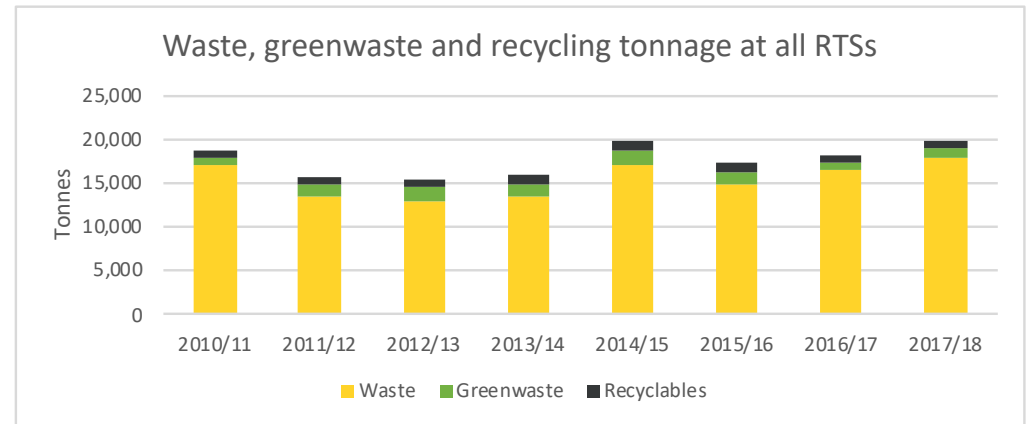
The quantity of greenwaste collected at the RTs has fluctuated slightly over the past five years and remains slightly above 1000 tonnes per annum. Figure 3 shows the tonnage of greenwaste dropped off at NPDC RTs per year since 2010/11.

Figure 3 Greenwaste collected at NPDC RTs



The relative quantities of waste, greenwaste and recycling (tonnes) at all RTs between 2010/11 and 2017/18 are shown in Figure 4.

Figure 4 Waste, greenwaste and recycling tonnage at all RTs

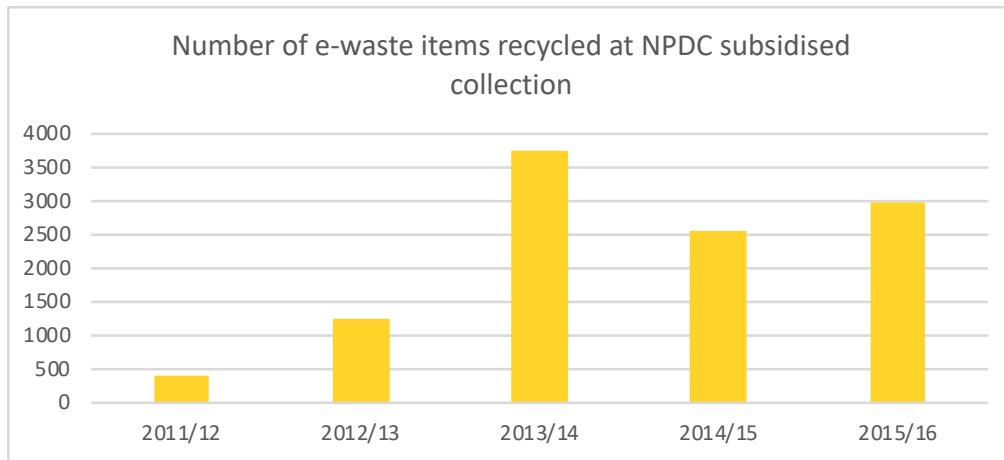


E-waste

New Plymouth RTS accepts electronic waste (e-waste) for recycling. The waste stream incurs charges but some items such as TVs and CRT monitors are subsidised by the Council. E-waste items are transported to E-Cycle in Auckland for dismantling and on-selling.

The volume of e-waste collected in New Plymouth has increased since the service was introduced in 2011. Volumes peaked in 2013/14 because of the TV takeback scheme which accepted TVs for free for a period. The number of items appeared to be levelling off at 2500-3000 per year in 2014/15 and 2015/16 but has increased over the last two years due to e-waste items being diverted, predominantly TVs and desktop computers. Annual numbers are shown in the graph in Figure 5.

Figure 5 Number of e-waste items recycled



Operational Landfills

We own three operational landfills in the district, each with consent for waste disposal:

- Colson Road (New Plymouth) landfill.
- Inglewood (King Road) landfill.
- Okato (Hampton Road) landfill.

The Colson Road landfill has an existing consent to dispose of municipal waste. The Inglewood and Okato landfills are closed but are consented as cleanfill sites with a provision for emergency municipal disposal should a temporary closure of the Colson Road landfill be required.

Colson Road

Currently the only landfill in Taranaki receiving municipal waste, the Colson Road site plays a critical role in regional and local waste management.

Over time the Colson road landfill has been expanded in stages. The existing fill area (Stage 3) was opened in May 2002, on a green field area of the property and defined as a 'Class A' landfill. With a land use designation change in 2004, the landfill became a regional facility accepting waste from the entire Taranaki region. Both Stages 1 and 2 of the development are scheduled as closed landfills.

The Colson Road site has eight resource consents from TRC, which include a total of 82 conditions. It also has an NPDC land use designation with 34 conditions governing planning aspects such as landscaping, access, hours of operation, allowable waste types, open area, and landfill administration. Leachate from the site is pumped to the NPWWTP where it is treated as trade waste alongside the district's wastewater.

Stage 3 was designed in two lifts, with the available airspace of 115,000m³ or a design capacity for 800,000 tonnes of refuse. Since 2002, annual disposal volumes have generally increased, due to the landfill beginning to accept waste from the whole region (not just New Plymouth District) in 2007, and an increase in economic activity in the region. Between 2008 and 2015, waste volumes fluctuated between 55,000 and 65,000 tonnes per year, primarily reflecting the state of the economy. Following this, there has been a decline in annual volumes as a result of waste minimisation activities and some waste being disposed outside Taranaki region. In the 2016/17 year, 45,000 tonnes was disposed at Colson Road landfill.

5. LIFECYCLE MANAGEMENT PLAN

With the current available airspace and an improvement in compaction methods since 2008 we estimate the landfill will be nearly full by June 2019. As already mentioned, the landfill will close at this time and a new regional facility will be opened near Eltham. In preparation we will relocate the Colson Road RTS to adjacent land owned by the Council beside the MRF site to enable efficient waste consolidation for transport to the new landfill.

Closure planning is currently underway to determine final cap design taking into consideration likely end use options. There will be a 30 year aftercare period as leachate and landfill gas will continue to be generated and treated following closure. During 2018 a new landfill gas collection and flare system was constructed to improve odour management.

The Stage 3 area of the Colson Road site is screened on the northern and eastern side by forestry and litter fencing. The southern side has a utility area with a composting operation that processes green waste. The old Stage 1 and 2 landfills are on the western side. In addition to some forestry, these have been capped and grassed with edge screening of Japanese cedar and pines trees.

Assets at the site include leachate collection pipes and manholes, HDPE liners to separate waste from the surrounding land and newly constructed landfill gas collection and flare facility. They also include significant earthworks to contour the site and form the landfill voids and a leachate pump station and rising main connected to the wastewater reticulation system. There is also utility buildings, roads, weighbridge barrier arm and kiosk, and an odour reticulation and pump.

Okato Landfill

The Okato municipal landfill on Hampton Road closed in 2013 when the consent expired. The site now receives cleanfill and acts as a contingency landfill should access to the Colson Road landfill be restricted (under three resource consents which expire in 2031). As a RTS the site has contractor supplied bins and skips for customers to place their waste before it is transported to the Colson Road landfill in New Plymouth. Recycling is transported to the New Plymouth MRF and all cleanfill and greenwaste received at the site is disposed of on-site. Assets include a metaled access track and a bridge to gain access to the operational area.

Inglewood Landfill

Consent for the Inglewood landfill on lower King Road changed in 2007, allowing the facility to dispose of cleanfill and to act as an emergency municipal landfill should the Colson Rd landfill be temporarily closed. It was used in this capacity for three months in mid-2005 when the Colson Road landfill was unavailable following a major incident. The consents are due to expire in 2020 and 2026. Now utilised as a RTS, residual waste is disposed of at the Colson Road landfill. The facility disposes of cleanfill on-site and transports green waste to a composting operation. Recycling is transported to the MRF.

Closed Landfills

Closed landfills are recorded as part of the Waste Management and Minimisation assets because they require ongoing and regular monitoring and maintenance. Throughout NPDC we maintain several closed landfills:

- Okoki Road landfill
- Waitara landfill
- Oakura landfill
- Marfell park landfill
- Old Taranaki County Council landfill (Bewley Rd)
- Tongaporutu landfill
- Stage 1 and 2 of the Colson Road Landfill.

Where applicable we hold TRC resource consents for these closed landfills, which include a variety of conditions. Six consents recognise continued leachate discharge and two allow for discharge emissions to air. TRC monitors the closed sites at Colson Road stages 1 and 2, Bewley Road, Waitara and Marfell Park and the cleanfill sites at Okato and Inglewood.

Okoki Road Landfill

This Okoki Road landfill was basically a trench that was filled with residual waste and periodically burnt, the ash was bulldozed over a bank. It was closed in 1994 and rehabilitation and landscaping work occurred. The leachate levels have now reduced to point that the resource consent from TRC is no longer required. The site has been considered for return to its original owners. However, multiple ownership makes the potential transfer complicated and unlikely to be resolved in the near future.

5. LIFECYCLE MANAGEMENT PLAN

Oakura Landfill

Closed in 1985, the Oakura site was capped and levelled and is now a recreational reserve. The north-west end of the site drops into the Whakao Stream making it unsuitable for building, but it is used by the local pony club. The quality of the leachate discharge from this site now meets the permitted activity requirements in the Regional Freshwater Plan and the site no longer needs TRC consent or monitoring.

Waitara Landfill

The Waitara landfill was situated on 1.7 ha parcel of land at the bottom of Manukorihi Rd on the eastern side of the Waitara River. It was closed in 1993, and was planted out with over 2,000 mixed variety plants. Due to the low level of leachate contaminants, TRC no longer monitor the site.

Marfell Park Landfill

Closed in 1985, the Marfell landfill site was originally the New Plymouth rubbish tip. The area was capped and is now a recreation reserve with a playground on a lower level at the northern end. Leachate from the old landfill is captured by a sewer system and piped to Grenville Street. Tests (2008) on 'orange' ponding water about a BMX track that was on site and on berms outside the landfill footprint did not reveal any chlorides (an indicator of leachate). However they did show that the overlaying soil is rich in iron-oxide which makes it difficult to grow grass on. The TRC conducts regular analysis of samples from various locations of the Mangaotuku Stream both up and downstream of the inlet from Granville Street.

In 2009, a pipe laying excavation in the north-eastern corner of the park uncovered several drums of an unknown product, outside of the noted landfill footprint. The drums and the surrounding earth were removed to the Colson Road landfill for containment in the Stage 3 area. TRC tests on the product did not detect any trace of PCBs or other organochlorines. The operation, additional to budgeted expenditure, cost \$120,000 which was charged against the closed landfill remediation account.

Further capping on the middle platform was undertaken in 2011 to enable an extension of a BMX facility but this facility has now been removed entirely from the reserve.

Old TCC Depot

This site (on historical Bewley Road, off Devon Road) has been quarried, land-filled and developed as the Waiwhakaiho Valley shopping and car parking area. TRC monitors the site annually for leachate discharges into the Waiwhakaiho River via three ground monitoring bores. We are responsible for providing and maintaining these bores - GDN0555, GND0556, and GND0548. To date, TRC monitoring has found no significant leachate effects or groundwater contamination.

In 2014, the TRC did report elevated levels of ammonia discharging to the Waiwhakaiho River. However, investigation found the source of the contamination to be outside of the old landfill footprint.

Tongaporutu Landfill

This landfill site is on the Hutiwai Road across the road from the existing RTS. The landfill was situated on the edge of the Tongaporutu River. The site was closed because of its discharges to the Tongaporutu River.

5. LIFECYCLE MANAGEMENT PLAN

Stage 1 and 2 of the Colson Road Landfill

In 2004 the Environmental Commissioner deemed Stages 1 and 2 of the Colson Road landfill closed when consent to operate the Colson Road Stage 3 area was granted. Stage 1 and 2 landfill areas are on the same property as Stage 3, however they are separated by a sealed road constructed on virgin soil. Discharges from the closed sites are added to leachate from the Stage 3 area and pumped to the NPWWTP for treatment. We remain responsible for site maintenance including fencing, landscaping, and on site forestry.

Resource Recovery Facility

We investigated the development of a RRF in New Plymouth as part of a previous Waste Management and Minimisation Plan. Following purchase of land for the purpose, we tendered design and build of a facility in 2012, awarding the contract to EnviroWaste Services Ltd. The facility is being developed in three stages as shown in Figure 6:

- MRF (completed in October 2015)
- CRRC (currently being designed and to be built in 2018/19)
- RTS (to be constructed in 2018/19)

Currently, the MRF processes recycling collected by the Region's kerbside and RTS services. Recyclables are sorted and baled here – specifically card, paper, tin and steel cans, and plastic containers 1-7. The MRF has an education room with a viewing window to the facility aimed at improving both the recycling rate and reducing contamination of recycling. Between January and December 2017, over 80 groups toured the facility. We own the MRF building and lease the facility to EnviroWaste Services Ltd. who own/operate the processing equipment on the site. EnviroWaste is responsible for building upkeep and maintenance.

Kerbside Collection Wheelie Bins and Crates

We own just over 29,000 240 litre capacity dark green body/yellow lid wheelie bins for the general recyclables collection and just over 29,000 60 litre capacity light blue crates for glass recycling collection.

Data presented on the quantity and type of the assets in this AMP is graded B – Reliable because the assets are well understood and managed. However, the EAM asset inventory has inconsistent records for assets and some assets not yet listed. **This is recorded as Action 2 in Section 8: Plan Improvement and Monitoring.**



5.2 Asset Condition

Refuse Transfer Stations

Our existing knowledge shows our RTSs to be in a generally average condition but in good working order, with all facilities being less than 25 years old. The sites are operated and maintained by EnviroWaste Services Ltd.

Landfill Sites

- The Colson Road landfill is in good condition and complies with resource consents for the discharge of leachate, landfill gas, dust, odour and waste management.
- Recent calculations indicate the Colson Road landfill should remain operational until June 2019. This estimate allows for some unexpected increase in waste volumes and provides capacity for contingency disposal should future landfill disposal become temporarily unavailable following closure.
- Consent for a new regional landfill located in Eltham has been granted. Development of this site has started so it will be available when the Colson Road landfill closes.
- There have been no compliance issues raised in monitoring of the ground water discharging to the Urenui River at the closed Okoki Road landfill.
- No incidents have been recorded during TRC biennial monitoring of the closed Waitara landfill site.
- Previous TRC monitoring at the old TCC Depot has shown some significant groundwater contamination. However, ongoing investigation shows this is from an upstream ground source not associated with the old landfill.
- The Tongaporutu landfill has been closed and replaced with a RTS, with no ongoing effects recorded.
- The Marfell Park landfill (closed in 1982) leachate flow is captured and directed to the wastewater system. Monitoring shows landfill leachate indicator contaminants to be at acceptable levels in the stormwater discharge below the site, with no agrichemical contamination present. Based on the inspections and the sampling results, the closed landfill at Marfell Park is deemed to have no significant adverse effect on the environment.

- The former Oakura landfill site was closed in the mid-1980s and has been converted into a reserve. Monitoring indicates that the landfill is not having a significant adverse effect on down-stream water quality. As a result resource consent for this site is no longer required.

Materials Recovery Facility

Installed in 2015, this facility is in very good condition.

Kerbside Collection Wheelie Bins and Crates

Purchased new in 2015 these assets are considered to be in very good condition.

Data on the general condition of the assets in this AMP is graded as B – **Reliable** as it is based on sound knowledge and experience of the facilities. We have yet to conduct formal condition ratings for solid waste plant and equipment assets. **This is recorded as Action 3 in Section 8: Plan Improvement and Monitoring.**

5.3 Asset Remaining Lives

Information on the remaining lives of the buildings associated with Waste Management and Minimisation assets can be found in the Property AMP: Volume 8 – Water and Waste Buildings.

The remaining lives of landfill sites is determined by the capacity of the facilities, consent conditions and the volume of solid waste generated by the community. Commentary on this is included in the asset description in section 5.1 above.

In 2016, Beca assessed the remaining lives of leachate pump station components, as part of the general Plant & Equipment valuation. We manage leachate pump stations in the same way we manage Wastewater pump stations. For details, see Waste Water AMP: Volume 2 – Pump Stations.

The kerbside wheelie bins and crates were purchased in 2015 and have an estimated useful life of 9 years.

Data on remaining lives of assets in this AMP is graded as B – **Reliable B** as it is based on sound knowledge, standards and guidelines.

5.4 Asset Valuation

The value of Waste Management and Minimisation assets is summarised in Table 6.

Table 6 Waste Management and Minimisation assets valuation

Asset Category	Gross Current Replacement Cost (\$)	Annual Depreciation (\$)	Optimised Depreciated Replacement Cost (\$)
Earthworks (Colson Road)	4,123,874	-	4,123,874
Plant & Equipment (Colson Road leachate pump station and rising main)	177,598	2,295	\$35,800
Other Infrastructure (Landfill gas collection and flare facility, HDPE liners, leachate collection pipes and manholes etc.)	3,536,873	56,763	2,257,325
Kerbside collection wheelie bins and crates	1,721,185	191,243	1,529,942
TOTAL	9,559,530	250,301	7,946,941

Land related to RTSs and landfills has been accounted for in the Property Land evaluation. All associated buildings and structures are included in the Property AMP: Volume 8 – Water & Waste Buildings.

All values are taken from the 2016 statutory valuation. The data accuracy and confidence level is rated as B - Reliable. The plant and equipment valuation was conducted by Beca Consultants. Low risk assets were valued internally by staff. All internal valuation has been peer reviewed and endorsed by Beca consultants.

5.5 Operations and Maintenance

Refuse Transfer Station Maintenance

New Plymouth RTS/RRF

We own the buildings of the existing RTS and the new RRF but all plant, equipment, and signage (non-fixed assets) is owned and maintained by the site operator. We maintain the front end of the facility and the non-operational areas of the property on an ongoing basis, including stormwater assets. Two Armco culverts that exist on the site for stormwater drainage will require maintenance or renewal within the term of the LTP.

Inglewood, Okato, Waitara and Tongaporutu RTSs

We maintain these RTSs on an as required basis, funded annually from a dedicated budget. Specific maintenance work is completed on a time/materials basis with rates as outlined in the contracts (i.e. plumbing and drainage, landscaping, building repair, roading, fencing). RTS contractors conduct general maintenance work (i.e. lawn mowing, and minor work) on a time/materials basis with rates outlined in the contracts.

We also conduct regular road maintenance at the Inglewood RTS to prevent edge break and the existing sealed accesses breaking down. Fences at the Waitara site require upkeep to provide security.

5. LIFECYCLE MANAGEMENT PLAN

Operational Landfill Sites

We complete landfill maintenance on an as required basis funded from an annually budgeted account. Specific maintenance work is completed by specialist contractors (i.e. plumbing and drainage, landscaping, building repair, roading, fencing). Landfill contractors complete general maintenance work (i.e. lawn mowing and minor work) on a time/materials basis with rates as outlined in the contracts.

The Colson Road landfill typically requires the following:

- Renewal and maintenance of the ground monitoring bore sites to ensure they remain accessible for TRC to extract and test groundwater around the landfill. TRC utilises eight of the 21 ground monitoring bores.
- Stormwater (including silt ponds), leachate (including a pump station) and odour maintenance works to fulfil our consent and designation conditions.
- Scheduled maintenance of the landfill gas collection and flare facility.
- Site maintenance (roading, building utilities).
- Plant and Equipment maintenance.

Operational expenditure for the Inglewood and Okato landfills is mainly associated with the RTS component of these sites so is covered in the previous section.

Closed Landfill Sites

All major closed landfill sites (Waitara, Marfell Park, the old TCC Depot (Bewley Road) and Stage 1 and 2 of the Colson Road landfill) are sampled on a regular basis as determined by the TRC monitoring requirements. Specific planned operations and maintenance activities per closed landfill site are listed below. We periodically inspect other closed landfills to determine ongoing maintenance requirements.

Okoki Road

We maintain the road fence and upkeep the vegetation, i.e. gorse spraying etc.

Oakura, Waitara and Tongaporutu

We maintain the road fence and upkeep the vegetation i.e. gorse spraying etc. at each site.

Marfell Park

We maintain the closed cap and sewerage lines that remove leachate from the landfill. We also respond to public queries about the site and investigate complaints.

Old TCC Depot (Bewley Road)

We maintain the three ground monitoring bores on the site.

Stage 1 and 2 of the Colson Road Landfill

We are responsible for fencing, landscaping and forestry at the site and for maintaining the ground monitoring bores.

Kerbside Collection Bins

These assets generally require very little operations and maintenance expenditure. Homeowners are responsible for cleaning the assets and occasionally assets need to be replaced with spares if broken or lost.

There is high demand from community for us to provide an organic waste collection. As identified in our Waste Management and Minimisation Plan, organic waste is a priority waste stream and food waste makes up a large proportion of kerbside rubbish bags. Over the period of the AMP it is proposed to introduce additional kerbside collection wheelie bins to replace the existing red plastic bag collection service and a further kerbside collection wheelie bin for food waste. This will provide significant reduction in kerbside waste to landfill by diverting food waste into composting. Savings would be made through reduced landfill disposal and transport costs (to Central landfill). The costs for the purchase and introduction of the new kerbside collections bins and service by contractors is included in the Opex forecast below. The contract will include an option for us to purchase the bins a later date at agreed rates based on the remaining life of the bins at the end of the contract.

5. LIFECYCLE MANAGEMENT PLAN

The 10 year Opex forecast for all Waste Management and Minimisation services, including kerbside collection, is shown in Table 7. Expenditure for operation and maintenance is combined.

Table 7 Opex forecast summary

Waste Management and Minimisation Opex Forecast (\$000)											
Activity	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	LTP Total
Personnel Costs	168	222	227	231	236	241	418	427	436	446	3,053
General Operating Expenditure	1,176	1,394	1,136	1,111	1,075	1,144	1,092	1,103	1,115	1,141	11,486
Direct Cost of Activities	7,828	10,086	9,386	9,461	9,666	9,885	10,339	10,878	11,146	11,421	100,096
Shared Services (Overhead)	2,577	2,596	2,834	2,991	3,014	3,115	3,219	3,227	3,278	3,390	30,239
Total	11,749	14,297	13,582	13,794	13,991	14,385	15,068	15,635	15,975	16,398	144,874

Personnel costs include salaries and wages and other personnel expenses, including training and recruitment. General operating expenditure includes occupancy and utility costs, property maintenance and legal and professional fees. Direct costs of activities includes contractor’s costs, materials and services. Shared Services (Overhead) includes internal charges for support services e.g. ELT, HR, labour costing expenses and internal goods and services charges.

5. LIFECYCLE MANAGEMENT PLAN

5.6 Renewals Plan

As assets age, they require more renewal investment to maintain reliability. Our general approach to asset renewal is detailed in Section 4.3 of the Asset Management Strategy. Generally speaking, we base our renewals plans on the information collected during condition assessments and inspections.

For Waste Management and Minimisation assets, we have an annual general provision for minor renewals to plant and equipment during the period of the plan (SW2003). Renewal plans for specific assets are based on our knowledge of the asset's condition and other factors, including estimations of the year renewal will be required.

- SW2001 - The Colson Road landfill site will need to be replaced when it reaches its capacity (estimated June 2019). The project to build a shared central landfill site near Eltham has commenced. Costs for the new landfill, which will also serve STDC and SDC are estimated at \$1009m in 2018/19. This will be funded from the Solid Waste Development Fund.
- SW1012 - Once operations cease at the Colson Road landfill, the site will need to be capped and closed. This will need to be designed to ensure there are no ongoing adverse effects on the environment and that the land can be used for other purposes e.g. community recreation or open space. The estimated cost of these works is \$987m in 2019/20.
- SW1011 - Resource consent for Colson Road activities will require amendment in 2020/21 to cater for the planned closure and emergency landfill, at an estimated cost of \$43k.



5. LIFECYCLE MANAGEMENT PLAN

The Capex forecast for renewals projects is summarised in Table 8.

Table 8 Renewals forecast summary

Waste Management and Minimisation Renewal Expenditure Forecast (\$000)											
Activity	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	LTP Total
SW1011 - Resource Consent Renewals Solid Waste	-	-	43	-	-	-	-	-	-	-	43
SW1012 - Colson Road Landfill Closure Works	-	987	-	-	-	-	-	-	-	-	987
SW2001 - Central Landfill	10,090	-	-	-	-	-	-	-	-	-	10,090
SW2003 - Waste Management and Minimisation P&E Planned Renewals	80	83	84	86	88	90	92	94	97	99	893
Total	10,170	1,070	127	86	88	90	92	94	97	99	12,013

5.7 Acquisition and Augmentation Plan

Acquisition

We have no plans to acquire any assets during the period of the AMP.

Growth

We have no growth projects planned over the period of the AMP.

Level of Service

SW2002 - As detailed in the Waste Management and Minimisation Plan, the greatest proportion of waste going to landfill in the district is commercial, so managing this waste stream is a priority for us. If we are to achieve Zero Waste, we need infrastructure that enables aggregation of commercial waste into one facility—creating the economy of scale that would facilitate more efficient operation, maintenance and recycling opportunities. This single facility, which could be established in collaboration with the private sector, could have a significant impact on diversion of waste to landfill. It would also provide local opportunities for diverting new products that are currently not recyclable in the region. The business model could include user fees to cover operational costs. The estimated cost for this project is \$3.545m in 2020/21.

SW2004 and SW2005 - We have planned a review of the location of our rural RTSs to provide improved and more accessible services that will encourage waste minimisation and recycling. We have allocated \$562k for this project in 2023/24. We also plan to improve service levels at the Colson Road RTS by investing \$45k in additional infrastructure in 2023/24.

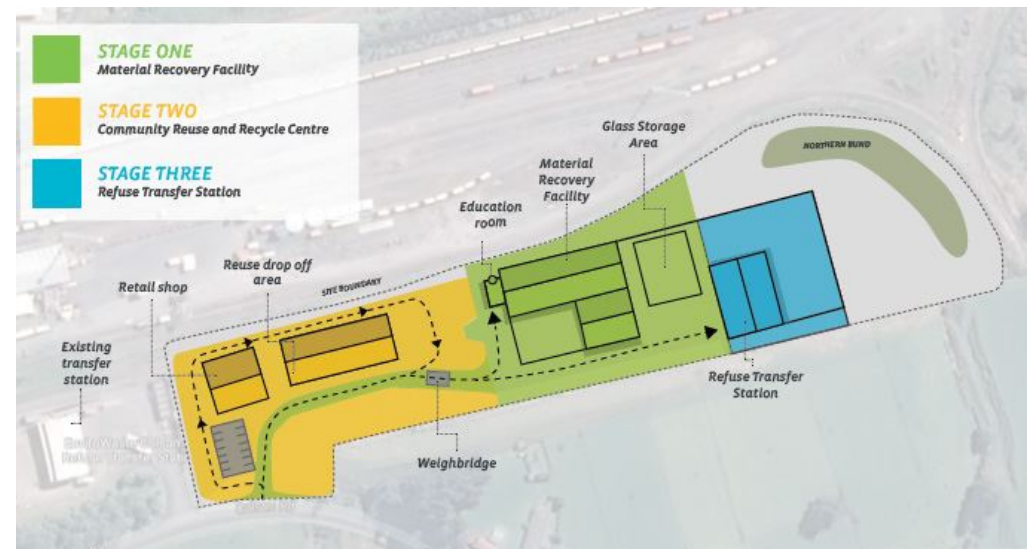
SW2006 - Other levels of service projects include a new information portal for commercial waste management. This is estimated to cost \$59k in 2025/26.

SW1003 - The existing RTS on Colson Road cannot accommodate the increases in waste handling and consolidation that will occur when Colson Road Landfill closes and waste requires transport to the new central landfill. The lease on the existing site is also due to expire in 2021. Stage three of project to develop the RRF at Colson Road is to construct a new RTS once the landfill is closed. The new RTS will accept both commercial/ industrial and domestic waste. Effective design that allows consolidation of waste before transportation to the central landfill will improve waste handling efficiency. The estimated cost of this project is \$2.393m in 2019/20.

SW1008 – Stage two of the development of the RRF at Colson Road is to build a new CRRC. The purpose of this facility is for the community to drop waste for reuse and recycling and to learn more about waste minimisation through education and information sharing. This will help to reduce the amount of waste being transferred to landfill and partially address the network wide solid waste consequences of growth. The design work for this project commenced in 2017/18 and will require \$2.2m to complete in 18/19.

The development of the RRF at Colson Road is shown in Figure 6.

Figure 6 RRF Development Plan



SW2007 – We plan to introduce more facilities in public places and at events to encourage and promote the collection of recyclable waste as part of our Waste Management and Minimisation Plan. An annual provision has been made from year 2020/21 onwards.

5. LIFECYCLE MANAGEMENT PLAN

The Capex forecast for level of service projects is summarised in Table 9.

Table 9 Level of service expenditure forecast summary

Waste Management and Minimisation Level of Service Expenditure Forecast (\$000)											
Activity	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	LTP Total
SW2002 - Establish Commercial and Industrial MRF	-	-	3,545	-	-	-	-	-	-	-	3,545
SW1003 – RRF Stage 3 RTS	2,393	-	-	-	-	-	-	-	-	-	2,393
SW1008 – RRF stage 2 CRRC	2,200	-	-	-	-	-	-	-	-	-	2,200
SW2004 - WMMP Priority2 - RTS Location	-	-	-	-	-	562	-	-	-	-	562
SW2005 - WMMP Priority2 - RTS additional Infrastructure	-	-	-	-	-	45	-	-	-	-	45
SW2006 - WMMP Priority2 - Information Portal for Commercial	-	-	-	-	-	-	-	59	-	-	59
SW2007 - WMMP Priority1 - Recycling in public places and at events	-	-	53	54	55	56	57	59	60	62	456
Total	4,593	-	3,598	54	55	663	57	118	60	62	9,260

5.8 Disposal Plan

Disposing of assets means retiring or selling assets when they are surplus or are superseded by new or improved systems. Assets may become surplus to requirements for any of the following reasons:

- Under-utilisation
- Obsolescence
- Provision exceeds required level of service
- Replacement before end of predicted economic life
- Uneconomic to upgrade or operate
- Policy changes
- Service provided by other means (e.g. private sector involvement)
- Potential risk of ownership (financial, environmental, legal, social)

We have no asset disposals planned over the 10 year AMP period.

6. RISK MANAGEMENT PLAN

6.1 Critical assets

Although we have yet to conduct formal criticality assessments for feature assets, the region's landfill, district RTs and the RRF are considered most critical assets for the Waste Management and Minimisation services. We will be conducting criticality assessments in the future, which will assist inspection and maintenance planning. **This is recorded as Action 1 in Section 8 – Improvement and Monitoring Plan**

6.2 Risk Assessment

Our risk assessments are conducted, recorded, managed, escalated and monitored in accordance with ECM#1479536 – Corporate Risk Management Framework – Policy & Process. A summary of how the policy and process operate and a list of the current key risks relevant to our assets is included in Section 7 of the Asset Management Strategy. The list includes risks that are applicable across all asset categories and those particular to Waste Management and Minimisation.

6.3 Infrastructure Resilience Approach

During the development of the Waste Management and Minimisation AMP, we have investigated and assessed opportunities to enhance asset resilience and included investment where appropriate.

The new central landfill combined with the initiatives for waste minimisation and recycling will provide adequate future capacity for solid waste management.



7. FINANCIAL SUMMARY

7.1 Financial Statements and Projections

The 10-year expenditure forecast for Waste Management and Minimisation assets is shown in Table 10.

Table 10 Expenditure forecast summary

Waste Management and Minimisation Expenditure Forecast (\$000)											
Activity	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	LTP Total
Personnel Costs	168	222	227	231	236	241	418	427	436	446	3,053
General Operating Expenditure	1,176	1,394	1,136	1,111	1,075	1,144	1,092	1,103	1,115	1,141	11,486
Direct Cost of Activities	7,828	10,086	9,386	9,461	9,666	9,885	10,339	10,878	11,146	11,421	100,096
Shared Services (Overhead)	2,577	2,596	2,834	2,991	3,014	3,115	3,219	3,227	3,278	3,390	30,239
Total Opex	11,749	14,297	13,582	13,794	13,991	14,385	15,068	15,635	15,975	16,398	144,874
Renewals	10,170	1,070	127	86	88	90	92	94	97	99	12,013
Service Level	4,593	-	3,598	54	55	663	57	118	60	62	9,260
Growth	-	-	-	-	-	-	-	-	-	-	-
Total Capex	14,763	1,070	3,725	140	143	753	149	212	157	161	21,273
Overall Total	24,312	15,367	17,307	13,934	14,134	15,138	15,217	15,847	16,132	16,559	163,947

7.2 Funding Strategy

This service is funded through a uniform annual charge (UAC), the sale of designated bags for excess refuse, and by user charges at RTSs and landfills. Capital improvements are funded from development reserves while the renewal and replacement of assets is funded from the Council's renewal reserves. The replacement value of Waste Management and Minimisation assets is \$9.6m.

7.3 Valuation Forecasts

The last 3-yearly statutory valuation of fixed assets was conducted in 2016. Details can be found in the Infrastructure Fixed Asset Final 2016 Certified Valuation Report (ECM#7164171). This includes the valuation methodology and a summary of the gross current replacement cost (GCRC), Optimised Depreciated Replacement Cost (ODRC or fair value) and annual depreciation for all asset categories. The 2016 valuation resulted in an increase in GCRC of approximately 2%.

8. IMPROVEMENT AND MONITORING

Our general Asset Management Maturity Improvement Plan is included in the Asset Management Strategy.

Specific areas of improvement identified generally for Waste Management and Minimisation assets are listed in Table 11.

Table 11 Improvements summary

No	Improvement Area	Owner	Start Date	End Date
1	Formal criticality assessments for feature assets have not been carried out. We plan to conduct an assessment in the future to assist inspection and maintenance planning.	Asset Operations Planning Lead	Jul-18	Jun-19
2	Not all assets have been recorded on the EAM asset inventory. We plan to fully capture the assets for consistency with other asset classes.	Asset Operations Planning Lead	Jul-18	Jun-19
3	No formal condition ratings have been conducted for Waste Management and Minimisation plant and equipment assets. We plan to conduct a formal assessment and record the results in EAM for consistency with other asset classes.	Asset Operations Planning Lead	Jul-18	Jun-19



2018-2028 WASTE MANAGEMENT AND MINIMISATION ASSET MANAGEMENT PLAN
He Rautaki Whakahaere Rawa mō Te Paranga me Te Whakaiti Paranga

WASTE MANAGEMENT AND MINIMISATION TE PARANGA ME TE WHAKAITI PARANGA

