Te Kaunihera-ā-Rohe o Ngāmotu
New Plymouth District Council

2021-2031
Waste Management and Minimisation

2021-2031: He Rautaki Whakahaere Rawa mō Te Paranga me Te Whakaiti Paranga

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1. Executive Summary

This Waste Management and Minimisation Asset Management Plan (AMP) outlines how New Plymouth District Council (NPDC or the Council) manages the assets associated with the Council's solid waste management and minimisation asset portfolio, and will contribute to the community outcomes and priorities identified in the 2021-2031 Long Term Plan (LTP). This AMP covers the period from 1 July 2021 to 30 June 2031.

While much of this Waste Management and Minimisation AMP focuses upon the next 10 years in alignment with the LTP, asset management planning tends to consider much longer timeframes. The majority of the Council's assets have lifecycles far greater than 10 years.

Waste management and minimisation assets include a Resource Recovery Facility (RRF), including a Materials Recovery Facility (MRF), Reuse Shop and the New Plymouth Refuse Transfer Station (RTS), and rural RTSs. The Council's Resource Recovery Team have information about Waste Management and Minimisation services and facilities, and about services operated on their behalf by contractors.

There are also a large number of private companies involved in the collection and diversion of waste and alternative disposal (i.e. cleanfill sites) in the district and the wider Taranaki region (the region). This makes some information more difficult to capture. Where applicable, the Resource Recovery Team use data from surveys and licencing to gain a wider understanding of district waste quantities and their destination.
The future direction and goals for waste management and minimisation are set out in the 2017 Waste Assessment Report (ECM#: 7373274) and the 2017 Waste Management and Minimisation Plan (ECM#: 7572092). These reports detail how the Resource Recovery Team will contribute to the community outcomes and priorities identified in the LTP and provide the context of this AMP.

The key objectives for the Waste Management and Minimisation Service are to:

A. Provide a mixed recycling, glass, food scraps and landfill collection service to residents and schools (recycling only) within designated areas.

B. Provide RRF and RTS for handling non-hazardous solid landfill wastes, organic waste and recyclables, both directly and in conjunction with the private sector.

C. Provide waste minimisation behaviour change and education services to the community.

D. Manage closed landfills to an environmentally acceptable standard.

E. Work towards sustainable waste management and minimisation with a goal of achieving Zero Waste and a more circular economy approach.

F. Provide a basis for customer consultation over price/quality trade-offs relating to service level options while planning for growth.

G. Provide more local infrastructure focused on waste minimisation and circular economy solutions to provide cost effective alternatives to landfilling waste for residents and the commercial sector.

Key issues for the Waste Management and Minimisation Service are detailed below:

1. Recycling contamination, particularly in kerbside collection mixed recycling bins, is very high (~25% of incoming recycling into the MRF) which is causing processing issues and higher disposal costs.
2. Recycling markets are volatile and unreliable particularly because of a reliance on international markets for secondary processing of sorted recycling material.
3. Commercial waste is the largest portion of total waste to landfill. The Council has made limited progress on reducing waste in this sector, as there is limited local infrastructure and no cost incentives to find alternatives at present.
4. Organic waste, particularly the processing of food scraps and biosolids locally is limited. The Council is currently paying to transport food scraps outside the region at additional cost and reputational risk around carbon emissions.
5. Waste levy on every tonne of waste disposed (currently $20 per tonne) to landfill will increase to $60 per tonne over the next three years, increasing the cost of landfilling waste for the community. Conversely, waste levy revenue returned to the Council will likely increase enabling a greater ability to invest in new local waste minimisation infrastructure and services.
6. Changes in legislation require upgrading/change of infrastructure.

The following Levels of Service that identify key measures and targets for waste management and minimisation services have been defined:

- Encourage districtwide waste minimisation – in 2019/20 there was a target of 10% reduction in landfill waste generated per household. The actual figure during this period was 4%.

- Comply with all resource consents related to waste management and minimisation – there were no abatement notices, infringement notices, enforcement orders, and convictions received during the 2019/20 period, thereby meeting the target.

- Ensure customers are satisfied with the Waste Management and Minimisation Service - the number of complaints about the Council's solid waste service received (per 1,000 customers) was less than the target of 3% during the 2019/20 period, being 1.92.

Managing and maintaining the Waste Management and Minimisation Service and assets is resource intensive. To sustain current Levels of Service, the existing built asset base will require baseline Operational expenditure (Opex) of approximately $130.1 million and approximately $9.4 million Capital expenditure (Capex) for renewals and Level of Service projects over the next 10 years.
Although no projects associated with growth of the district have been identified in this AMP, in addition to the demands of a growing population, one of the most significant issues for the Waste Management and Minimisation Service is the aspirational goal of 'Zero Waste'. Given the region produces more than 200,000 tonnes of waste each year with 45,000 tonnes ending up in landfill, this is a big challenge. Due to legislation

changes the cost of waste disposal is also increasing; however, the portion of the levy collected and returned to territorial authorities will increase facilitating further investment in waste minimisation initiatives and recycling infrastructure, and the expansion of the Council's assets.

As at 30 June 2019, the certified fair value of waste management and minimisation assets was approximately $6.8 million (excluding inflation).
A number of issues associated with asset management have been identified throughout this AMP. The improvement actions required over the 10 year period of the AMP have been collated. The majority of improvement actions relate to all the AMPs and are therefore included in **Section 10: Asset Management Improvement Programme** of the **Strategic Asset Management Plan**. There is one action noted in **Section 9: Improvement Plan** of this AMP, which will be monitored and actioned by the Resource Recovery Team.

2. Introduction

This Waste Management and Minimisation AMP provides an overview of how NPDC manages the assets associated with waste management and minimisation within the district. It also demonstrates how the Waste Management and Minimisation Service will contribute to the community outcomes and priorities identified in the 2021-2031 LTP.

This AMP has been developed in accordance with the planning requirements of the Local Government Act 2002 (LGA). It covers the forecast activities and expenditure for a 30 year planning period, with an emphasis on the 10 year period from 1 July 2021 to 30 June 2031. It is intended that this AMP be reviewed every year with a major update every three years prior to the LTP review process.

The Resource Recovery Team have detailed information about Waste Management and Minimisation services and facilities, and about services operated on their behalf. As such, asset ownership and responsibilities fall into the following categories:

- Council owned assets which are maintained by the Council (i.e. rural RTS assets, landfills, and the Junction building at the RRF)

- Council owned assets which are leased to contractors, and maintained by the contractor (i.e. RRF buildings – the New Plymouth RTS and MRF)

- Contractor owned assets which are maintained by the contractor (i.e. plant and processing equipment

There are also a large number of private companies involved in the collection and diversion of waste and alternative disposal (i.e. cleanfill sites) in the district and the wider region. This makes some information more difficult to capture. Where applicable, the Resource Recovery Team use data from surveys and licencing to gain a wider understanding of district waste quantities and their destination.

In assessing waste services, the Council has 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 the Council's potential role in resolving issues related to both Council and non-Council controlled waste.
A range of Council staff are involved in preparing and delivering the Waste Management and Minimisation AMP and providing support services for asset management. How these responsibilities are allocated, managed and delivered is shown in **Figure 1** in the **Strategic Asset Management Plan**. In particular, a variety of waste buildings (i.e. Waitara Transfer Station, The Junction, and the Colson Road Landfill kiosk and workshop) are managed by the Property Team on behalf of the Resource Recovery Team. Details for these buildings are included in the **Property AMP: Volume 8 (Water and Wastes Buildings)**.

The framework and key elements of the overall AMP are shown in Table 1 in the Strategic Asset Management Plan.

2.1 Asset Descriptions

Information for waste management and minimisation assets is provided below. The Waste Management and Minimisation Service does not have a high level of detail about fixed assets. There is an improvement action for data information in **Section 10: Asset Management Improvement Programme** of the **Strategic Asset Management Plan.**

Table 5 in **Section 5: Asset Management System** of the **Strategic Asset Management Plan** outlines the asset data accuracy/confidence grades. In previous AMPs, asset data accuracy/confidence for asset descriptions was determined by the Resource Recovery Team's knowledge and experience. Asset data accuracy/confidence grades have not been provided in this AMP as a more robust data quality system is needed to determine the grades more accurately. There is an improvement action for data accuracy/confidence grades in **Section 10: Asset Management Improvement Programme** of the **Strategic Asset Management Plan**.

2.1.1 Resource Recovery Facility

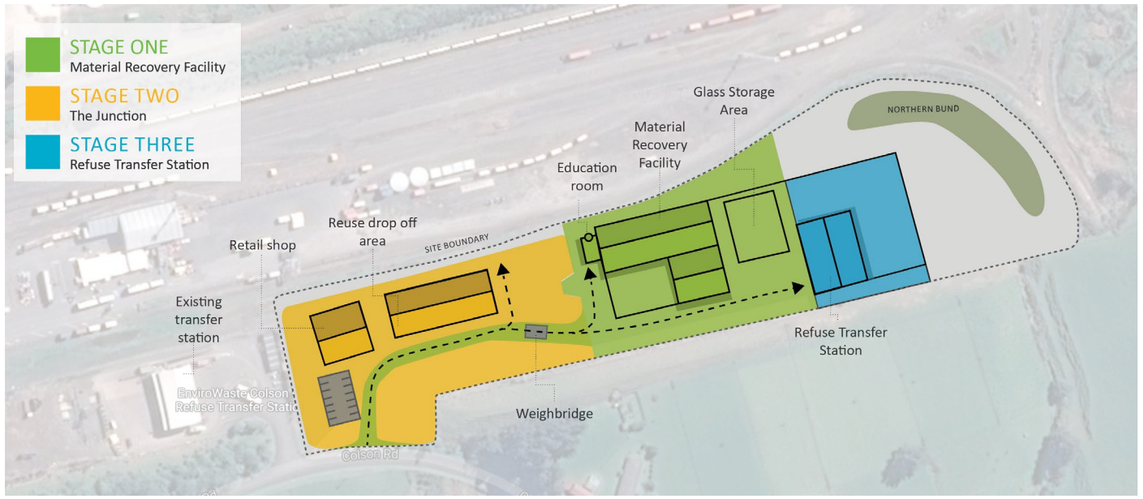
(The Junction – Zero Waste Hub)

The Junction is the Council's Zero Waste Hub and is located on Colson Road in New Plymouth. It is set up to operate as part of a RRF under NPDC's design, build and operate contract (Resource Recovery Facility Contract) with EnviroWaste Services Ltd (EnviroWaste) (see **Section 6: Lifecycle**). The Junction is comprised of a MRF, and Reuse Shop/education space. Also on the RRF site is the New Plymouth RTS.

The RRF is being developed in three stages as shown in **Figure 1** and detailed below:

- MRF and education space (completed in October 2015)
- Reuse Shop – horizontal infrastructure and temporary building (completed in March 2020)
- New Plymouth RTS (includes an existing site and a new RTS to be constructed in 2021)

Figure 1: Resource Recovery Facility (The Junction – Zero Waste Hub) Development Plan



Future potential stages include a commercial MRF and organics processing. Further information for the RRF is below:

1. Materials Recovery Facility

The MRF processes recycling collected by the region's kerbside, RTS services and from businesses. Recyclables are sorted and baled here – specifically card, paper, aluminium and steel cans, and plastic containers (grades one, two and five). Glass is also consolidated on site behind the MRF in concrete bunkers.

The MRF building houses the processing area, office, staff facilities and an education room with a viewing window to the processing area of the facility. Sustainable Taranaki is contracted by the Council to provide education services, including MRF tours and workshops, based in the education room.

2. Reuse Shop

The Reuse Shop accepts second hand items from the community and businesses for resale and/or upcycling. Reusable items are unloaded in the drop-off area for processing and either transferred to the shop to be sold or upcycled and sold. Standard recyclable products are also accepted at no charge in the drop-off area – glass (bottles and jars), paper, cardboard, plastic containers (grades one, two and five) and aluminium and steel cans.
The Reuse Shop is currently located within a temporary building. The temporary building will be replaced in the future with a permanent building. There is also a car park, paths and staff facilities in a rented portacom building beside the temporary building.

3. New Plymouth Refuse Transfer Station

The New Plymouth RTS caters for the population of New Plymouth, Bell Block and Oakura. Kerbside and rural RTS landfill waste (see Section **2.1.2 below**), alongside public and commercial landfill waste from the RTS is consolidated here and transported to Bonny Glen Landfill near Marton, now that the Colson Road Landfill has closed and no longer accepts waste (see **Section 2.1.3** below).

The Council leases 2.1ha of land located adjacent to railway sidings in an industrial area of New Plymouth City from KiwiRail and subleases it to EnviroWaste for their RTS operation. Both the original deed of operation and sublease on this land with EnviroWaste were extended to allow a new RTS to be constructed and now expire in March 2021. A new RTS, to be located on Council owned land to the east of the MRF, will be constructed in 2021. EnviroWaste will move their operation to the new site once the construction is completed.

Costs for construction of the existing RTS (to Council approved plans and specifications) have been recouped from the operator in an annual rental repaid over 20 years. The site operator (EnviroWaste) is entitled to set gate fees and retains non-council income from waste. They are subject to landfill gate fees for any landfill waste they dispose of at the Bonny Glen Landfill.

Opening days and times are advertised on the Council's website[1] and public information handouts. Further information is provided below:

- Residual waste is accepted at advertised gate charges (set by the operator)
- greenwaste is accepted at a reduced charge (set by the operator)
- E-waste is accepted for recycling for a charge (set by Council). The Council currently subsidises the cost to recycle Cathode Ray Tube televisions (CRT TVs) and monitors. E-waste is transported to E-Cycle in Auckland for dismantling and on-selling for recycling. It is anticipated that this service will move to the Reuse Shop in 2021.
- Residential household hazardous waste is accepted at no charge for the first 10kg or 10L. Commercial quantities of hazardous waste or quantities of residential hazardous waste above 10kg or 10L incur charges (set by the Operator).

The fixed assets include two Armco culverts, the kiosk, weighbridge, hazardous goods shed, canopy and pit, as well as sealed infrastructure and sewage pump station which are owned by the Council and leased to EnviroWaste.

[1] https://www.newplymouthnz.com/Residents/Your-Property/Zero-Waste-Recycling-and-Rubbish/Transfer-Stations/Transfer-Stations

2.1.2 Rural Refuse Transfer Stations

There are four rural RTSs in the district, operated by EnviroWaste under the Regional Waste Services Contract (see **Section 6: Lifecycle**), as follows:

• Inglewood (King Road)

• Okato (Hampton Road)

• Waitara (Norman Street)

• Tongaporutu (Hutiwai Road)

All rural RTS accept landfill waste, recyclables, greenwaste, whiteware and tyres. Each site allows free drop-off for the same recyclable material collected in kerbside services - glass (bottles and jars), paper, cardboard, plastic containers (grades one, two and five), and aluminium and steel cans.

Landfill waste is subject to advertised gate charges (set by the Council). Compostable greenwaste is accepted at a reduced charge (set by the Council) and standard recyclable products are accepted at no charge. Hazardous wastes and wastes requiring special treatment are prohibited from being disposed of at the rural RTSs.

Opening days and times for these facilities are advertised on the Council's website1 and in public information handouts.

Further information for the rural RTSs is below:

Inglewood and Okato rural Refuse Transfer Stations
The Inglewood and Okato rural RTSs cater respectively for the populations of Inglewood and Okato. The Inglewood rural RTS receives higher proportions of landfill waste and total volumes of waste, while the Okato rural RTS receives higher proportions of glass recycling.

Both facilities are situated on old landfill sites and are consented cleanfill sites, with provision to take municipal waste as a contingency site for local waste disposal. There is limited infrastructure at these sites, with small portable kiosks and bins for the various waste streams provided by the contractor (currently EnviroWaste), located on metal laydown areas. The Inglewood rural RTS has a retaining wall against which the bins for landfill and greenwaste are placed to allow customers easier access to the bins.

Each site has bins for landfill waste, with separate bins for co-mingled recyclables and for greenwaste. The greenwaste is transported off-site to a composting processor. The co-mingled recyclables are transported to the MRF on Colson Road. The contractor also collects and on-sells whiteware and steel.

Waitara rural Refuse Transfer Station
This is a purpose built facility to service the population of Waitara, Urenui and Onaero. Customers empty their landfill waste into a pit with an overhead canopy which is periodically cleaned up by a loader into a large skip

bin which the contactor transports to the New Plymouth RTS and then to Bonny Glen Landfill. The contractor on-sells whiteware and steel for recycling. Greenwaste is transported to a composting operation sited on spare land at the closed Colson Road Landfill. The kerbside collection contractor collects, and transports standard recyclable products to the MRF.

The Waitara rural RTS also has a separate Ag-chemical containers collection as part of a nationwide collection service.

The Waitara rural RTS contains a kiosk for the site operator and a large, open metal roof structure to shelter the waste materials disposed of at the site.

Tongaporutu rural Refuse Transfer Station
The Tongaporutu rural RTS is located across the road from a closed landfill on the edge of the Tongaporutu River. The Tongaporutu rural RTS services the area of the district north of Mount Messenger and customers are able to offload landfill waste into a skip for three hours a week, each Sunday. Due to the geographic location and the cost of transport, recycling is limited to glass. Greenwaste is collected and disposed of at the back of the site.

The site contractor (currently EnviroWaste) transports landfill waste to the New Plymouth RTS and then to the Bonny Glen Landfill. As there is no weekly kerbside collection service in the Tongaporutu village, a coin operated 'Jack Trash' unit is available. The unit is sited on reserve land at the southern end of State Highway 3/Tongaporutu River Bridge. A glass recycling pod is available next to this unit.

This site contains a canopy above the landfill disposal area and small kiosk. Given the small surrounding population, Tongaporutu rural RTS receives relatively low volumes of waste and low numbers of visitors.

2.1.3 Contingency Landfills

The Council owns three operational landfills in the district, each with consent for waste disposal:

• Colson Road Landfill – Stage 3 (New Plymouth)

• Inglewood Landfill (King Road)

• Okato Landfill (Hampton Road)

The Colson Road Landfill has an existing consent to dispose of municipal waste; however, the landfill has not received waste since the end of October 2020. The Inglewood Landfill and Okato Landfill are closed but are consented as cleanfill sites with a provision for contingency disposal in the event of an emergency.

Colson Road Landfill

Over time the Colson Road Landfill has been expanded in stages (Stages 1, 2 and 3). The old Stage 1 and 2 landfills are on the western side of the landfill. In addition to some forestry, these have been capped and grassed. Further information for the Stage 1 and 2 landfills is provided in Section 2.1.4 below.

The most recently filled area (Stage 3) was opened in May 2002, on a greenfield 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 region. In August 2019 the landfill closed to the acceptance of general waste, but remained open for special waste disposal until October 2020. Stage 3 is now closed to the acceptance of all waste but based on the design has airspace remaining should it need to be used for emergency disposal.

The Colson Road site has eight resource consents from Taranaki Regional Council (TRC), which include a total of 82 conditions. It also has a 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 New Plymouth Wastewater Treatment Plant (NPWWTP) where it is treated as trade waste alongside the district's wastewater. Resource consents will need to be amended prior to expiry in 2025 to allow contingency landfilling to occur at the site.

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 greenwaste. Stage 3 had available airspace of 115,000m3 or a design capacity for 800,000 tonnes of refuse. In October 2020 when the landfill closed for disposal of waste approximately 56,000m3 of airspace remained.

Final capping of Stage 3 is underway. A closure plan has been prepared outlining works to be undertaken to ensure that the landfill will continue to function in a safe and environmentally sound way following closure. There will be a minimum 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.
Assets at the site include leachate collection pipes and manholes, High Density Polyethylene (HDPE) liners to separate waste from the surrounding land and a landfill gas collection and flare facility. They also include significant earthworks to contour the site and form the landfill voids, silt retention ponds and a leachate pump station and rising main connected to the wastewater reticulation system. There are also utility buildings, roads, weighbridge, barrier arm, and a deodouriser reticulation and pump.

Okato Landfill

The Okato Landfill is a municipal landfill on Hampton Road, which closed in 2013 when the resource consent expired. The site acts as a contingency landfill should access to the main landfill be restricted (under three resource consents which expire in 2031). Infrastructure on site is associated with the RTS and detailed in Section 2.1.2 above. Assets include a metaled access track and a bridge to gain access to the RTS operational area.

Inglewood Landfill

Resource consent for the Inglewood Landfill on lower King Road changed in 2007, allowing the facility to dispose of cleanfill and to act as a contingency municipal landfill should the main landfill be temporally 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 resource consents expire in 2020 (a renewal application is currently in progress) and 2026. Now utilised as a RTS, infrastructure associated with this site is covered in the **Section 2.1.2** above.

2.1.4 Closed Landfills

Closed landfills are recorded as part of the Waste Management and Minimisation Service's assets because they require ongoing and regular monitoring and maintenance. The Council maintains the following closed landfills:

- Okoki Road Landfill
- Waitara Landfills (Manukorihi Road and Battiscombe Terrace)
- Oakura Landfill (McKeller Street)
- Marfell Park Landfill (Cook Street)
- Old Taranaki County Council (TCC) Landfill (Bewley Road)
- Tongaporutu Landfill (Hutiwai Road)
- Stage 1 and 2 of the Colson Road Landfill

Where applicable the Council holds TRC resource consents for these closed landfills, which include a variety of conditions. Six resource consents recognise continued leachate discharge and two allow for discharge emissions to air.

Further information is for the closed landfills is provided below:

Okoki Road Landfill
This Okoki Road Landfill was basically a trench that was filled with residual waste and periodically burnt, and 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 and the ongoing liability as a contaminated site makes the potential transfer complicated and unlikely to be resolved in the near future.

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

Waitara Landfills
The Waitara Landfill was situated on a 1.7ha parcel of land at the bottom of Manukorihi Road 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.

A second historical landfill site in Waitara, off Batticombe Terrace, is currently being eroded and an investigation is underway into what remedial works may be required.

Marfell Park Landfill
Closed in 1985, the Marfell Park Landfill site was originally the New Plymouth rubbish tip. The area was capped and is now a recreation reserve, Marfell Park, with a playground on a lower level at the northern

end. Leachate from the old landfill is captured by a sewer system, but minor amounts of leachate may be discharged via stormwater piped to the Mangaotuku Stream near Grenville Street. Tests undertaken in 2008 on 'orange' ponding water around 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. TRC conducts routine 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 recreation reserve 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 polychlorinated biphenyl or other organochlorines.

Further capping on the middle platform was undertaken in 2011 to enable an extension of the BMX facility but this facility has now been removed entirely from the recreation reserve. There are now plans to develop a new track on top of the cap through a lease with a local club.

A management plan for the site has been developed to ensure the closed landfill continues to be managed so that the cap remains in good condition.

Old Taranaki County Council Landfill
The TCC Landfill (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. NPDC are responsible for providing and maintaining these bores (site references: GDN0555, GND0556 and GND0548). To date, TRC monitoring has found no significant leachate effects or groundwater contamination.

In 2014, TRC reported 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
The Tongaporutu Landfill is on 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 proximity to the Tongaporutu River.

Colson Road Landfill
In 2004 the Environmental Commissioner deemed Stages 1 and 2 of the Colson Road Landfill closed when the resource 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.

2.1.5 Regional Central Landfill

Central Landfill is a consented landfill in the South Taranaki district for the disposal of municipal waste. It is managed under a Joint Committee Agreement between NPDC, Stratford District Council (SDC) and South Taranaki District Council (STDC). The landfill was planned to become the regional landfill once Colson Road Landfill closed. However, in 2018, the three councils put the development of this landfill on hold and entered into a contract of dispose of waste at an out of region landfill for 35 years.

NPDC is the Administering Authority for the construction and operation of the landfill, and some enabling construction works were completed on the site south of Eltham (Rotokare Road) before the project was placed on hold. The site has a completed access road and some earthworks in relation to stormwater control and the Stage 1 landfill area which have been remediated and returned to farming while the landfill is on hold. There are no other assets on the site.

The feasibility of constructing the landfill will be reviewed in 2021/22, prior to the consents lapse date in 2025, (allowing time to complete construction of the first stage before the lapse date).

2.1.6 Kerbside Collection Wheelie Bins and Crates

The kerbside collection service is provided under the current Regional Waste Services Contract by EnviroWaste, alongside rural transfer station operations, and waste services provided by SDC and STDC. The kerbside service includes the collection of mixed recyclables, glass, food scraps and landfill waste. NPDC own approximately 29,500 of each of the following types of bins and crates:

- 240 litre capacity dark green body/yellow lid wheelie bins for the mixed recyclables collection
- 60 litre capacity light blue crates for glass recycling collection
- 23 litre capacity green body and lid food scraps bin
- 140 litre capacity dark green body/red wheelie bins for landfill waste collection

The four bins are provided to each residential property located in the collection area.

2.2 Asset Information and Data

The Waste Management and Minimisation Service store and manage information and data assets in various systems, including the following:

- Enterprise Asset Management (EAM) system (part of TechnologyOne) for document management, financial management, customer information and requests, asset inventory, asset history, work order management and maintenance scheduling
- ARCGIS for spatial records with general Geographic Information Systems (GIS) viewer MILES
- RedEye for all drawings, including working drawings
- Sharepoint for the Drawing Management System (RedEye), asset data and Improvement Plan items
- CS-VUE for monitoring compliance with resource consent conditions

3. Strategic Framework

NPDC's strategic framework for the district is detailed in **Section 4: Strategic Framework** in the **Strategic Asset Management Plan**. This section of the AMP outlines the alignment of the Council's Asset Management Drivers and Objectives with the Waste Management and Minimisation Service's Objectives, key issues for the Waste Management and Minimisation Service, and the relevant statutory and regulatory requirements.

3.1 Strategic Alignment

AMPs are a key component of the strategic planning and management of the Council. The following four Asset Management Drivers have been identified to guide the Asset Management and Network Planning Team and to prioritise investment in asset infrastructure over the 10 year period of the AMP:

1. **Taking care of what we have** – We need to ensure that we invest in maintaining, renewing or replacing our existing asset infrastructure to preserve and extend their useful life.

2. **Resilience and responding to climate change** – As we build new assets and renew our existing infrastructure we must ensure that we build in resilience to issues from natural hazards including, volcanic and seismic activity, sea level rise, coastal erosion, flooding events and droughts along with the consideration of the predictions of climate change.

3. **Planning for growth** – Our district will continue to grow and it is important that we manage that growth and provide the infrastructure in the appropriate areas to support new housing and employment areas.

4. **Meeting the needs of our community and reducing our impact on the environment** – As our community grows and changes we need to ensure that our infrastructure responds to those changing needs and that we also respond to increasing standards to support public health and environmental protection.

These four drivers of decision making have been translated into specific Asset Management Objectives as shown in Table 1.

Table 1: Asset Management Drivers and Objectives

Taking care of what we have	Resilience and responding to climate change
Taking care of infrastructure assets means: We understand that asset data and evidence based decision making are critical to optimising costs and maximising the value our services bring to our customers We protect and enhance public health by providing quality services We own and operate infrastructure that is safe for our staff, suppliers and customers	**Resilience of assets means:** Our infrastructure protects and enhances our built environment and creates amenity value We provide reliable services and infrastructure that is resilient to natural hazards and adapts to climate change We provide system redundancy and emergency back up systems to our critical infrastructure
Planning for growth	**Meeting the needs of our community and reducing our impact on the environment**
Planning and providing for growth means: We work in partnership with Tangata Whenua when we plan for our infrastructure Our infrastructure is an enabler for economic activity and future growth We educate our community so they can make informed choices about how they use our services and manage demand on our infrastructure and services	**Meeting the needs of our community and reducing our impact on the environment means:** We manage the consumption of energy and associated greenhouse gas emissions to mitigate our impact on climate change. We protect and restore the health of our natural environment. We manage the use of resources in a sustainable way, minimising waste and seek out opportunities to use wastes as a resource to be reused or recycled

Details for the key Waste Management and Minimisation Service Objectives and the alignment of these to the Asset Management Drivers and Objectives are provided in Table 2.

Table 2: Alignment of Asset Management Drivers and Objectives, and Waste Management and Minimisation Service Objectives

Waste Management and Minimisation Service Objectives	Asset Management Drivers			
	1. Taking care of what we have	2. Resilience and responding to climate change	3. Planning for growth	4. Meeting the needs of our community and reducing our impact on the environment
A. Provide a recycling, food scraps and landfill collection service to residents and schools within designated areas	✓	✓	✓	✓
B. Provide RRF and RTS for handling non-hazardous solid landfill wastes, organic waste and recyclables, both directly and in conjunction with the private sector	✓	✓	✓	✓
C. Provide waste minimisation behaviour change and education services to the community	✓	✓	✓	✓
D. Manage closed landfills to an environmentally acceptable standard	✓	✓	✓	✓
E. Work towards sustainable waste management and minimisation with a goal of achieving Zero Waste and a more circular economy approach	✓	✓	✓	✓
F. Provide a basis for customer consultation over price/quality trade-offs relating to service level options while planning for growth	✓	✓	✓	✓
G. Provide more local infrastructure focused on waste minimisation and circular economy solutions to provide cost effective alternatives to landfilling waste for residents and the commercial sector.	✓	✓	✓	✓

3.2 Key Issues for the Waste Management and Minimisation Service

Key issues for the Waste Management and Minimisation Service are detailed below:

1. Recycling contamination particularly in kerbside collection mixed recycling bins is very high (~25% of incoming recycling into the MRF) which is causing processing issues and higher disposal costs.

2. Recycling markets are volatile and unreliable particularly because of a reliance on international markets for secondary processing of sorted recycling material.

3. Commercial waste is the largest portion of total waste to landfill. The Council has made limited progress on reducing waste in this sector, as there is limited local infrastructure and no cost incentives to find alternatives at present.

4. waste, particularly the processing of food scraps and biosolids locally is limited. The Council is currently paying to transport food scraps outside the region at additional cost and reputational risk around carbon emissions.

5. Waste levy on every tonne of waste disposed (currently $20 per tonne) to landfill will increase to $60 per tonne over the next three years, increasing the cost of landfilling waste for the community. Conversely, waste levy revenue returned to the Council will likely increase enabling a greater ability to invest in new local waste minimisation infrastructure and services.

6. Changes in legislation require upgrading/change of infrastructure.

3.3 Statutory and Regulatory Requirements

There is a range of legislation relating to Waste Management and Minimisation services. These are detailed in **Figure 2**. Of primary importance is the *Waste Minimisation Act 2008.*

Figure 2: Legislative requirements

New Zealand Waste Strategy					
Legislative Framework					
Waste Minimisation Act 2008	**Local Government Act 2002**	**Hazardous Substances and new Organisms Act 1996**	**Cliemate 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 reginoal plans and resource consents	Ministry guideline codes of practice and voluntary initiative
Waste Minimisation Fund					
Product Stewardship					
Other Regulations					

Details for the legislation identified in **Figure 2** *and other documents relevant for waste management and minimisation assets are provided in* **Table 3***.*

Table 3: Relevant legislation and other documents for the Waste Management and Minimisation AMP

Document ***Legislation***	Relevance to the Waste Management and Minimisation AMP
Waste Minimisation Act 2008 and Amendments	This Act is aimed at reducing the amount of waste generated and disposed of in New Zealand (NZ). Its purpose is to protect the environment from harm and to provide economic, social and cultural benefits for NZ. 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 The Act encourages reduction, re-use, recycling and recovery. It also aims to benefit the economy by encouraging better use of materials throughout the product lifecycle, which promotes domestic reprocessing of recovered materials and provides more employment. Under the Act, NPDC are required to develop and adopt a Waste Management and Minimisation Plan that takes into consideration the goals of the NZ Waste Strategy 2010.
LGA 2002 and Amendments	This Act sets the statutory requirements for local governments and includes the mandatory preparation and adoption of a 30 year Infrastructure Strategy that underpins each LTP. The Act empowers councils to promote the wellbeing of communities. Waste collection and disposal is identified as a core service to be considered by a local authority.
Hazardous Substances and New Organisms Act 1996 and Amendments	This Act protects the environment, and the health and safety of people and communities, by preventing or managing the adverse effects of hazardous substances and new organisms

Document *Legislation*	Relevance to the Waste Management and Minimisation AMP
Resource Management Act 1991 and Amendments (RMA)	This is the primary legislation dealing with the management of natural and physical resources. It provides a national framework to manage land, air, water and soil resources, the coast, subdivision and the control of pollution, contaminants and hazardous substances. This Act addresses Waste Management and Minimisation activities through controls on the environmental effects of waste activities.
Litter Act 1979 and Amendments	This Act was established to make better provision for the abatement and control of litter. The Act is a basic mechanism for local government to prevent littering. The functions of the Act include: • Establishing enforcement officers and litter wardens who may issue fines and abatement notices for litter offences • Allowing territorial authorities to force the removal of litter • Allowing public authorities to make by-laws pursuant to the provisions of the Act
Climate Change Response Act 2002 and Amendments	This Act put in place a legal framework to allow NZ to ratify the Kyoto Protocol and to meet its obligations under the United Nations Framework Convention on Climate Change. This Act also enables the New Zealand Emissions Trading Scheme (NZ ETS). Operators of disposal facilities have specific obligations under the NZ ETS.
Health Act 1956 and Amendments	This Act sets out the powers and duties of local authorities. Subject to the provisions of this Act, it is the duty of local authorities to improve, promote, and protect public health within its district. Under Section 25 of this Act 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.
Health and Safety at Work Act 2015 and Amendments	The objective of this Act is to promote the prevention of harm to all people at work, and others in, or in the vicinity of, places of work. Health and safety is recognised as a key priority for the waste industry. A health and safety industry sector group has developed guidelines for the waste industry to ensure best practice in health and safety.

Document *Other Documents*	Relevance to the Waste Management and Minimisation AMP
Health and Safety at Work (Hazardous Substances) Regulations 2017	These regulations address the management of substances that pose a significant risk to the environment and/or human health, from manufacture to disposal. In terms of waste, they primarily control handling and disposal of hazardous substances.
NZ Waste Strategy 2010	This Strategy outlines the Government's high-level strategic direction for waste management and minimisation in NZ and has two high level goals: • Reducing the harmful effects of waste; and • Improving the efficiency of resource use.
Waste Management and Minimisation Plan (2017-2023) (ECM#: 7572092)	This Plan is the Council's strategy to deliver an effective, efficient service for the six year period between 2017 and 2023. It sets out the Council's vision, objectives and targets, and details how they will be accomplished and funded, in line with an overarching aim to achieve Zero Waste. **The key goals are to:** • Maximise opportunities to reduce levels of waste sent to the landfill • Reduce the harmful and costly effects of waste • Improve efficiency of resource use **To reach those goals, the Council will focus on:** • Achieving behaviour change • Developing collaboration and partnerships • Showing leadership and innovation • Providing accessible services and facilities
Waste Management and Minimisation Strategy for Taranaki 2016	This Strategy sets out a strategic framework by which TRC and three territorial authorities (NPDC, SDC and STDC) will help reduce and better manage waste in Taranaki for a 10 year period (2011-2021). Details of how this Strategy will be implemented in New Plymouth are set out in the Waste Management and Minimisation Plan (ECM#: 7572092).
Operative New Plymouth District Plan (2005) and Proposed District Plan (2019)	The District Plan includes objectives, policies and rules that manage the adverse effects of activities on the environment with a focus on land use and subdivision activities.

Document	Relevance to the Waste Management and Minimisation AMP
Other Documents	
Regional Policy Statement for Taranaki 2010	The purpose of this document is to promote the sustainable management of natural and physical resources in the region by providing an overview of the resource management issues of the region, and to identify policies and methods to achieve integrated management of the natural and physical resources of the whole region.
Regional Air Quality Plan for Taranaki 2011	This document sets out the strategic direction that the Council and the wider community will take to promote the sustainable management of natural and physical resources insofar as these resources are affected by discharges to air. It also sets out the strategic direction for integrated management in the region between TRC and the three district councils (NPDC, SDC and STDC).
Regional Fresh Water Plan 2001 (amended in 2018)	The purpose of this Plan is to assist TRC to promote the sustainable management of the fresh water resources of the region.
Regional Soil Plan 2001 (amended in 2018)	The purpose of this Plan is to assist TRC to carry out its soil conservation functions under the RMA.
Resource Management (National Environmental Standards for Air Quality) Regulations 2004 (Air Quality NES)	The Air Quality NES are regulations made under the RMA. They aim to set a guaranteed minimum level of health protection. The Air Quality NES include controls for landfills with a total capacity of one million tonnes or more, containing 200,000 tonnes of waste or more, and accepting waste likely to consist of 5% or more (by weight) of putrescible or biodegradable matter. The discharge of gas to air from a landfill is prohibited unless certain criteria are met.
Resource Management (National Environmental Standards for Freshwater) Regulations 2020 (Freshwater NES)	The Freshwater NES regulates activities that pose risks to the health of freshwater and freshwater ecosystems.
Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NESCS)	The NESCS is a nationally consistent set of planning controls and soil contaminant values. It ensures that land affected by contaminants in soil is appropriately identified and assessed before it is developed - and if necessary the land is remediated or the contaminants contained to make the land safe for human use.
NPDC Waste Management and Minimisation Bylaw (2019)	The Council implements this Bylaw, which regulates waste collection and disposal, including recycling, ownership of the waste stream, waste storage and waste management, and defines rules or controls regarding the Council's waste services and licencing of waste contractors to ensure these activities do not have significant impact on the environmental or public health.
Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (1989)	This international agreement aims to reduce the amount of waste produced by signatories. It also regulates the international traffic in hazardous wastes especially to developing countries.

4 Levels of Service

The Waste Management and Minimisation Service's Levels of Service are driven by the overall Zero Waste service objective, the overall service objectives in the LTP, by customer expectations, and by legislative and technical requirements. The Capex and Opex investment programmes included in this AMP are based on effective asset management practices that deliver on these objectives, expectations and requirements.

4.1 Customer Levels of Service

The Customer Levels of Service included in the LTP together with target levels and a snapshot of past performance are shown in Table 4. The alignment of the Levels of Service to the Asset Management Drivers and Objectives are also shown in the table.

Table 4: Customer Levels of Service

Asset Management Driver	Waste Management and Minimisation Services objective	What you can expect	How we measure performance	Actual 2019/20		By 2021/22	By 2022/23	By 2023/24	By 2030/31
4	A, B, C, E and G	Encourage districtwide waste minimisation.	The reduction in total landfill waste generated per capita in the district (measured as a year on year percentage).	New measure		1%	5%	10%	5%
			The reduction in landfill waste generated per household (measured as a year on year percentage).	4% (target 10%)		5%	5%	5%	5%
4	D	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
4	C, F and G	Ensure 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).	1.92		2 or less	2 or less	2 or less	2 or less

4.2 Technical Levels of Service

TRC imposes Technical Level of Service parameters on waste activities in terms of complying with regional plans and resource consents. Details for resource consents can be found on the Council's Intranet Page - Resource Consents. The Waste Management and Minimisation Service's consented activities relate to discharges to land, water and air associated with landfills and RTSs. Consent conditions are monitored regularly by Council staff via CS-VUE.

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 the Waste Management and Minimisation Plan (2017 (ECM#: 7572092)).

4.3 Level of Service Projects

To ensure the Waste Management and Minimisation Service meets community expectations, a number of projects have been identified to improve and maintain Levels of Service over the 10 year period of the AMP. The Waste Management and Minimisation Service also has a number of general initiatives, plans and projects planned over the period of the AMP.

The Level of Service Projects are listed in **Table 5**. The alignment of each project to the Asset Management Drivers and Key Issues for the Waste Management and Minimisation Service is also identified (see **Section 3: Strategic Framework**).

Table 5: Level of Service Projects

Project Budget Code	Project Description	Asset Management Driver	Key Issue
SW2002	Establish Commercial and Industrial MRF	4	3
SW2004	Rural Transfer Station Improvements	4	6
SW3001	Historic Landfill Erosion Protection	4	6
SW3002	Organic Waste Processing Facility	2 and 4	4
SW3004	Public Place Recycling Bin Stations	4	6
SW3005	Construction of the Junction Permanent Building	4	6
SW3006	Waste Reporting - Business Intelligence Project	4	6

Key: = Strategic Projects (see Section 4: Strategic Framework of the Strategic Asset Management Plan)

Details for key Level of Service Projects are provided below:

SW2002: Establish Commercial and Industrial MRF

As detailed in the Waste Management and Minimisation Plan (ECM#: 7572092), the greatest proportion of waste going to landfill in the district is commercial, so managing this waste stream is a priority for the Resource Recovery Team. If the Council is to achieve Zero Waste, infrastructure is needed 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. A detailed business case is currently underway to determine the operating model, economic feasibility and infrastructure required.

SW3002: Organic Waste Processing Facility

An organic waste processing facility would provide a local solution to process organic waste diverting this from landfill within the commercial sector, as well as a local option for processing food scraps from kerbside collection, providing environmental benefits by recovering waste and beneficially reusing it. This project would be undertaken in collaboration with the two other district councils (SDC and STDC) as a regional facility. A feasibility study is required to determine the best methodology and most appropriate location for the facility.

SW3005: Construction of the Junction Permanent Building

The Junction site is only partially developed. In order to optimise the waste minimisation and community engagement opportunities of this site, the current temporary tent building needs to be replaced with a permanent, larger building to enable expanded facilities and services, including enhanced storage and shop space, and a multi-purpose, multi-partner workshop space which allows both the shop operator and residents to repair and upcycle, and ultimately create business incubation. The temporary tent building is not water tight which has resulted in stock being disposed to landfill which would otherwise be sold.

The detailed design work for the permanent building has been completed. The building will provide a workshop space (Stage 1) and a cafe/business incubation area (Stage 2) to increase the upcycling and repair functions and allow waste minimisation businesses start up support in a supportive hub.

The Capex forecast for the Level of Service Projects over the 10 year period of the AMP is shown in **Table 11** in **Section 8: Financial Summary**.

5 Future Demand

Asset management planning relies on forecasts and the identification of other factors, such as growth and age of the population to understand the demand on waste management and minimisation assets. As detailed in Section 3: The New Plymouth District and the Taranaki Region of the Strategic Asset Management Plan, the Council's latest growth projections were developed in April 2020 and cover the period 2018 to 2051. The growth projections indicate that the district will grow by almost 25% by 2051 (from a population of 86,504 in 2021 to 104,129 in 2051). The age profile within the district is also changing and it is anticipated that there will be an increase in the number of people aged 65 and over, from 19% (16,651) of the total population in 2021, to approximately 27% (28,256) in 2051. The growth projections indicate that there will be an increasing demand for housing and infrastructure in the district.

In addition to the demands of a growing population, one of the most significant issues for the Waste Management and Minimisation Service is the aspirational goal of Zero Waste. Given the region produces more than 200,000 tonnes of waste each year with 45,000 tonnes ending up in landfill, this is a big challenge.

The Government is implementing legislation changes that will result in an increase in the landfill waste levy for municipal landfills (currently $10 per tonne) and expansion to a wider range of landfill types. This will increase the cost of waste disposal. Alongside this, the portion of the levy collected and returned to territorial authorities will increase facilitating further investment in waste minimisation initiatives and recycling infrastructure. This is likely to see an expansion of the Council's waste minimisation services and infrastructure.

The Government's principal policy response to climate change – the NZ ETS – also impacts this service. The 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. The current market prices for a carbon unit are $34 (September 2020); however, the landfill where Council waste is disposed (Bonny Glen Landfill near Marton) has a gas management system partially reducing the ETS costs.

International policy such as China's 'National Sword', has tightened acceptance criteria for imported recyclable bales, which has impacted on the international commodity markets for mixed paper and mixed plastics. This has already resulted in a change to the types of plastics that can be recycled in the kerbside collection and RTS recycling services (now limited to grades one, two and five). The change to international recycling markets has already initiated a number of work streams nationally in NZ and will likely result in an investment plan for more local (NZ based) recycling infrastructure, standardising kerbside collection systems nationally, mandatory priority products (six waste streams have recently been confirmed as priority products), container return schemes and the banning of certain materials such as plastic bags. This also has implications for Waste Management and Minimisation services, including the sorting and baling processes at the MRF, how kerbside collection services will evolve, and the provision of more cost effective options for recycling difficult wastes (i.e. tyres, E-waste and agricultural containers).

The Waste Management and Minimisation Service currently has limited reuse and recycling infrastructure for commercially generated waste streams, including for the construction industry. This waste stream makes up 60% of the waste to landfill in the region, and with a link between economic growth and waste volumes, the service will need to facilitate or provide cost effective reuse and recycling infrastructure to further progress the Zero Waste goal.

The Council's research shows that communities in the district value the Zero Waste goal and would like it to remain a Council focus particularly in relation to reduction and reuse, a more circular economy approach and the provision for services that will support the commercial and industrial sector to reduce waste to landfill. Feedback on the kerbside collection service is mainly around its accessibility for the elderly, local composting options for food scraps and education on what to recycle. There was also some desire for inorganic collections, E-waste recycling, and commercial collection services. Further investigation into the feasibility of an organic waste processing facility for the region to compost with food scraps and some industrial organic wastes may be required.

5.1 Trends in Waste and Recycling Volumes

The number of households in the district who receive the kerbside collection service has steadily increased over time as demonstrated in Figure 3 and a greater portion of waste is now diverted to recycling or composting with the new services introduced in 2015 and 2019.

Total volumes (waste + recycling) have increased in line with the growth in households using the service and it is anticipated that this will continue with forecast population growth.

Figure 3: Trends in the number of households receiving the kerbside collection and recycling services (2010-2021)

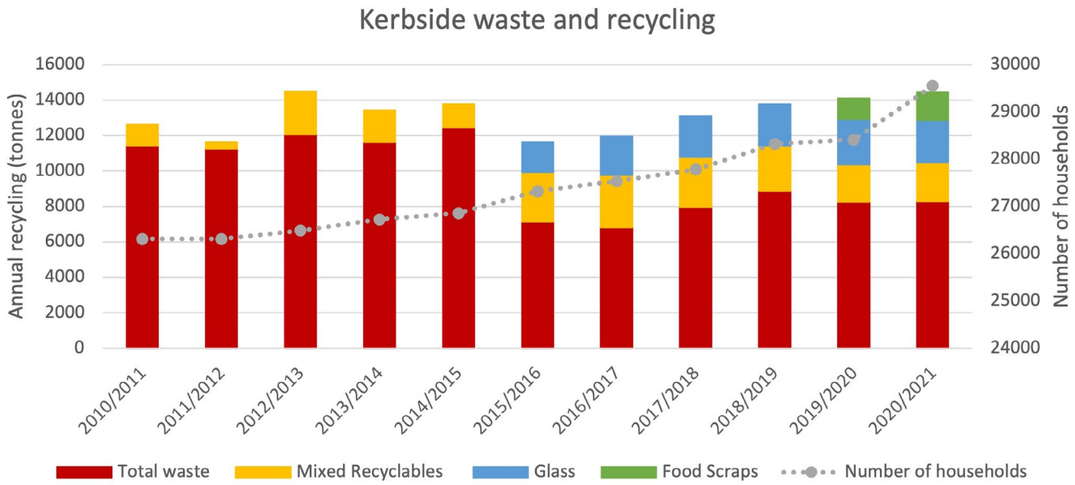
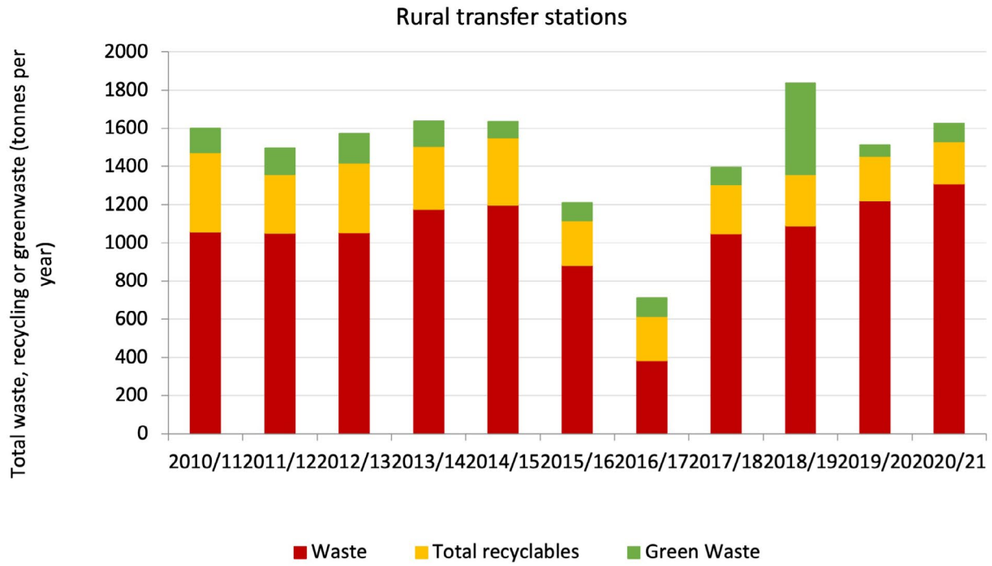


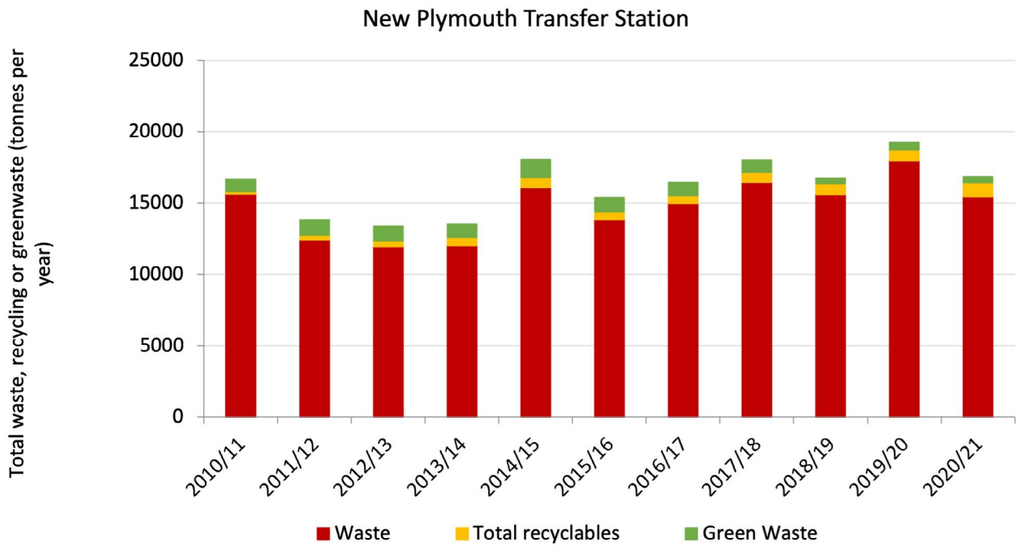
Figure 4 shows that waste and recycling from rural RTSs has been variable with no clear trends. The last three years has seen an increasing trend in landfill waste possibly due to the lower gate fees compared to the New Plymouth RTS, while recycling has reduced slightly. As rural RTSs are designed for domestic volumes of waste, mechanisms to ensure only domestic waste is accepted will be needed to manage demand (i.e. aligning fees with the New Plymouth RTS and restricting larger landfill waste loads).

Figure 4: Annual landfill waste, recycling and greenwaste from rural Refuse Transfer Stations (2010 – 2021)



The relative quantities of landfill waste, greenwaste and recycling (tonnes) at the New Plymouth RTS since 2010/11 illustrated in Figure 5 also show a variable waste volume year on year. However, there is an increasing trend in landfill waste, particularly in 2019/20 when the Colson Road Landfill closed resulting in more waste being handled through the transfer station for bulk haulage to Bonny Glen Landfill. Infrastructure to handle increasing waste volumes should be well catered for with the construction of a new RTS and the establishment of a commercial and industrial waste sorting facility.

Figure 5: Annual landfill waste, greenwaste and recycling tonnage at the New Plymouth Refuse Transfer Station



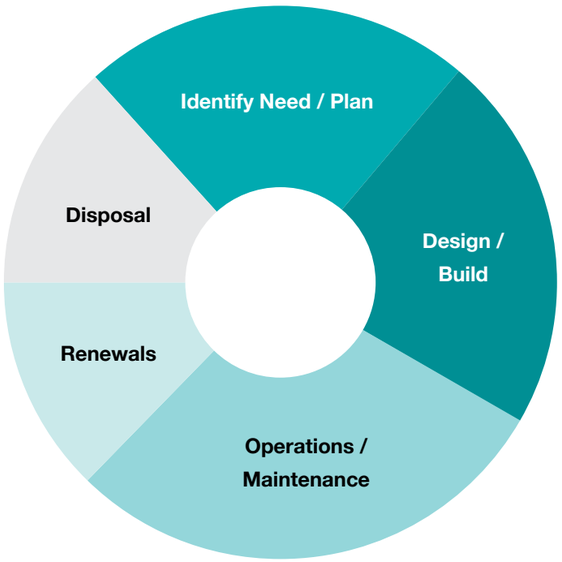
5.2 General Growth Projects

The Waste Management and Minimisation Service has no growth projects planned for the 10 year period of the AMP.

6 Lifecycle

The lifecycle of an asset has five main stages as shown in **Figure 6**. A general overview of how the Council manages these stages is included in **Section 7: Asset Lifecycle** of the **Strategic Asset Management Plan**.

Figure 6: Asset lifecycle



Information about the lifecycle management of waste management and minimisation assets is provided below.

6.1 Identify Need and Plan

The Waste Management and Minimisation Service plans to construct the following assets during the 10 year period of the AMP:

- New Plymouth RTS - construction of the new site is currently underway
- Commercial and Industrial MRF (Project: SW2002)
- The Junction permanent building (Project: SW3005)
- Central Landfill construction (if a decision to restart the project is made)

6.1.1 Asset Condition

Table 6 in **Section 7: Asset Lifecycle** of the **Strategic Asset Management Plan** outlines the condition grades for assets. In previous AMPs, asset condition was determined by the Resource Recovery Team's knowledge and experience. Condition grades for assets have been provided in this AMP, based on the Resource Recovery Team's knowledge and experience; however, a more robust data quality system is needed to determine the grades more accurately. There is an improvement action for asset condition data in **Section 10: Asset Management Improvement Programme** of the **Strategic Asset Management Plan**.

Generally plant and equipment assets are owned by contractors and are not Council assets. Available information for Waste Management and Minimisation buildings, plant and equipment assets is detailed below:

Materials Recovery Facility

The MRF was constructed in 2015 and is in very Good Condition (Grade 2).

Reuse Shop

This temporary facility was constructed in 2020 and is in very Good Condition (Grade 2).

New Plymouth Refuse Transfer Station

The existing facility was constructed in 2001. Further assessment of the condition of this site is planned as part of the feasibility work for a commercial and industrial MRF (**Project: SW2002**).

Rural Refuse Transfer Stations

Site inspections indicate that rural RTSs are in a generally Average Condition (Grade 3) but in good working order, with all facilities being less than 25 years old.

Council owned buildings at the Waitara rural RTS are covered in the Property AMP: Volume 8 – Water and Wastes Buildings.

Landfill Sites

The condition of landfill sites is detailed below:

- Colson Road Landfill is in Good Condition (Grade 2) and generally compliant with resource consents for the discharge of leachate, landfill gas, dust, odour and waste management. However, Stage 2 of the Colson Road Landfill requires some significant cap repair work, after the thickness of the cap was found to be non-compliant (too thin) in 2018.
- Stage 3 of the Colson Road Landfill is currently being capped after closing for the acceptance of waste in October 2020. Additional works to construct final stormwater drainage following closure will also be undertaken over the next two years. The access road is currently in poor condition and will require some repair work to enable access for the composting area (consented until 2025) and ongoing maintenance of the whole site. It is anticipated that there will be a reasonable level of cap maintenance required in the next five years as the landfill settles to ensure a non-ponding contour is maintained.
- Groundwater monitoring bores will require maintenance to enable monitoring to be continued after closure and a review of monitoring requirements post closure is currently being undertaken. Recent increasing trends in some water quality parameters in the underliner drainage indicates there is a leak in the landfill liner. Further investigation is currently underway to determine whether this has extended into surrounding groundwater and what, if any remediation work is required.
- The Stage 3 area of the Colson Road Landfill has some air space remaining that could be used for contingency waste disposal should the main landfill at Bonny Glen become unavailable for waste disposal for a significant period. Resource consents will need to be varied or renewed to provide this contingency landfilling option long term.
- The landfill gas flare (installed in 2018) is in Good Condition (Grade 2) but requires regular ongoing maintenance. The deodoriser system has recently been replaced and is now in good operating condition. The leachate pump station is in Good Condition (Grade 2).
- Landfills are generally in Good Condition (Grade 2) and most no longer require significant active monitoring by TRC. Following the exposure of an old landfill on the West Coast of the South Island due to erosion, a risk assessment of historic landfill sites in the district has been undertaken which has identified a selection of closed landfill sites that require further condition assessments and or remedial work due to erosion. A project is currently underway to determine what further work is required to reduce the risk of erosion and subsequent environmental impact (**Project: SW3001**).

Kerbside Collection Wheelie Bins and Crates

Recycling bins and glass crates were purchased new in 2015, and landfill and food scraps bins were purchased in 2019. These assets are considered to be in Good Condition (Grade 2). The manufacturer of the bins provides a standard warranty on its products for the term of up to five years.

The food scraps bins and glass crates are more likely to get damaged or lost due to having a lighter weight and are susceptible to theft or alternative uses. The handles on the food scraps bins are fragile and prone to damage after extensive or rough handling; therefore, the food scraps bins and glass crates need to be replaced more frequently than the recycling and landfill bins. Wheelie bins can also be repaired easily, as the damage usually pertains to the lids, which mainly occurs during collection or in adverse weather conditions.

6.1.2 Asset Remaining Lives

Information on the Remaining Useful Life (RUL) of the buildings associated with waste management and minimisation assets can be found in the **Property AMP: Volume 8 – Water and Waste Buildings**.

As noted in **Section 6.1.1** above, the kerbside wheelie bins and crates were purchased in 2015 and 2019 and have an estimated useful life of nine years.

6.1.3 Critical Assets

There is currently no definition for critical assets; however, although the Waste Management and Minimisation Service has yet to conduct formal criticality assessments for waste management and minimisation assets, the Central Landfill, rural RTSs and The Junction and RRF are considered to be the most critical assets for this service. Criticality assessments will be conducted in the future, which will assist inspection and maintenance planning.

Table 7 in **Section 7: Asset Lifecycle** of the **Strategic Asset Management Plan** outlines the criticality ratings for assets. No criticality ratings have been provided for assets in this AMP as a robust data quality system is needed to determine the ratings more accurately. There is an improvement action for criticality ratings for assets in **Section 10: Asset Management Improvement Programme** of the **Strategic Asset Management Plan**.

6.2 Design and Build

As noted in **Section 2.1.1**, the RRF is operated as a design, build and operate contract, with EnviroWaste designing and building the various stages of the facility development between 2015 and 2021. Buildings and site improvements are owned by the Council, but leased to EnviroWaste throughout the term of the 21 year contract.

At the end of the contract, the plant and buildings will be handed back to the Council. The Junction Reuse Shop has been separated from the rest of the site in this contract, and has been designed and built by the Council.

6.3 Operations and Maintenance

Specific operations and maintenance activities for the Waste Managememt and Minimisation Service are detailed below:

6.3.1 Refuse Transfer Station Maintenance

New Plymouth Refuse Transfer Station/Resource Recovery Facility
The Resource Recovery Team own the buildings of the existing New Plymouth RTS and the RRF but all plant, equipment, and signage (non-fixed assets) is owned and maintained by the site operator. The Council maintain the front end of the facility (The Junction Reuse Shop) 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.

EnviroWaste is contracted to operate the MRF, leasing the building from the Council, and own the processing plant and equipment. The access road, weighbridge, sealed areas around the MRF and firefighting infrastructure are included in the EnviroWaste lease area.

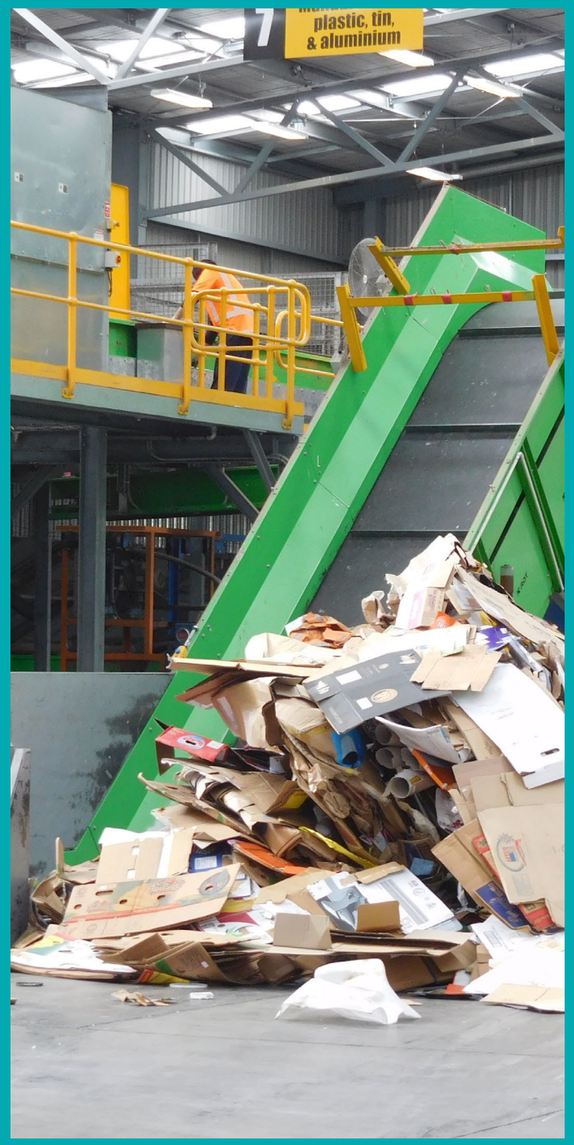
The RRF buildings and infrastructure that are leased to EnviroWaste (New Plymouth RTS and MRF) are maintained by EnviroWaste under the Resource Recovery Facility Contract.

EnviroWaste have supplied a maintenance plan which will be audited and monitored by NPDC. The Resource Recovery Team will facilitate the monitoring of maintenance in accordance with this plan, with guidance from the Property Team.

Operation of the Reuse Shop is contracted to Waitara Initiatives Supporting Employment Charitable Trust (WISE). WISE also leases the Reuse Shop from the Council. The Council is responsible for maintenance of the facility. Recycling bins in the drop off area are serviced and maintained by EnviroWaste. As noted in **Section 2.1.1** the education room at the MRF is leased to Sustainable Taranaki, who offer tours, workshops and other behaviour change and education initiatives under a contract with the Council.

Rural Refuse Transfer Stations
The rural RTSs are currently operated by EnviroWaste as part of the Regional Waste Services Contract, who also undertake general site upkeep and tidiness. The maintenance of accessways, and significant landscaping and other maintenance is managed by the Resource Recovery Team; however, the work is undertaken by contractors under the Transportation Service's Term Services Contract (RM1901).

The laydown areas at the Inglewood and Okato rural RTSs are unsealed metal and require regular maintenance to ensure a useable area with good drainage is provided. There are no permanent structures at these sites, except a small retaining wall at Inglewood RTS; however, these rural RTSs have scheduled six monthly maintenance programmes, involving the site upkeep around drainage, fencing, driveway maintenance, and pest plant removal. The sealed access road at Inglewood rural RTS had significant maintenance work undertaken in 2020, which should extend the life of the sealed section road for five years. The landfill caps at these sites also require regular weed control to ensure the integrity of the cap is maintained.



Since 1 October 2006, the Waitara rural RTS has been operated under the Regional Waste Services Contract. The kiosk and shelter structure at the Waitara rural RTS are regularly inspected by the Property Team. Wider site upkeep, such as landscaping and driveway maintenance, are undertaken on an as-required basis by contractors under the Term Services Contract. Fences at the Waitara rural RTS require upkeep to provide security.

The rural RTS maintenance programmes are 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, and fencing). Rural RTS contractors conduct general maintenance work (i.e. lawn mowing, and minor work) on a time/materials basis with rates outlined in the contracts.

6.3.2 Contingency Landfills

The Resource Recovery Team complete landfill maintenance on an as required basis, which is funded from an annually budgeted account. Specific maintenance work is completed by specialist contractors (i.e. plumbing and drainage, landscaping, building repair, roading and 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.

6.3.3 Closed Landfills

Closed landfills are managed in the same way as contingency landfills. Further information for the closed landfill sites is provided below:

Colson Road Landfill Stages 1, 2, and 3
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 consent and designation conditions
- maintenance of the landfill gas collection and flare facility
- Site maintenance (roading and building utilities)
- Plant and equipment maintenance

The Council manages the leachate pump station at the Colson Road Landfill in the same way wastewater pump stations are managed. The leachate pump station is managed by the Three Waters Team. For details, see the **Wastewater AMP: Volume 2 – Pump Stations**.

All other major closed landfill sites (Waitara, Marfell Park and the old TCC Depot) are sampled on a regular basis as determined by TRC monitoring requirements. Specific planned operations and maintenance activities per closed landfill sites are listed below. The Resource Recovery Team periodically inspect other closed landfills to determine ongoing maintenance requirements.

NPDC will be undertaking a risk assessment for some closed landfills sites that have been identified as areas subject to erosion (Project: SW3001). This project will provide information around the risks associated with the potential erosion of these sites and to develop rehabilitation options for two coastal sites in Waitara, where landfill materials have been exposed by coastal erosion.

Okoki Road, Oakura, Waitara and Tongaporutu Landfills
The Parks and Open Spaces Team maintain the road fence and upkeep the vegetation, i.e. gorse spraying etc.

Marfell Park Landfill
The Parks and Open Spaces Team maintain the vegetation, the Resource Recovery Team maintain the landfill cap and the Three Waters Team maintain sewerage lines that remove leachate from the landfill. The Council also responds to public queries about the site and investigate complaints.

As noted in **Section 2: Introduction**, a management plan for the site has been developed to ensure the closed landfill continues to be managed to ensure the cap remains in good condition.

Old Taranaki County Council Landfill
The Resource Recovery Team maintain the three ground monitoring bores (site references: GDN0555, GND0556, and GND0548) on the site.

6.3.4 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.

6.3.5 Opex Projects

Opex is allocated for scheduled and routine maintenance of waste management and minimisation assets (see **Table 10** in **Section 8: Financial Summary**). There are no specific Opex Projects for waste management and minimisation assets; however, **Table 6** shows the Opex Projects that are related to the Capex Projects, which are planned during the 10 year period of the AMP.

These projects have seed funding allocated for the initial planning stage and/or when the project is completed.

The alignment of each project to the Asset Management Drivers and Key Issues for the Waste Management and Minimisation Service (see **Section 3: Strategic Framework**) is also identified.

Table 6: Opex Projects that are related to Capex Projects

Project Budget Code	Project Budget Code Description	Asset Management Driver	Key Issue
SW2002	Establish Commercial and Industrial MRF	1 and 4	3
SW2004	WMMP Priority2 - Transfer Station Location	1 and 4	6
SW3001	storic Landfill Erosion Protection	1 and 4	6
SW3002	Organic Waste Processing Facility	1 and 4	4
SW3006	Waste Reporting - Business Intelligence Project	1 and 4	6

Key: = Strategic Projects (see **Section 4: Strategic Framework** of the **Strategic Asset Management Plan**)

The expenditure forecast for Opex Projects over the 10 year period of the AMP is provided in **Table 12** in **Section 8: Financial Summary**.

6.4 Renewals

As assets age, they require more renewal investment to maintain reliability. Generally, renewals plans are based on the information collected during condition assessments and inspections.

6.4.1 Renewals Projects

Details for the Waste Management and Minimisation Service's Renewals Projects are provided in **Table 7**. The alignment of each project to the Asset Management Drivers and Key Issues for the Waste Management and Minimisation Service is also identified (see **Section 3: Strategic Framework**).

Table 7: Renewals Projects

Project Budget Code	Project Budget Code Description	Asset Management Driver	Key Issue
SW1012	Colson Road Landfill Closure Works	1	6
SW2003	Solid Waste P&E Planned Renewals	1	6
SW3000	Kerbside Collection Bin Replacement	1	6
SW3003	Resource Consent Renewal	1	6

Information for key Renewals Projects is provided below:

SW1012: Colson Road Landfill Closure Works
As waste operations have ceased at the Colson Road Landfill, the site is in the process of being capped. 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. In addition, the repair of the Stage 2 cap needs to be completed.

SW2003: Solid Waste P&E Planned Renewals
For waste management and minimisation assets, there is an annual general provision for minor renewals to plant and equipment during the period of the AMP.
The Capex forecast for Renewals Projects over the 10 year period of the AMP is provided in Table 13 in Section 8: Financial Summary.

6.5 Disposal Plan

The Waste Management and Minimisation Service has no asset disposals planned over the 10 year period of the AMP.

7 Risk Management

7.1 Risk Assessment

Risk assessments are conducted, recorded, managed, escalated and monitored in accordance with NPDC's Corporate Risk Management Framework – Policy and Process (ECM#: 1479536). A summary of how the policy and process operate and a list of the current key risks relevant to waste management and minimisation assets is included in **Section 8: Risk Management** of the **Strategic Asset Management Plan**. The list also includes risks that are applicable across all asset categories.

Table 8 lists the Waste Management and Minimisation Service's projects and shows the level of risk and prioritisation for each project. Information for the risk levels is provided in **Section 8: Risk Management** of the **Strategic Asset Management Plan**. Priority 1 projects are scheduled to take place within the first three years of this AMP and Priority 2 projects are scheduled to take place within the first six years of this AMP.

Table 8: Risk level and prioritisation for Waste Management and Minimisation Service projects

Project Budget Code	Project Description	Priority	Risk Level
Level of Service Projects			
SW2002	Colson Road Landfill Closure Works	1	Extreme
SW2004	Solid Waste P&E Planned Renewals	1	Medium
SW3001	Kerbside Collection Bin Replacement	1	Extreme
SW3002	Resource Consent Renewal	2	Low
Renewals Projects			
SW3004	Public Place Recycling Bin Stations	1	Low
SW3005	Construction of the Junction Permanent Building	1	Low
SW3006	Waste Reporting - Business Intelligence Project	1	Medium
SW1012	Colson Road Landfill Closure Works	1	Extreme
SW2003	Solid Waste P&E Planned Renewals	Unknown	Unknown
SW3000	Kerbside Collection Bin Replacement	Unknown	Unknown

Key: = Strategic Projects (see **Section 4: Strategic Framework** of the **Strategic Asset Management Plan**)

7.2 Infrastructure Resilience Approach

Information regarding NPDC's infrastructure resilience approach is provided in **Section 8: Risk Management** of the **Strategic Asset Management Plan**. During the development of the Waste Management and Minimisation AMP, opportunities to enhance asset resilience have been investigated and assessed, and included investment where appropriate, for example, the new RTS combined with the initiatives for waste minimisation and recycling will provide adequate future capacity for waste management and minimisation assets.

Additional information for the Waste Management and Minimisation Service is provided below:

7.2.1 Natural Hazards and Climate Change

Climate change, variable weather patterns, increases in the number of severe weather events and rising sea levels could impact on waste management and minimisation assets. Sea level rise and coastal erosion may impact on historic landfills located in coastal areas and require remedial works to protect landfills from being exposed.

Changes to legislation and compliance requirements in regard to these environmental factors will impact on how Waste Management and Minimisation services are delivered in the future, including the costs of providing services, e.g. ETS requirements at landfills. Managing these factors is part of long term planning for the Waste Management and Minimisation Service.

Some assets are at risk of catastrophic failure as a result of natural hazard events such as earthquakes, tsunami and floods. Opportunities to build additional resilience into structures is being considered in the risk and criticality assessments for assets.

The region is particularly susceptible to volcanic activity. Massey University research identifies that seismic activity is likely in the next 50 years with an 81% probability of Mount Taranaki erupting in that period. A volcanic event could cause major disruption through lahars and ash fall in the district, which would impact on waste management and minimisation assets.

7.2.2 Compliance with Legislation and Resource Consent Conditions

The relevant planning documents for the Waste Management and Minimisation Service are listed in Table 3. As detailed in **Section 2: Introduction**, the Waste Management and Minimisation Service holds a number of extant resource consents, with conditions that need to be actively monitored and complied with.

Consent conditions are currently being monitored through CS-VUE; however, the Waste Management and Minimisation Service has received abatement notices from TRC for the maintenance of groundwater monitoring bores, and potential groundwater contamination from Stage 3 of Colson Road Landfill, and cap maintenance on Stage 2. The requirements of resource consent conditions need to be more closely monitored to avoid this occurring again. This is an improvement action recorded in **Section 9: Improvement Plan**.

7.2.3 Pandemics

The Resource Recovery Team follow the Three Waters and Resource Recovery Pandemic Plan (Document ID. 983033, version 12). The Pandemic Plan specifies the actions to be taken by the Resource Recovery Team and the Three Waters Team in response to the threat of or in the event of an actual pandemic or epidemic.

The key objectives of these action plans are to ensure the Council meets its legal and moral obligations to provide essential services to the community, to protect the health of the public and its workforce and manage exposure to risk. The Pandemic Plan comes into effect in the event of an Alert Level 1 issued by the NZ Government. The Pandemic plan should be read in conjunction with the Waters and Resource Recovery Business Continuity Plan, and Three Waters and Resource Recovery Incident Response Plan.

Waste Management and Minimisation services are considered to be an essential service during a pandemic. The kerbside collection service will continue to operate, albeit possibly altered, depending on whether recycling can be sorted at the MRF under a Level 3 or 4 event. MRF operations can be restricted under these levels due to the risks associated with manual sorting and ability for staff to safely distance themselves from others. RTSs remain open as an essential service but may restrict what waste and recycling is accepted, as well as implementing contact tracing and safe distance working procedures.

8 Financial Summary

This section provides a summary of the relevant financial information for the Waste Management and Minimisation AMP. All financial forecasts are shown in inflation adjusted dollar values.

8.1 Funding Strategy

The Waste Management and Minimisation Service is funded through a uniform annual charge, commodity sales from recyclables and by user charges at RTSs.

Capital improvements are funded from development reserves while the renewal and replacement of assets is funded from the Council's renewal reserves.

8.2 Asset Valuation

The last three yearly statutory valuation of fixed assets was conducted in 2019. The value of assets is related to criticality of the assets. None of the waste management and minimisation assets have criticality ratings; therefore, they fall within the 'To Be Determined' category and a summary of the value of all assets is shown in **Table 9** (Note: this value excludes inflation). The criticality ratings will be determined following a review of critical assets. As noted in **Section 6.1.3**, there is an improvement action for criticality ratings in **Section 10: Asset Management Improvement Programme** of the **Strategic Asset Management Plan**.

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

Table 9: Waste management and minimisation assets valuation

2019						
Asset Type	**Critical**	**Important**	**Moderate**	**Non-Critical**	**To Be Determined**	**Grand Total**
Solid waste	-	-	-	-	$6,828,563	$6,828,563

The plant and equipment valuation was conducted by engineering consultants. Low risk assets were valued internally by staff. All internal valuations have been peer reviewed and endorsed by engineering consultants.

8.3 Forecast Summary for Opex and Capex

The 10 year expenditure forecast summary for waste management and minimisation assets is shown in **Table 10**.

Table 10: Capex and Opex forecast summary

Opex and Capex Forecast											
Activity	**2021/22**	**2022/23**	**2023/24**	**2024/25**	**2025/26**	**2026/27**	**2027/28**	**2028/29**	**2029/30**	**2030/31**	**LTP Total**
General Operating Expenditure	1,685,820	1,488,666	1,598,560	1,682,745	1,758,403	1,703,024	1,723,143	1,764,615	1,850,047	1,894,402	17,149,426
Direct Cost of Activities	8,392,908	12,453,056	13,091,415	13,688,905	14,065,744	14,512,495	14,899,580	15,364,839	15,857,951	16,344,762	138,671,654
Internal Charges	1,763,957	2,043,377	2,083,749	2,101,945	2,153,456	2,165,314	2,184,970	2,303,967	2,354,978	2,345,214	21,500,926
Total Opex	11,842,686	15,985,099	16,773,723	17,473,594	17,977,603	18,380,833	18,807,693	19,433,421	20,062,976	20,584,378	177,322,006
Renewals	906,437	190,600	159,033	163,008	189,278	182,719	175,581	180,097	221,658	209,091	2,577,501
Service Level	1,269,382	3,966,310	633,758	54,325	55,685	627,825	58,500	60,020	61,640	63,305	6,850,750
Growth	-	-	-	-	-	-	-	-	-	-	0
Total Capex	2,175,819	4,156,910	792,790	217,333	244,963	810,544	234,081	240,117	283,298	272,396	9,428,251

8.4 Level of Service Projects Capex Forecast Summary

The Capex forecast for Level of Service Projects is summarised in **Table 11**.

Table 11: Capex forecast for Level of Service Projects

Key: = Strategic Projects (see **Section 4: Strategic Framework** of the **Strategic Asset Management Plan**)

Level of Service Expenditure Forecast																
Project Budget Code	**Project**	**2021/22**	**2022/23**	**2023/24**	**2024/25**	**2025/26**		**2026/27**	**2027/28**	**2028/29**	**2029/30**	**2030/31**	**LTP Total**	**% Renewal**	**% Level of Service**	**% Growth**
SW2002	Establish Commercial and Industrial MRF	657,874	0	0	0	0		0	0	0	0	0	657,874	0	100	0
SW2004	WMMP Priority2 - Transfer Station Location	0	0	0	0	0		570,750	0	0	0	0	570,750	0	100	0
SW3001	Historic Landfill Erosion Protection	252,467	255,544	0	0	0		0	0	0	0	0	508,011	0	100	0
SW3002	Organic Waste Processing Facility	0	568,734	580,758	0	0		0	0	0	0	0	1,149,492	0	100	0
SW3004	Public Place Recycling Bin Stations	50,300	51,505	53,000	54,325	55,685		57,075	58,500	60,020	61,640	63,305	565,355	0	100	0
SW3005	Construction of the Junction Permanent Building	308,741	3,039,022	0	0	0		0	0	0	0	0	3,347,763	0	100	0
SW3006	Waste Reporting - Business Intelligence Project	0	51,505	0	0	0		0	0	0	0	0	51,505	0	100	0
Total		1,269,382	3,966,310	633,758	54,325	55,685		627,825	58,500	60,020	61,640	63,305	1,269,382			

8.5 Opex Projects Forecast Summary

The forecast for Opex Projects that are related to Capex Projects is detailed in **Table 12**.

Table 12: Opex Projects related to Capex Projects forecast

Opex Forecast													
Project Budget Code	**Project**	**2021/22**	**2022/23**	**2023/24**		**2024/25**	**2025/26**	**2026/27**	**2027/28**	**2028/29**	**2029/30**	**2030/31**	**LTP Total**
SW2004	WMMP Priority2 - Transfer Station Location	0	0	0		0	77,490	22,694	23,262	23,866	24,510	25,172	196,994
SW3001	Historic Landfill Erosion Protection	0	118	10,501		10,804	11,074	11,351	11,680	11,892	12,213	12,591	92,224
SW3002	Organic Waste Processing Facility	100,000	0	0		0	0	0	0	0	0	0	100,000
SW3006	Waste Reporting - Business Intelligence Project	50,000	0	0		0	0	0	0	0	0	0	50,000
Total		150,000	118	10,501		10,804	88,564	34,045	34,942	35,758	36,723	37,763	439,218

Key: = Strategic Projects (see **Section 4: Strategic Framework** of the **Strategic Asset Management Plan**)

8.6 Renewals Projects Capex Forecast Summary

The Capex forecast for Renewals Projects is summarised in **Table 13**.

Table 13: Capex forecast summary for Renewals Projects

Renewals Expenditure Forecast																
Project Budget Code	**Project**	**2021/22**	**2022/23**	**2023/24**	**2024/25**	**2025/26**		**2026/27**	**2027/28**	**2028/29**	**2029/30**	**2030/31**	**LTP Total**	**% Renewal**	**% Level of Service**	**% Growth**
SW1012	Colson Road Landfill Closure Works	715,266	0	0	0	0		0	0	0	0	0	715,266	100	0	0
SW2003	Solid Waste P&E Planned Renewals	80,511	82,440	84,833	86,953	89,130		91,355	93,636	96,069	98,662	101,327	904,915	100	0	0
SW3000	Kerbside Collection Bin Replacement	70,420	72,107	74,200	76,055	77,959		79,905	81,900	84,028	86,296	88,627	791,497	100	0	0
SW3003	Resource Consent Renewal	40,240	36,054	0	0	22,189		11,459	45	0	36,701	19,137	165,823	100	0	0
Total		906,437	190,600	159,033	163,008	189,278		182,719	175,581	180,097	221,658	209,091	2,577,501			

9 Improvement Plan

This section provides information about the Waste Management and Minimisation Service's asset maturity and an Improvement Plan for this service. The general Asset Management Maturity Improvement Plan undertaken using the International Infrastructure Management Manual 2015 (IIMM) maturity guidelines is included in **Section 10: Asset Management Improvement Programme** of the **Strategic Asset Management Plan**.

9.1 Asset Management Maturity

An internal assessment of waste management and minimisation asset management maturity was conducted in December 2020 using the IIMM maturity guidelines. The assessment covers 16 key areas of the specification and each area attracted a score between 0 and 4. A new assessment tool (IAM SAM 2014) was adopted in December 2020, refer Section 10 - Strategic Asset Management Plan. Future asset maturity assessments will be undertaken to align with this.

The maturity scores in most areas were assessed as being in the 0 to 1 range indicating that some improvement is required. The medium term plan i.e. during the 2020 and 2023 period is to increase maturity scores into the 2 to 3 range. The scores assessed for each of the 16 components and the aims to improve the scores to take the Council's asset management practices from current ratings to higher levels is shown in Table 14.

Table 8: Risk level and prioritisation for Waste Management and Minimisation Service projects

Element	Aware	Basic	Core	Intermediate	Advanced
	0	1	2	3	4
Asset Management Policy Development					
Levels of Service and Performance Management					
Demand Forecasting					
Asset Register Data					
Asset Condition					
Decision Making					
Risk Management					

Key: Maturity rating status at 2020

Proposed improvements to 2023

Element	Aware	Basic	Core	Intermediate	Advanced
	0	1	2	3	4
Operational Planning					
Capital Works Planning					
Financial and Funding Strategies					
Asset Management Teams					
AMPs					
Management Systems					
Information Systems					
Service Delivery Mechanisms					
Improvement Planning					

Key: Maturity rating status at 2020

Proposed improvements to 2023

The AMPs produced to date have therefore been developed during a period of basic asset maturity competence. There is an expectation that the next AMP developed for the next 10 Year Plan (2024-2034 LTP) will be at a more advanced maturity level.

9.2 Improvement Plan

Specific areas of improvement identified for the Waste Management and Minimisation Service are identified in **Table 15**.

Table 15: Improvements summary

No.	Title	Description	Status	Business as usual or Sharepoint	Due Date
1	Resource consent compliance	Conditions of resource consents need to be closely be monitored to ensure compliance with consents.	In progress	Business as usual	Ongoing

Glossary

AMP	Asset Management Plan
Capex	Capital expenditure
CRT TV	Cathode Ray Tube television
EAM	Enterprise Asset Management
ETS	Emissions Trading Scheme
GIS	Geographic Information System
HDPE	High Density Polyethylene
IIMM	International Infrastructure Management Manual
LGA	Local Government Act
LTP	Long Term Plan
MRF	Material Recovery Facility
NES	National Environmental Standards
NESCS	National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health
NPDC	New Plymouth District Council
NPWWTP	New Plymouth Wastewater Treatment Plant
NZ	New Zealand
Opex	Operating Expenditure
RRF	Resource Recovery Facility
RTS	Refuse Transfer Station
RUL	Remaining Useful Life
SDC	Stratford District Council.
STDC	South Taranaki District Council
TCC	Taranaki County Council
TRC	Taranaki Regional Council
WISE	Waitara Initiatives Supporting Employment