



Waste Management & Minimisation Asset Management Plan 2021-2031

Queenstown Lakes District Council

Date: August 2021

Document History	Date	Prepared By	Reviewed By	Approved
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Budgets are at 01.07.21, QLDC LTP21 adoption date. (N.B. Budgets are subject to change through reforecast and annual plan cycles). The 'AMP at a glance' document will provide updated information but for most up to date budgets, please refer to QLDC council minutes on the QLDC website.

FOREWORD

This Asset Management Plan was undertaken with a view to identify the big issues facing the region's waste management and minimisation requirements.

The Queenstown Lakes District has experienced rapid growth in population and visitor numbers. This trend is forecast to continue (post COVID-19) and, by 2048, modelling indicates that approaching 200,000 people (residents and visitors) will be in the district on the busiest days. This level of growth is far greater than experienced or forecast in any other urban area in New Zealand and is placing increasing pressure on the management and minimisation of waste.

It is essential that Council manage waste in a way that does not detract from the pristine environment the Queenstown Lakes area is renowned for. This not only involves managing waste efficiently, and in a way which minimises environmental impacts, but prioritises the minimisation and beneficial reuse of waste.

This is reflected in Council's **vision for waste** *"Towards zero waste and a sustainable district"* as adopted in the **Waste Minimisation and Management Plan 2018 (WMMP)**.

Council's **Goals** reflecting this vision are those of the New Zealand Waste Strategy 2010:

- Improving the efficiency of resource use
- Reducing harmful effects of waste

It is noted that the NZ Waste Strategy is under review and as a result a new strategy and accompanying legislative changes to the Waste Minimisation Act 2008 will be adopted in 2022.

Council's objectives as described in the WMMP, to support achievement of the goals are:

- To provide and support opportunities to minimise waste through reduction, reuse, recycling and recovery (in priority order)
- To educate and support generators (residents, visitors, and businesses) with options and responsibilities
- To avoid or mitigate any adverse effects on public health or the environment
- To provide effective and efficient waste minimisation and management services supported by the right funding mechanisms

Through its WMMP and this asset management plan, Council will work to achieve these objectives and its vision for waste management and minimisation in the Queenstown Lakes District while giving effect to the New Zealand Waste Strategy 2010 and Waste Minimisation Act 2008.

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CONTENTS

1	INTRODUCTION.....	1
1.1	Overview.....	1
1.2	Purpose of this plan.....	1
1.3	Assets at a glance.....	2
1.4	Strategic context.....	4
1.5	Key issues.....	9
1.6	Potential effects.....	11
2	LEVELS OF SERVICE	13
2.1	Customers and stakeholders	13
2.2	Community engagement	14
2.3	Service level summary	15
2.4	Service gaps	15
3	DEMAND FORECASTS	18
3.1	District growth and global disruption.....	18
3.2	Other factors affecting demand	18
3.3	Current demand for waste services.....	19
3.4	Demand projections	19
3.5	Meeting future demand (provision).....	20
3.6	Demand management programme.....	20
3.7	Demand assumptions	22
4	RISK MANAGEMENT	24
4.1	Risk management framework	24
4.2	Activity risk register	25
4.3	Emergency risk planning.....	26
4.4	Climate change, resilience and zero carbon.....	27
5	LIFECYCLE MANAGEMENT	30
5.1	Overview.....	30
5.2	Scope of activity.....	30
5.3	Asset information	31
5.4	Critical assets	33
5.5	Asset age.....	34
5.6	Capacity and performance	34
5.7	Asset condition	34
5.8	Service delivery arrangements	34

5.9	Operations and maintenance plan	35
5.10	Asset renewal programme	35
5.11	Asset development programme	36
6	FINANCIAL SUMMARY	38
6.1	Financial overview	38
6.2	Operational expenditure summary	39
6.3	Capital expenditure summary	40
6.4	Implications of funding constraints	41
6.5	Revenue summary	42
6.6	Asset valuation	44
6.7	Financial policies and funding.....	45
6.8	Key financial forecast assumptions	45
7	ASSET MANAGEMENT PRACTICES	48
7.1	Overview.....	48
7.2	Asset management practices	50
7.3	Improvement plan	53
7.4	Monitoring and improvement.....	55
8	APPENDICES.....	56
8.1	Acronyms	57
8.2	Full LOS summary	58
8.3	AM maturity improvement actions	60
8.4	Critical activity risk register	62
8.5	Thirty-year capital forecasts	63

1 INTRODUCTION

1.1 Overview

Waste management and minimisation activity is a core service of Queenstown Lakes District Council’s (QLDC / Council). QLDC undertakes the waste activity to protect the health and safety of the community and reduce impacts on the environment. The activity also includes the aftercare of closed landfills.

This activity involves all aspects of waste management and minimisation. The actions are guided by the 2018 Waste Management and Minimisation Plan (WMMP) which sets out the vision for the district of **Towards Zero Waste**. The WMMP sets out the goals, objectives, targets and an action plan that drive the waste activity.

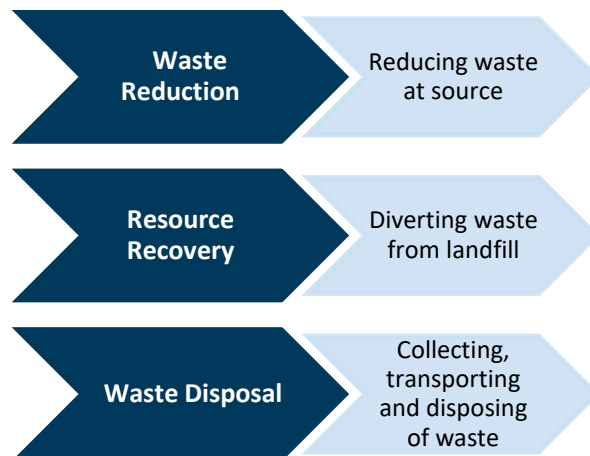
Council’s involvement in waste activity and assets is driven by legislation including the Waste Minimisation Act 2008 and Climate Change Response (Zero Carbon) Amendment Act 2020. The 2018 WMMP identifies the full list of key legislation associated with waste activity.

Zero waste can be achieved through redesign of systems and processes, strong leadership demonstrated through policy and regulatory tools, investment in resource recovery infrastructure and a greater focus on behaviour change programmes and learning opportunities to minimise waste at source.

Recent progress has been made with the introduction of a new district-wide residential waste and recycling service in 2019 a wider community outreach programme. QLDC is one of the first in New Zealand to implement a separate glass wheelie bin collection to support a high standard of recycling, whilst also protecting collection contractor staff through minimising handling.

The QLDC waste activity is managed in three sub-activities conceptualised as follows:

Figure 1 Waste sub-activities



1.2 Purpose of this plan

The purpose of the Waste Management and Minimisation Asset Management Plan (AMP) is to outline Council’s approach for delivering waste services, cost-effectively achieve the district’s long-term strategic goals and deliver the level of service desired by the community. It is also aligned to Council’s broader AM Framework (refer to Section 7.1).

This plan has been written to provide the information required for good asset management (AM) planning as set out in:

- Local Government Act 2002 Schedule 10 and amendments
- Office of the Auditor General industry advice notes and reports
- International Infrastructure Management Manual (IIMM), published by New Zealand Asset Management Support (NAMS)
- Good practice reports and guidance issued by Government agencies including The Treasury and Infrastructure Commission.

The plan is technical in nature and based on the latest information. It contains risks, work programmes and stakeholder requirements, and is informed by the Strategic AMP (under development). There is also a one-page graphical summary ‘Waste AMP on a Page’ under development, instead of the traditional executive summary, to better communicate the waste story to decision makers and the community. The AMP document hierarchy is shown in the following figure.

Figure 2 AMP document hierarchy

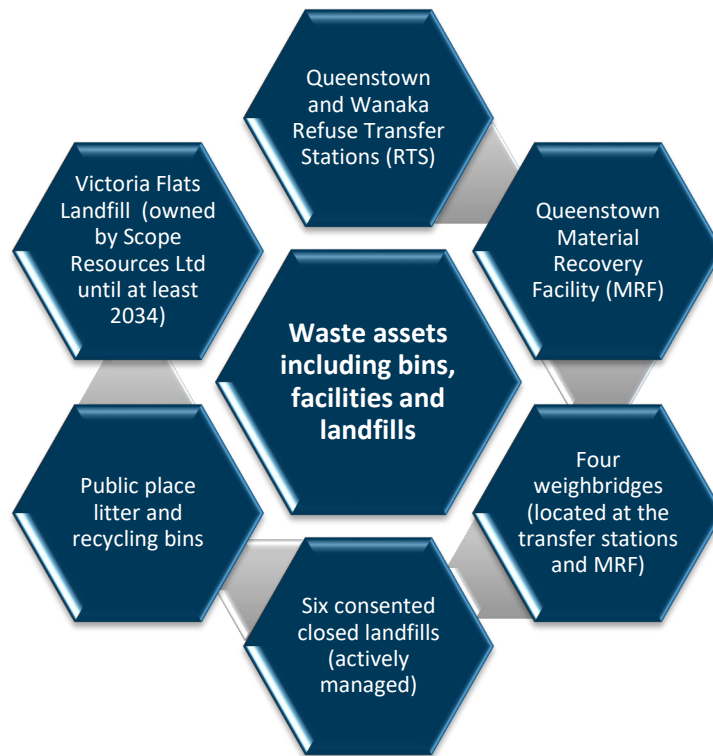


1.3 Assets at a glance

Council owns and manages \$9.6 million of waste assets including two Refuse Transfer Stations (RTS) in Wanaka and Queenstown) and a Materials Recovery Facility (MRF) in Queenstown (replacement value as at June 2019). The Victoria Flats Landfill is owned and managed by Scope Resources until June 2034 at the earliest as part of the agreement between QLDC and Scope Resources Ltd¹. A snapshot of the waste assets is shown in the following figure with further detail in Section 5.

¹ Ref QLDC Scope Resources Agreement

Figure 3 Snapshot of waste assets (N.B. Wheelie bins become QLDC’s asset at end of contract term)



The range of services Council provides across the district is shown in the following figure.

Figure 4 Snapshot of waste services



The location of the various waste facilities including the two RTS, Victoria Flats Landfill, consented closed landfills, MRF and green waste drop off sites is shown in the following map.

Figure 5 Map of waste facilities



1.4 Strategic context

Strategic overview *The key legislation that guides QLDC waste activity are described in the QLDC WMMP 2018. Waste minimisation and management activity is also considered in the context of several QLDC strategic documents including;*

Climate Action Plan

30 Year Infrastructure Strategy

Ten Year Plan

Vision Beyond 2050

Spatial Plan

District Plan

What infrastructure and programmes are needed for a zero waste and sustainable district?

This section sets out the strategic alignment of the waste activity to the Infrastructure Strategy.

Council’s vision for the waste activity is:

Towards zero waste and a sustainable district.

To support alignment between the Infrastructure Strategy and the WMMP the following waste principles were developed. They should be used to guide and translate the outcomes and goals identified in the 2021 Infrastructure Strategy to waste specific activity.

Table 1 Guiding principles for waste activity and strategic alignment with Infrastructure Strategy

Infrastructure Strategy Outcomes	Infrastructure Strategy Goals	What does this mean for waste activity
<p>Outcome 1 All people can live healthy lives</p>	<p>Harness our position as a service provider to promote health</p>	<ul style="list-style-type: none"> – Harm from residual waste in the environment is eliminated for example elimination of microplastics and nanoplastics in water or land, leachate and emissions from landfill. – Services and infrastructure are provided in a way that fosters responsibility and stewardship of ecosystems, people and environment. For example, connection to land to grow safe, healthy food (organic composting), opportunities to participate in hands-on learning through conservation, rehabilitation, and regeneration projects. – Zero air, water or land emissions from disposal of discarded materials. <p>Social cohesion, connection and collaboration is enhanced through shared learning of future living skills for a zero waste and zero carbon future. Infrastructure is built to demonstrate and inspire a zero carbon future such as low energy use, healthy, renewable materials, healthy soils, greywater reuse.</p>
<p>Outcome 2 A stable economy where our people prosper</p>	<p>Provide high quality, affordable services</p> <p>Support a stable district economy</p>	<ul style="list-style-type: none"> – Businesses adopt a zero waste lens to drive resource efficiency, innovation and productivity gains. – Mechanisms are in place to develop and test new social, technical and economic solutions and services. – Resources are reused, through systems for repairing, repurposing and remanufacturing of the discarded materials into other goods creating resilient, local, circular economies. – Discarded materials are turned into valued resources. – Sharing economies for products and services are encouraged and facilitated. This helps create collaborative, low waste communities. – Encourage social enterprise, generate green jobs and microenterprise opportunities.
<p>Outcome 3 Communities are resilient to sudden natural events</p>	<p>Support the social and economic recovery of the district following a natural event</p>	<ul style="list-style-type: none"> – Natural ecosystems are not adversely impacted by temporary storage, processing or disposal of discarded materials (in the event of natural event). – Material management maximises resource recovery and minimises burning or burying of resources. – Options for a rapid response to collection, transportation and temporary storage of materials for recovery, recycling or disposal are in place and well communicated.

Infrastructure Strategy Outcomes	Infrastructure Strategy Goals	What does this mean for waste activity
		<ul style="list-style-type: none"> – Organisational roles and responsibilities are documented, known and operational. – Clear record keeping processes for material management are in place and are maintained (e.g. no legacy of negative environmental or health impacts due to ill-prepared disposal or storage of harmful materials). – Resource recovery services and facilities for household and commercial users are functioning and service disruption is minimised. – Local food resilience is supported by increased skills and opportunities to grow food locally in event of drought, food shortages (earthquake resilience), food price rises (due to climate change and oil / fuel costs).
Outcome 4 The natural environment's mauri is respected and enhanced	Protect and regenerate the natural environment	<ul style="list-style-type: none"> – Waste is eliminated before it is even made, by being designed out of products, services and processes. – Resources are reused, through systems for repairing, repurposing and remanufacturing the materials into other goods. – Resources are not burned or buried, and no new landfill is required. – The community is engaged, informed and provided with opportunities to participate in hands-on learning for the environment. – Organic materials are used to improve soils, reduce runoff, increase nutrient value of soil, and as a result helps minimise phosphate and nitrogen imports. – Eliminate pathways of plastics entering water streams, including marine and lake environment, and microplastics in wastewater treatment..

1.4.1 National context

There has been major sector disruption that has impacted the waste activity. The significant global and national factors are:

- **Uncertainty in recycling commodity markets** - Early in 2018, China's National Sword Policy imposed tighter restrictions on the import of certain recyclables, primarily mixed paper and mixed plastic. This has impacted the commodity price for recyclables globally. Nationally, the consequences of China's National Sword Policy have impacted councils' recycling contracts with significant cost escalations.

This has highlighted New Zealand's lack of investment in solid waste infrastructure. The Ministry for the Environment (MfE) is leading the national response to the uncertainty in recycling commodity markets. The Ministry's work programme including the review of the national waste strategy, new legislation and the development of a national infrastructure plan will help address some of the legacy issues of poor recycling systems.

- **Waste disposal levy** - From 1 July 2021, the Government is progressively increasing and expanding the national Waste Disposal Levy. The increases over four years will levy rates for landfills that take household waste to \$60 per tonne by July 2024. The Waste Disposal Levy is being expanded to cover additional landfill types, including construction and demolition fills. The additional revenue from the Waste Disposal Levy will be invested in initiatives that support waste reduction, such as building New Zealand-based recycling infrastructure.

- **Zero Carbon** - The Climate Change Response (Zero Carbon) Amendment Act 2020 includes a target of reducing methane emissions by 24-74% below 2017 levels by 2050, and an interim target of 10% by 2030. It also has a target of reducing net emissions of all other greenhouse gases to zero by 2050. This will impact the asset portfolios including waste, particularly with increasing Emissions Trading Scheme costs (carbon tax) and transport (fuel costs) used to collect and cart waste and diverted materials.
- **Revised regulatory framework** - MfE is currently revising the New Zealand Waste Strategy to strengthen the strategic framework, give certainty and guide decision making. MfE is also reviewing the Waste Minimisation Act 2008 and the Litter Act 1979 as part of its Strategic Framework Review.

1.4.2 Regional context

Regional waste facilities may deliver efficiencies when considering economies of scale in infrastructure investment distance to markets, ability to invest in new technology etc. QLDC collaborates with councils in the Otago Region and the Southland Region. Examples include:

- **Central Otago District Council** - There are various current arrangements in place where Central Otago District Council (CODC) use QLDC's waste facilities. The Victoria Flats Landfill is owned and operated by Scope Resources through a contractual arrangement with QLDC. Waste from CODC is also received at the Victoria Flats Landfill through this arrangement (until 2029), with QLDC administering this contract with Scope on behalf of CODC. CODC is a commercial customer of QLDC's MRF via its waste service contractor. The MRF accepts recycling material from CODC. At times, the MRF has been at capacity and has had to prioritise MRF access for QLDC's material and therefore CODC's recycling material (as a commercial customer) was not able to be processed, creating uncertainty for CODC. There is no direct agreement in place for acceptance of recyclables between CODC and QLDC.

CODC and QLDC have developed draft waste bylaws in parallel to ensure consistency between these neighbouring councils, where possible.

CODC is developing a glass crushing plant and reviewing contracts for waste services. The review includes the potential to deliver a kerbside organics service. QLDC will explore options to work with CODC where possible.

- **Otago Mayoral Forum** - A regional waste assessment study is underway to determine the scale and economics of Otago Regional waste facilities. Otago Councils are seeking to develop a shared understanding of the current regional waste issues and opportunities, backed by the data, and supported by the councils. This work would then form the basis for future investigation into regional investment opportunities, where appropriate. The study will also identify opportunities for local businesses to reuse material in new innovative products improving the regional economic prosperity.
- **Southern regional green waste facility** - Discussions are underway on a southern regional organics facility. Although located outside the Otago Region (in the Southland Region), the transport network makes it feasible to cart green and food waste from the Queenstown Lakes District to Southland.

1.4.3 Local context

At a local level, Council is planning a significant move towards a sustainable and circular economy. Council's key focus is currently on the development of the new Kimiākau Zero Waste Resource Recovery Hub (refer to Section 1.5 Key Issues). Council also continues to work with community groups, event organisers, residents and business on initiatives that drive waste minimisation.

1.4.4 Key planning documents

The key planning documents required by legislation that drive this activity and informs this AMP are outlined below. In particular, the 2018 WMMP contains demand information and justification for the activity funding. To ensure the AMP is a streamlined document, information in these other key planning documents will be referenced in the AMP and not replicated here.

Key planning documents are:

- **2018 WMMP** - The guiding document which identifies Council's vision, goals, objectives, targets and methods for achieving effective and efficient waste management and minimisation. Under the Waste Minimisation Act 2008, councils are required to prepare and the review their WMMPs every six years. It also provides information on how Council intends to fund the activity. It will be reviewed in 2023 (on a six-year cycle) ready for adoption in 2024.
- **2021 Infrastructure Strategy** - Identifies significant infrastructure challenges and opportunities for Council over the next 30 years and the principal options for managing those challenges and the implications of those options. The Waste Management and Minimisation activity was included in the strategy although not required under section 101B of the Local Government Act 2002. Delivering on the vision of Towards Zero Waste was identified as a key infrastructure area of focus to improve environmental sustainability.
- **Climate Action Plan (2019-22)** - QLDC declared a Climate and Ecological Emergency in the district on 27 June 2019 and the Climate Action Plan was developed to support efforts for change. It identifies ways in which emissions can be reduced and sets a strategic direction for addressing climate change impacts. Being the first version of the plan, it lays the foundation for successive plans over a longer term and provides a benchmark against which progress can be monitored.
- **Whaiora | Grow Well – The Spatial Plan (draft)** - The first ever joint Crown-District Council-Iwi Spatial Plan for the Queenstown Lakes establishes an integrated, long term, collaborative strategy. Three principles and five spatial outcomes guide the direction of the Spatial Plan and address the challenges and opportunities facing the district. The Whakauku | Sustainability principle is the most relevant for the waste activity.
- **Waste bylaw** - A waste bylaw is under development.

1.5 Key issues

Through the development of this AMP, Council has identified six key issues that need to be at the forefront of infrastructure planning and decision making. The following table details the implications and actions Council will take to respond to the key issues for the waste activity.

Table 2 Summary of key waste issues

Key issues	Implications	Refer to AMP and Infrastructure Strategy sections
1. Facilities at end of life and not fit for purpose.	The Wanaka and Queenstown Transfer Stations and the Queenstown MRF are operating beyond their intended design life. They are therefore requiring significant ongoing building and grounds maintenance to enable their continued operation ahead of their upgrade (identified in the 2021 Long Term Plan (LTP)). There is a risk of extended service outages should the existing facilities fail in the interim.	Section 5.10 Asset Renewal Programme
2. Ongoing asset equipment issues at both Queenstown and Wanaka Transfer Stations and Queenstown MRF.	This is linked to the above key issue but related to the equipment within the facilities. The equipment in the transfer stations and MRF is worn out and the facilities are processing higher volumes than they were originally designed to take. They are being operated beyond their useful life while Council designs, consents and constructs new facilities. There are regular breakdowns and high maintenance costs (including regular component replacements).	Section 5.6 Capacity and Performance
3. Supply chain issues with commodity market (i.e. glass and mixed recycling contamination rates).	Glass and mixed recycling is extremely sensitive to contamination (less than 1%), so it is necessary to ensure that the district minimises the amount of non-glass material placed in the glass and mixed recycling bins. Continued education is a key focus of the service going forward to ensure the material collected can be recycled.	Section 3.3 Current Demand for Waste Services
4. Development of new Kimiākau Resource Recovery Hub	The development of new recycling, recovery and treatment facilities is to support Council's long-term waste minimisation targets and replace aging transfer station and MRF assets. The facility will be integrated with its surroundings with a proposed future Environmental Learning Park component to connect the community with the facility.	Section 5.11 Asset Development Programme and Section 4.11 Zero Waste Programme in the 2021 Infrastructure Strategy
5. Long term viability of the Victoria Flats Landfill with surrounding residential development.	The Victoria Flats Landfill is located 17km from Frankton and is surrounded by rapid residential development. Future neighbours may be less tolerant to an operational landfill which may risk the ability to re-consent the site when the existing consents expire. This would impact the future viability of this landfill and Council may have to transport waste further away, potentially outside the Otago Region.	Section 3.5 Meeting Future Demand (provision)

Key issues	Implications	Refer to AMP and Infrastructure Strategy sections
6. Actively lobbying nationally for industry changes.	The New Zealand Waste Strategy, Waste Minimisation Act 2008 and Litter Act 1979 are currently under review and likely to set local government on a much stronger path towards sustainable outcomes (i.e. zero waste, zero emissions, circular economy). Council is taking an active role in advocating to Central Government for industry changes.	Section 3.5 Meeting Future Demand (provision) and Section 4.11 Zero Waste Programme in the 2021 Infrastructure Strategy

1.6 Potential effects

The waste activity is a core service of Council in ensuring community health and safety but may also have negative effects, particularly on the environment. These effects are managed through a variety of processes as summarised in the following table.

Table 3 Summary of effects

Well being	Positive	Negative	Mitigation / sustainable solution
Social	A waste collection service is provided to ensure community health and safety, with material collected and processed for diversion or disposed to landfill	<p>During the collection, processing or disposal of waste, the following may occur:</p> <ul style="list-style-type: none"> – Water and / or land pollution (loose waste blown into private properties or waterways or illegally dumped) – Odour dust and noise emissions – Spread of disease through water / land contamination – Vermin – Obstruction on footpath. 	Council will continue to educate residents on the collection days / times. Council will monitor the services provided by the private sector to ensure requirements are complied with. Council will continue to manage the contractor to ensure it is providing effective and reliable waste and recycling collection services through them.
Economic	Ability to provide cost effective diversion services	Private companies also provide waste services, and this can impact on the Council's ability to minimise waste.	The implementation of the 2018 WMMP mitigates the impact of this effect such as providing cost effective alternatives to landfill disposal. Through the WMMP, Council has set out its strategies and goals to divert waste from landfill. The Victoria Flats Landfill is monitored, and results disclosed in the Annual Reports.

Well being	Positive	Negative	Mitigation / sustainable solution
Environmental	A suite of waste minimisation education / initiatives and programmes are in place to change behaviour		Council will continue to aim to reduce the quantity of waste going to landfill through proven minimisation strategies and programmes for waste streams that Council can control / influence.
	Council is investing in upgrades to facilities to reduce waste to landfill	Environmental impacts caused by the discharge of contaminants to land and water from landfills.	Council will continue to ensure compliance with resource consents and undertake regular monitoring of the facilities.
		Disposal of waste to landfill represents a significant adverse effect to the receiving environment.	
		Emissions from landfills - As disposed waste material decomposes, particularly organic material, a variety of gases including methane, ammonia, hydrogen sulphide, and nitrogen are released into the atmosphere.	A grid of collection wells has been installed at the Victoria Flats Landfill, with the collected gas flared, reducing both odour issues and the release of harmful greenhouse gases.
		Leachate and stormwater discharges - The discharge of leachates from landfills can damage the receiving environment if not contained or treated.	The Victoria Flats Landfill has a leachate management system to treat leachate prior to discharge. Closed landfills are monitored in accordance with their resource consents.
	Council provides litter bins in public places to mitigate windblown waste materials	Windblown waste materials at facilities.	Litter fences are in place at the facilities. Various Contracts are in place to collect litter from public places.

Source: 2021 LTP, Volume 1

2 LEVELS OF SERVICE

2.1 Customers and stakeholders

Delivery of the waste activity involves Council engaging with a variety of stakeholders, including government agencies, neighbouring councils, contractors, consultants and the community. The following shows the key customers and main stakeholders involved in the waste activity and their specific areas of interest.

Table 4 Key customers and stakeholders

Segment	Area of interest
Customers	
The community	Interested in reliable, safe and affordable collection services, transfer stations and resource recovery facilities and litter collection in public places.
Local schools	Participate in waste education programmes currently funded by the Waste Disposal Levy (such as Environmental Education for Resource Sustainability and the Enviroschools programme).
Tourists - domestic and international	Expect high quality waste services in line with the eco-tourism image of the Queenstown Lakes District.
External stakeholders	
Ministry of Health	Ministry of Health has statutory responsibility for public health issues in New Zealand, including health-related aspects of waste management services. It is a requirement for Council to consult with the Medical Officer of Health over their Waste Assessment (which informs the WMMP).
Otago Regional Council	Otago Regional Council has an environmental regulatory and monitoring role under the Resource Management Act. This includes management of resource consents issued for the discharge of contaminants (e.g. odours, leachate, dust).
MfE	MfE has responsibility for coordinating and providing guidance on implementation of the Waste Minimisation Act 2008. It is also interested in providing a sustainable service that does not negatively impact on the environment, promotes waste minimisation, and meets legislative requirements including the Resource Management Act 2002, and the Climate Change Response (Zero Carbon) Amendment Act 2020. MfE is also responsible for collecting the Waste Disposal Levy and auditing the levy spending.
CODC	CODC's waste is deposited at Victoria Flats Landfill and they are a commercial customer of the MRF. They also continue to collaborate with QLDC on a number of waste initiatives.
Ministry of Civil Defence and Emergency Management	Interested in coordinating essential services in emergency situations, including waste collection and disposal.
Private sector service providers	Provide waste services to commercial customers and users of Council-provided facilities.
Environmental groups	Interested in the protection of the natural environment and waste minimisation.

Segment	Area of interest
Iwi	It is a requirement to consult with iwi for the majority of resource consent applications due to the cultural effects of waste disposal, protecting the natural environment and the impact on cultural values and beliefs.
Other government agencies (Office of the Auditor General, Audit New Zealand, Ministry of Local Government and Department of Internal Affairs)	Interested in the prudent management of the waste activity.

2.2 Community engagement

Community engagement on developing levels of service for waste services used the following main consultation initiatives:

- 2018 WMMP
- Annual Quality of Life Surveys
- LTP and Annual Plan consultation processes
- Service request response levels.

During development of the 2018 WMMP, consultation was undertaken to understand community priorities and the role QLDC can play in minimising waste in the district. A similar consultation process will be undertaken with the development of the 2024 WMMP.

Annual resident satisfaction surveys were undertaken across the various Council activities until 2018 (the last survey). Council moved to Quality of Life Surveys in 2019. Council was interested in determining the quality of life of residents in the district and understanding how best to ensure all residents have a good quality of life. The 2021 survey covered ten areas to make an assessment on Quality of Life including COVID-19. The waste activity best fits within the protecting the environment area. There was a substantial decrease in the number of respondents who expressed concern with the impact of climate change and an increase in satisfaction with the measures Council has taken to protect the environment.

In the 2021 Quality of Life Survey, there was a greater emphasis on social and economic matters due to COVID-19, possibly diverting top of mind attention from environmental issues which have been prevalent in past studies. The environmental issues are still relevant and require attention, but economic and social areas are dominating in the current survey period.

2.3 Service level summary

Council's overarching level of service for the activity is:

- Council promotes effective and efficient waste minimisation and management.

The waste LOS have been developed based on:

- Statutory requirements
- Public health and safety
- Strategic goals as set out in the 2018 WMMP and 2021 LTP including the Infrastructure Strategy
- User service expectations
- Solid Waste Services and Landfill Contracts.

The recommended LOS and performance measures for the waste activity are summarised in Table 5. A full description of LOS targets, measures and metadata over the next ten years is included in Appendix 8.2. This includes the measurement procedure and the assigned responsibility for each performance measure.

Most of the performance measures are new as they were developed for the 2021 LTP to better reflect Council's strategic direction, particularly for carbon emissions. Additional performance measures have also been developed for AMP purposes to ensure the activity is being adequately covered i.e. safety, reliability and availability aspects.

2.4 Service gaps

From the review of the achievement of performance measures, compared with the targets for 2019/20, the areas where Council intended to improve on are:

- Environmentally Sustainable:
 - Discussion - Both waste reduction targets (i.e. waste diverted from landfill and waste sent to landfill) were not met in 2019/20. The waste diverted from landfill target was impacted by COVID-19 levels 3 and 4 restrictions with closure of MRF. There was a decrease over the second half of the year on a 'month on month' comparison with 2018/19 for the waste sent to landfill target. The existing MRF facility is aged, and also impacted contamination levels.
 - Response - The targets for waste reduction have been adjusted in the first year of the LTP (2021/22) and increasing each year over the ten-year period to reflect the impact of COVID-19 on changing community behaviours in a restricted environment. The amended target reflects that there was no step change for organics as indicated in the 2018 WMMP. Council is also investing in maintaining the existing MRF until the Kimitiākau Resource Recovery Hub is built and commissioned. There is a significant renewal budget of \$3.8 million for maintaining the existing MRF until the Kimitiākau Resource Recovery Hub is built and commissioned (refer to Section 5.10 Asset Renewal Programme).

As the new performance measures are bedded in, Council will identify any significant service gaps on an annual basis and the financial implications.

Table 5 Waste LOS summary

Community outcomes	Well beings	Key service attribute	LOS	Performance measure	PM type	Baseline at 30 June 2020	Current year 2020/21 target	2021/22 target (year 1)	Responsibility
Zero Carbon Communities Parakore Hapori Zero waste is just something that we do here	Environmental	Environmentally Sustainable	Council promotes effective and efficient waste minimisation and management	Percentage of MRF recycling contaminated	LTP	New measure Baseline 28%	New measure	<20%	Contracts Manager
				Total waste diverted from landfill	LTP	7,736t	>8,500t	>7,800t	Contracts Manager
				Total waste sent to landfill	LTP	43,700t	<40,000t	<42,000t	Contracts Manager
				Emissions (CO ₂ e) for waste to landfill – kerbside and transfer station tonnes	LTP	New measure	New measure	Annual reduction of 4.2%	Senior Waste Minimisation Planner
Deafening Dawn Chorus Waraki We are all kaitiaki of our protected and restored incredible environment, flora and fauna	Environmental	Environmentally Sustainable	Effects on the natural environment are minimised	Zero significant non-compliance events with the resource consent conditions for the waste facilities	AMP technical	New measure	New measure	Zero non-compliance events	Contracts Manager
				Zero significant non-compliance events with the resource consent conditions for the closed landfill sites	AMP technical	New measure	New measure	Zero non-compliance events	Environmental Manager
	Social	Safety	Safe and reliable waste services are provided	Number of serious harm incidents at the waste facilities	AMP technical	New measure	New measure	Zero serious harm incidents	Contracts Manager
				Number of serious harm incidents with waste collection services	AMP technical	New measure	New measure	Zero serious harm incidents	Contracts Manager

Community outcomes	Well beings	Key service attribute	LOS	Performance measure	PM type	Baseline at 30 June 2020	Current year 2020/21 target	2021/22 target (year 1)	Responsibility
Thriving people Whakapuāwai Hapori Our environments and services promote and support health, activity and wellbeing for all		Reliability / responsiveness		Percentage of users satisfied with the kerbside collection services in our Quality of Life survey <i>(Laura – existing satisfaction measure good idea but corporate decision to keep with Quality of Life surveys so cannot change)</i>	AMP customer	New measure	New measure	>70%	Policy and Performance Programme Manager
				Percentage of Request for Service (RFS) completed on time	AMP customer	98%	95%	>95%	Contracts Manager

3 DEMAND FORECASTS

3.1 District growth and global disruption

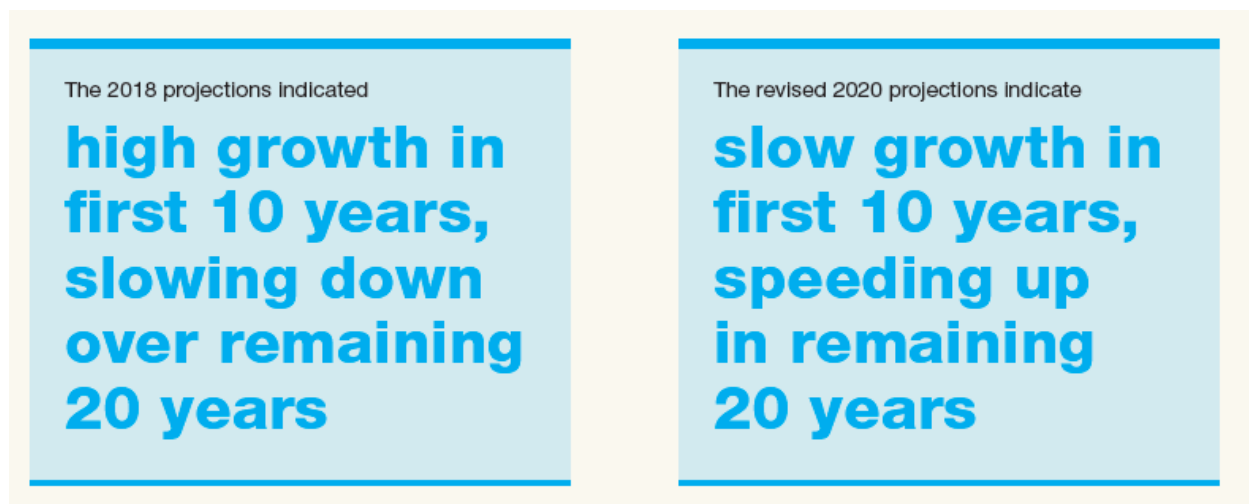
The district’s population is highly sensitive to global disruption and changes in visitor population, as evidenced by COVID-19. The 2020 waste volumes reduced with the reduction in visitors and international border closures. Waste diverted from landfill was impacted by COVID-19 as collection and processing facilities were impacted by lockdown restrictions (refer to Section 2.4 Service Gaps).

The difference between base usually resident population and visitor (peak day population) has a significant effect on demand for waste services. The high number of out of district home ownership also affects demand for services. Council and the contractor work together to ensure peak demand requirements are met. Council’s waste minimisation team proactively work with local business to promote sustainable practices and ways to minimise the impact of peak demand.

Council has completed detailed demand projections for the district as part of the 2021 LTP process. This information is reviewed six monthly and considers growth in number of residents, as well as visitors, which contribute to peak day figures. The usually resident population is expected to increase by 31.3% from 40,746 (2021) to 53,512 (2031) (detailed information is provided in the 2021 LTP). The peak day population is expected to increase by 41.5% to 144,782 (2031).

The demand projections have highlighted the scenario of “sticking to our 2018 projections – change path” as the approach, as shown below.

Figure 6 QLDC 2020 Demand projections



3.2 Other factors affecting demand

Demand for domestic waste services is dependent on whether the service is rates funded or user pays. The management of tonnes into the landfill, transfer stations and MRF facilities may be difficult to predict due to economic and commercial factors. Differing pricing between neighbouring facilities also impacts waste movement. The waste volumes sent to the Victoria Flats Landfill will vary depending on neighbouring (AB Lime, Southland) landfill pricing for commercial waste. QLDC is contracted to send all waste tonnage to Victoria Flats Landfill.

Council's draft bylaw provisions and acceptance criteria at facilities also impacts demand for services and the extent of diversion. Recycling services have been significantly impacted by changes in global commodity prices with fluctuating markets for recycled product. The range of materials accepted for recycling has decreased in recent years particularly for mixed plastic. This impacts achievement of waste targets and diversion from landfill.

Economic growth can also have a significant impact on demand for services and waste volumes both in general waste and construction and demolition waste.

3.3 Current demand for waste services

The 2018 WMMP is Council's key planning document for developing strategies to manage demand for services and increase diversion from landfill. The WMMP is based on a waste assessment and analysis of the composition of waste disposed at Council (district) facilities, including kerbside services.

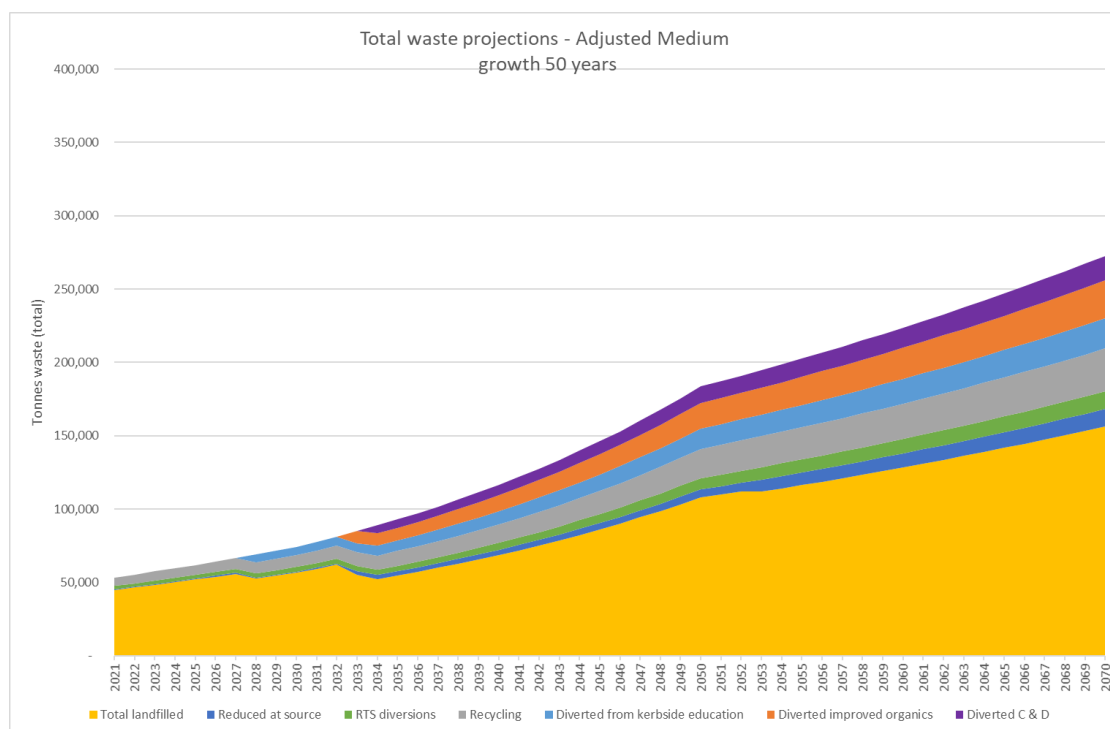
The key strategy from the current WMMP is to target the waste streams with the most opportunity to reduce waste to landfill. Those waste streams are glass and organics, followed by construction and demolition waste. Focusing on specific areas enables a targeted effort to achieve goals and provide clear messaging to residents, ratepayers and visitors on the key waste issues facing the district.

The figures for the historic total waste to the Victoria Flat Landfill, including waste from QLDC, is provided in the 2018 WMMP. From 2012 to 2019, there was significant growth in waste tonnage which more than doubled over the seven-year period.

3.4 Demand projections

The projected waste tonnage is presented in the following figure. Projections are based on Council's draft Spatial Plan medium population (usually resident and visitor) growth scenario. The projections show continued increase in waste to landfill with different diversion options helping to minimise the total waste volumes. Council has an aspirational zero waste goal; however this will take time and significant shift to achieve.

Figure 7 Waste 50-year projections assuming various interventions programmed in TYP



Source: Morrison Low (2020)

3.5 Meeting future demand (provision)

The strategy to meet demand is covered in full within the Waste Assessment and WMMP which is reviewed every six years. The next revision is due in 2023 and will set the direction for meeting future demand. This planning documents look at what strategies will be put in place to divert material from waste and protect the environment from the harmful effects of waste.

Although there is landfill capacity (Victoria Flats Landfill has modelled capacity to 2045), Council is moving towards being a zero waste district. In the future, provision may be provided outside of the district as Victoria Flats landfill is in an area of rapid development (refer to Section 1.5 Key Issues).

3.6 Demand management programme

Council has an extensive action plan under it’s current WMMP that involves working proactively with the local community to drive waste reduction and resource recovery activities. Some of these actions are delivered under Councils current Solid Waste Services contract. Examples of such activities are included in Table 6 below.

Table 6 Waste minimisation activities

Activities		Related WMMP Activity
Regular campaigns aimed at getting residents, businesses and tourists to effectively engage with waste and recycling services	<ul style="list-style-type: none"> Development and delivery of regular campaigns and collateral to support residents to get the right materials in the right bins to reduce contamination and increase recycling volumes and to support short-term visitors and tourists to effectively engage with waste and recycling services 	1.1.1 1.1.2 1.1.10 1.1.11 1.1.12

Activities		Related WMMP Activity
	<ul style="list-style-type: none"> – Includes attendance at events such as Queenstown Home Show and Wanaka A&P show, community association presentations – Development of a behind the scenes recycling video as part of a wider campaign to provide transparency of recycling services. 	
Organics diversion initiatives	<ul style="list-style-type: none"> – Delivery of the Dr Compost programme which encourages and supports householders to compost food and garden waste at home and to garden and grow their own food to close the loop. Includes the delivery of a number of set, and on request, workshops and events. The Dr Compost programme is delivered and funded under the Solid Waste Services Contract. – Council subsidises the purchase of Bokashi bins and worms: Refer to Cut your waste (qldc.govt.nz). – Council returns excess mulch produced from the green waste collected from QLDC’s transfer station facilities to the community for free via Mulch Grab events. These events also allow for engaging with the community on the topic of waste minimisation. 	1.1.1 1.1.3 2.2.12
In school education	<ul style="list-style-type: none"> – QLDC funds the delivery of the EnviroSchools and Zero Waste in-class education programme for all primary and high schools across QLD under its Solid Waste Services Contract. – Council funds the delivery of the Paper for Trees programme. 	1.1.3
Waste Minimisation Community Fund (WMCF)	<ul style="list-style-type: none"> – Up to \$60,000 is available through Council’s annual WMCF. The fund is an initiative of Council’s 2018 WMMP. The purpose of the fund is to support initiatives that minimise waste, maximise resource recovery and move the district towards becoming a zero waste and sustainable district. This includes initiatives that complement and enhance existing programmes, address gaps, create new opportunities, and encourage community participation in waste minimisation. 	1.1.19
Event waste minimisation	<ul style="list-style-type: none"> – Provision of a “top tips on how to reduce waste at events” digital resource – Development of a more extensive events’ guide to help guide event organisers to reduce waste, and provide templates – Workshops with event organisers to help them understand how to effectively reduce waste at events – Develop and promote case studies of events implementing good waste minimisation initiatives 	1.1.1 1.1.18
Business engagement	<ul style="list-style-type: none"> – Regular, on request, presentations and MRF tours provided to businesses on the topic of waste minimisation and recycling. – Waste minimisation support is provided to businesses under the education component of the Solid Waste Services Contract. 	1.1.1 1.1.10

Activities		Related WMMP Activity
Rural community inorganics collections	<ul style="list-style-type: none"> – QLDC provides inorganics collections its remote communities under the Solid Waste Services Contract. These events have been structured to allow for maximum diversion from landfill with recent events achieving up to 75% diversion. 	1.1.1 2.2.7
Construction and Demolition (C & D) initiatives	<ul style="list-style-type: none"> – Promote sustainable building practice that minimises waste and reduces resource use including the development of case studies. – Member of the Better Building Working Group established in 2018 with the aim of reducing Construction and Demolition waste. – QLDC included waste minimisation objectives into the Lakeview tender process and selected an experienced contractor able to deliver on these objectives. The project has resulted in over 86% of material diverted from landfill through reuse and recycling initiatives. A case study was developed to promote C&D diversion. – Support WAO Summit Better Building educational workshops and presentations. 	1.1.16 2.2.13
Promotion of local and national campaigns and events	<ul style="list-style-type: none"> – QLDC promote and support the following local and national campaigns and events: <ul style="list-style-type: none"> ○ Love Food Hate Waste ○ Plastic Free July ○ Rethinking Rubbish and Recycling ○ SUCfree Wanaka ○ Repair Cafes ○ Six Items Challenge ○ Sustainable Queenstown’s Green Drinks monthly events ○ WAO Summit 	1.1.15 1.1.16
Submissions and lobbying	<ul style="list-style-type: none"> – QLDC continues to support submissions that deliver better waste minimisation outcomes including the Phase out of Hard to Recycle Plastics and Single Use items, the NZ Waste Strategy, Emissions Reduction Plan etc. – QLDC continues to use its lobbying power to support the priorities in the Local Government New Zealand’s ‘Waste Manifesto’. 	1.1.4 1.1.5 1.1.7

3.7 Demand assumptions

The demand projections are based on historic tonnage projected to increase based on different population growth scenarios (medium growth is represented). The projections then model the impact of different diversion strategies either a change in service (such as introduction of organic collection) or education programmes.

The following assumptions have been made with the **demand modelling** to prepare the demand projections (refer to Figure 7):

- It will take a few years to get the educational programmes running.

- It is assumed that organics and C & D sort facilities will create a one-off impact (permanent) on diversion but that there will be no uplift in capture rate over time.
- It is assumed educational programmes will assist in increasing the capture rate of kerbside recyclables.
- It is assumed that any new RTS or MRF facilities will merely replace the status quo and will not result in any uplift in diversion rates / capture rates.
- Waste data is supplied by Council.
- Waste growth is estimated based on historical waste growth compared to population growth and applied to current population projections.

(Agreed to retain this sub section as good AM practice)

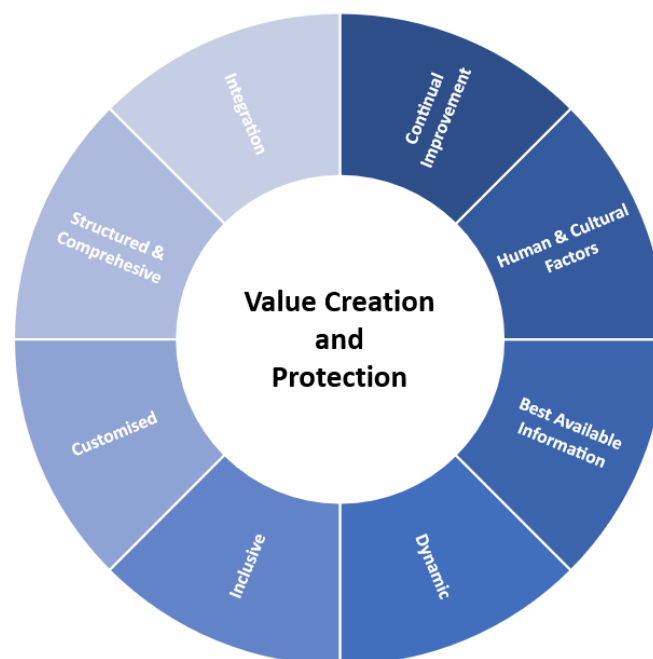
4 RISK MANAGEMENT

4.1 Risk management framework

Council's approach to risk management is defined in the Risk Management Policy (2019). Council is committed to organisation-wide risk management principles, framework and processes that ensure consistent, efficient and effective assessment of risk in all planning, decision making and operational processes.

Council's Corporate Risk Management Framework is based on Risk Management AS/NZA ISO 31000. This includes the adoption of the following core principles (refer to figure below) as set out in the Risk Management Policy. It provides the foundation for the development of an effective and sustainable risk management culture.

Figure 8 Risk Management principles



Council chooses to define the scope of its Risk Management Policy in terms of **risk types** and **categories**. Risk types refers to the class of risk that is being analysed. The three classes of risk type that are covered by this policy are as follows:

- **Strategic Risks** - Risks that have the potential to affect the strategic direction of the organisation or impact upon the Council achieving its core business objectives and or levels of service
- **Operational Risks** - Risks that are associated with the internal functions of the organisation, and which are primarily owned by a single directorate
- **Programme/Portfolio Risks** - Risks that are specific to the programme / portfolio delivery objectives of the Project Management Office (PMO).

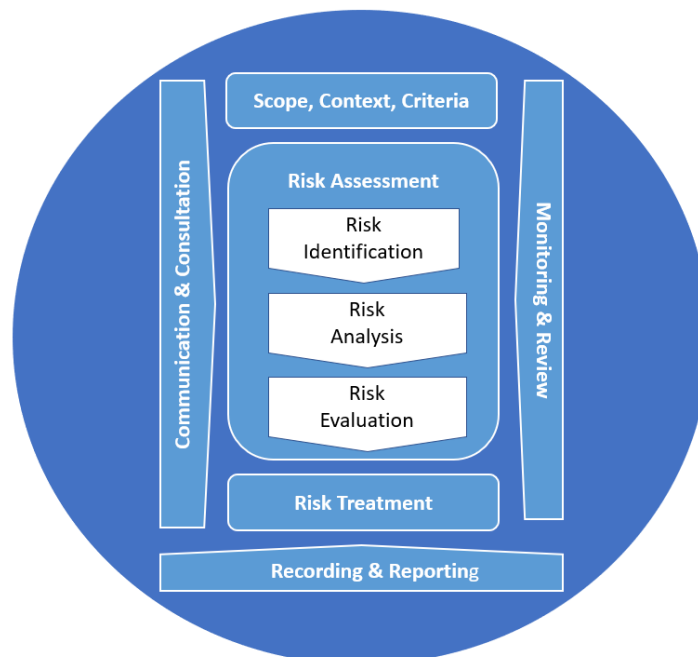
Risk categories refers to the specific groupings of risk that Council has elected to define to assist with collating and organising its risk identification. The following seven categories of risk have been adopted:

1. Business continuity
2. Community and wellbeing
3. Workforce
4. Environmental
5. Financial
6. Regulatory / legal / compliance
7. Strategic / political / reputation.

To mitigate risk, Council will follow best practice risk management processes as defined in ISO 31000:2018 (as shown in diagram below) and take the approach that:

- Risk management is everybody’s responsibility
- An open and receptive culture is necessary to appropriately identify, manage and mitigate risk
- Risk management must be embedded into the *business as usual* operations
- Risk management must be embedded into decision making processes.

Figure 9 Risk management process



(Agreed to keep Section 4.1 without the reduced content to be consistent with good AM practice)

4.2 Activity risk register

There is a suite of risk registers for the waste activity including:

- Critical Risk Register – covers overall risks to the activity (refer to Appendix 8.4)
- Contract Risk Register – covers risks relating to externally contracted companies
- Business Case Risk Registers – cover project related risk identified in the early planning stages.

Ten critical risk events were identified for the waste activity and the top five critical risks are listed below:

Table 7 High risk events

Risk	Risk cause	Initial risk rating
Landfill location compromised	– Ability to operate, compliance	23
Facilities capacity maximised	– Ability to operate, reputation	21
Equipment and machinery failure	– Ability to operate, individual harm, environmental harm, reputation	20
Landfill liner failure	– Ability to operate, environmental harm, reputation, financial impact	19
Landfill development unable to keep pace with waste growth	– Ability to operate, environmental harm, reputation, compliance	18

Source: AECOM (as at February 2021)

(Polly to request the full register from AECOM; it will then be saved on Council's files and circulated internally to Laura)

Council also requires contractors to identify and manage risks associated with the activity, equipment used, and facilities they use. This is covered by:

- Waste Management (WM) Queenstown Branch Risk Management Register 2019
 - Victoria Flats Landfill Risk Register – covers specific risks at this site
 - Victoria Flats Operational Risk Register – covers contract risks.

4.3 Emergency risk planning

Business Continuity Plans (BCP) are developed to coordinate efforts for keeping Council business operating through high-risk events such as pandemics, natural disasters, loss of staff etc. At a corporate level, Council has a BCP for response processes to be implemented for any major interruption to business operations and service delivery. This was tested with the global pandemic event (COVID-19) with people working from home except for essential workers, which included waste services.

Emergency management deals with the response to severe events. The Civil Defence Emergency Management Act 2002 stipulates that Lifeline Utilities must plan for continuity of service, be capable of managing its own response to emergencies, and establish Civil Defence Emergency Management Groups regionally. QLDC participate in the Otago Lifelines Project for land transport and three water activities. It is recognised that it needs to be better communicated internally including to waste services.

Unusual events also impact waste assets and services, particularly the kerbside collections and facilities. Waste is identified as an essential service for maintaining public health.

Council requires its contractors to have suitable waste BCPs in place as essential service providers. For example, the contractors' COVID-19 BCPs are aligned to the New Zealand Government's COVID-19 alert levels. Site specific COVID-19 protocols were required to meet the New Zealand COVID-19 Construction Protocols. The BCPs were independently reviewed.

A flexible approach was taken to the COVID-19 BCPs, allowing services to be modified to suit the circumstances. The biggest aspect of BCP is communication strategy for customers and service users. Council has used the full cross section of communication tools (social media, newspaper, video, website) to get a clear message across, supported with education and enforcement as required.

The lessons learnt from the lockdowns due to COVID-19 were:

- Better prepared for the second lockdown
- Online booking system for contact tracing and ensuring social distancing at the transfer stations to allow disposal of rubbish worked well
- The guidance from the Waste National Response Team was delivered after Council had already made decisions regarding what facilities would close / remain open before that guidance was available.

4.4 Climate change, resilience and zero carbon

4.4.1 Council's response to climate uncertainty

At corporate level:

In 2019, Council declared a climate emergency and as a result a 2019-2022 Climate Action Plan Te Mahere Āhuranhi was developed. Council has set a goal of net zero carbon emissions by 2050 to support the Climate Action Plan.

Council will continue to refine its methodology in line with its implementation of the Climate Action Plan as the primary tool for proactively managing the effects of climate change on the community and seek best practice guidance for all Council's significant infrastructure investment decisions. The 2021 Infrastructure Strategy outlines Council's response to climate uncertainty and underlying assumptions including risks and consequences.

At activity level:

At a local level, it is necessary to understand what this means for waste activity. The following impacts of climate change are anticipated to apply to the waste activity and proposed actions:

Table 8 Proposed climate change actions

Most likely effects	Proposed actions	Timing
High temperatures or drought can increase the fire risk and hazards at waste facilities and collection / waste handling vehicles.	Council's contractor is required to keep the waste facilities in a tidy and safe state particularly in relation to fire risk and hazardous materials.	Ongoing
There will be pressure to reduce the carbon emissions from collecting, transporting and disposing waste.	Continue to work with industry nationally as step changes and improvements are implemented. This will include the Government's direction on sustainable procurement practices. Implement sustainable outcomes as part of the next contract procurement process and contract document. WM operate an electric collection vehicle, e-bikes and electric yellow fleet.	First opportunity is for the new facility upgrades and associated contract document changes
There will also be pressure to reduce methane from Victoria Flats Landfill.	Retrospective installation of gas collection system at landfill is complete. Progressively install as landfill grows.	Ongoing

Carbon credits and liabilities:

The Climate Change Response Act 2002 was amended at the end of 2019 and now includes targets for the reduction of biogenic methane. The first emissions budget period is 2022 to 2025 and will be gazetted by 31 December 2021. It must include all greenhouse gases.

Council purchases carbon emission units (NZUs) under the New Zealand Emissions Trading Scheme for the Victoria Flats Landfill. The gas collection system was installed to reduce methane emissions as required under the consent conditions.

4.4.2 Building resilience

Resilience refers to the capacity to recover quickly from difficulty. The concept applies to major disruption events including those associated with climate change.

This activity is an essential service that needs to be continued in a major event for refuse collection. Recycling collection services can be disrupted for longer periods. There is the potential to impact public health if there is disruption in refuse collection services and the contractors' BCP would be implemented. Public health is very important in a disruptive event, such as the global pandemic event. Access to the landfill is required as soon as possible to ensure service continuity.

Council has used two methods, first to build people resilience, second to build capacity and strength into the infrastructure. This approach has allowed Council to build asset knowledge and develop consistent decision-making processes.

Council has identified the following resilience challenge in the 2021 Infrastructure Strategy:

- Low confidence in the continuity of services following a sudden event.

In response to this challenge, the required outcome is:

- Communities are resilient to sudden natural events.

Guiding principles have been identified to meet this outcome so that any waste or discarded materials are managed through a zero waste lens (refer to Section 1.4.1 Strategic Overview).

4.4.3 Zero carbon

Council has set a goal of net zero carbon emissions by 2050 to support the Climate Action Plan. The key actions Council proposed towards zero waste as defined in the 2021 Infrastructure Strategy are:

- Support and alignment with the MfE plan to review the New Zealand Waste Strategy
- Explore opportunities to align with national waste minimisation targets
- Look to explore collaborative investment applications to the additional waste minimisation funds available from 2023 due to Waste Disposal Levy increases.

The New Zealand Waste Strategy, Waste Minimisation Act 2018 and Litter Act 1979 are currently under review and are likely to set Aotearoa on a much stronger path towards waste minimisation outcomes (zero waste, zero emissions, circular). They will likely include mandated targets to reach these goals.

The collection, transporting and disposal of waste directly contributes to carbon emissions. Council will continue to work with industry nationally as step changes and improvements are implemented. This will include the Government's direction on sustainable procurement practices. Preliminary opportunities identified include:

- Watching for new technology to reduce the district's carbon footprint, particularly transporting waste in trucks
- Using electric truck and forklift at the MRF
- Follow new technology trialled overseas such as new electric rubbish trucks
- Smart procurement processes to drive change with an environmental lens.

Council's strategic project includes the proposed Kimiākau Resource Recovery Hub and Zero Waste Community Eco Park. The first stage being a new recycling facility and waste transfer station. The wider Eco Park concept includes an integrated facility connecting people to the environment through a community hub for learning opportunities such as biological diversity, sustainable building, wise resource use, organic gardening and composting, river ecosystems, conservation and energy efficiency. The facilities could also provide a supportive environment for the development of social enterprise, green jobs and circular economy initiatives.

5 LIFECYCLE MANAGEMENT

5.1 Overview

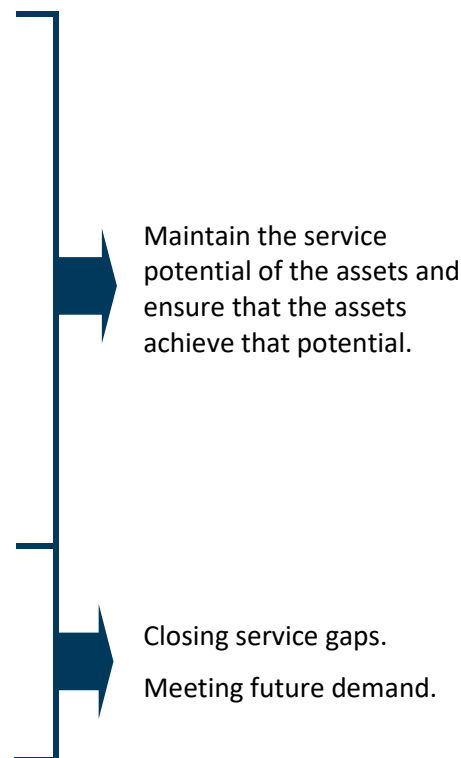
The lifecycle management programmes cover the four key categories of work necessary to achieve Councils' waste management objectives. These programmes are:

Management Programme: management functions required to support the other programmes.

Operations and Maintenance Programme: to ensure efficient operation and serviceability of the waste management and minimisation assets so that they achieve their service potential over their useful lives.

Asset Renewal Programme: to provide for the progressive replacement of individual assets that have reached the end of their useful lives.

Asset Development Programme: to close current and expected service gaps and provide for development to meet future demand.



Financial forecasts derived from each of the four key programmes provide the financial input to the waste management activity in the Council's LTP.

5.2 Scope of activity

Waste services provided by Council include:

- Residential waste collection:
 - For eligible properties, it is provided via kerbside collection where possible, or via a collection area on the nearest road where a collection is provided
 - Residents outside the collection boundaries can bring their bins to the collection area for collection
 - Extensions to the collection boundaries are considered as areas develop and more properties become eligible for collection
 - Kerbside waste and recycling collection using council approved wheelie bins
 - Weekly for refuse, and fortnightly for mixed recycling and separate glass bins on alternating weeks
- Rural greenwaste drop off facilities

- Inorganic collections in the rural areas that are not in close proximity to one of the two transfer stations:
 - Annual inorganic drop-off community event in Glenorchy
 - Biannual in Makarora
 - Twice yearly in Kingston
- Queenstown and Wanaka Transfer Stations – acceptance of waste and acceptance, sorting and storage of divertible materials, such as green waste, tyres, scrap metal, cleanfill, gas bottles, child car seats etc. Also accepted are limited volumes of hazardous waste. Owned by Council and operated by waste services contractor.
- Queenstown MRF - owned by Council and operated by waste services contractor:
 - Accepts kerbside-collected recyclables from council collections
 - Accepts recyclable material from private recycling services (including CODC’s waste service contractor)
 - Co-mingled recyclables (excluding glass) are sorted using mechanical equipment – consolidates separated recyclables and transported to end markets in New Zealand and overseas
- Victoria Flats Landfill – owned and operated by Scope Resources under Build Own Operate and Transfer contract. Accepts waste from QLDC and CODC.
- Provision and servicing of public place rubbish bins and public place recycling bins.
- Waste minimisation education / initiatives and programmes (refer to Section 3.6 Demand Management Programme).
- Monitoring and maintenance of six closed landfills at Tuckers Beach, Wanaka, Glenorchy, Hawea, Makarora and Luggate
- Subsidised home composting initiative ‘Bokashi’ Bins and worms for worm farms
- Dealing with illegal dumping.

5.3 Asset information

Waste services assets - Asset information was captured as part of the 2019 asset valuation at the end of the previous waste services contract (refer to Section 6.5 Asset Valuation). The assets that had previously been owned by the contractor transferred to Council at the end of the contract term. Asset valuation information is recorded in the financial system and held on file. This recorded the construction date and provided an assessed residual life for major asset groups (buildings and services). At the time of the valuation items such as building structures had a reasonable residual life. Other plant and equipment owned by the contractor was at the end of its useful life. The transfer station facilities have had significant capital expenditure in the past two years to keep them operational.

RTS assets - The Queenstown RTS and Wanaka RTS were built in 1999/2000. There is a Council owned weighbridge at the Wanaka RTS and two weighbridges at the Queenstown RTS. All are in reasonable condition, regularly serviced and calibrated annually.

RTS assets - Since 2019, Council has replaced the compactors, and relayed the pit floors.

MRF assets - The Queenstown MRF was built in 2007/08, equipment within the MRF transferred to Council in 2019 at the end of the previous contract term. Since 2019, Council has upgraded key critical operational plant such as the baler, gear boxes and polisher rollers. The MRF equipment is a critical asset which is in poor condition. There is a weighbridge at the MRF which is regularly serviced and calibrated annually. There are plans for the new MRF which is not anticipated to be constructed for another four years (2024 to 2025) so the existing MRF needs to be maintained in the interim.

Several major plant and equipment assets are provided by the contractor (such as collection vehicles and yellow fleet).

Landfill assets - Victoria Flats Landfill is the sole operational landfill. All assets and plant at the landfill are currently owned by the contractor. These items are also critical for the operations but the responsibility of the contractor to maintain and replace. Victoria Flats Landfill has been operational since 1999 and has an expected 45-year remaining life. Consents expire in 2032 and the BOOT contract ends in 2034. Fixed assets are currently owned by the contractor and will transfer to Council at the end of the term.

Weighbridge assets - There are four weighbridges in total located at the Queenstown RTS (two), Wanaka RTS, and MRF.

Collection assets - Kerbside collection bins are owned by the waste services contractor during the term of the contract and transfer to Council at the end of the contract period. Any warranty issues sit with the contractor. The current contract commenced on 1 July 2019, and new plant and new kerbside bins were provided at that time so are in very good condition.

Public place waste assets - There are currently 286 public place bins (rubbish, recycling, bottlebanks, dog waste and cigarette bins) in service. Council is in the process of replacing existing bins with the four ways bins (two rubbish, one glass and one can) in the CBDs. Asset information including location was surveyed in 2019 and is stored in GIS. This is updated as existing bins are replaced. Council is rationalising the number of public place bins and replacing the older 60 litre bins which are no longer fit for purpose

Closed landfill assets –There are six consented closed landfills and a number of older former landfill sites that exist across the district.

5.3.1 Closed landfills

Closed landfills need to be proactively monitored and managed to ensure they do not pose a risk to public health or the environment. Recent events such as the Fox Glacier Landfill event highlighted the risk from extreme weather events on closed landfills, particularly if they are near waterways.

There are twelve known landfill sites within the QLDC area. One operational landfill (Victoria Flats), six consented closed landfills (refer to Figure 5) and five unconsented closed landfills.

Consented closed landfills:

The six consented closed landfills are monitored. The consent expiry dates are summarised in the following table. Council is in the process of assessing the environmental and public health risk associated with these landfills. The outcome of the assessment may lead to additional capital work required to manage risk from extreme weather events. This is particularly relevant to closed landfills near waterways.

Council monitors six closed landfills and reports to the Otago Regional Council against the consent relating to discharge to land and air. Council has ongoing costs associated with the management of closed landfills.

Table 9 Consent expiry dates

Site name	Description	Consent expiry	Monitoring frequency
Hawea Closed Landfill	Between Domain Road and the Hawea River	August 2048	6 monthly
Luggate Closed Landfill	Eastern side of Church Road	February 2046	6 monthly
Makarora Closed Landfill	Between State Highway 6 and the Makarora River	May 2047	6 monthly

Site name	Description	Consent expiry	Monitoring frequency
Glenorchy Closed Landfill	Located off Shiel Road between Bible Terrace to the south and the Coll Street to the north	November 2048	6 monthly
Tuckers Beach Closed Landfill	Between Ferry Hill to the south and the Shotover River to the north and west	July 2033	Annual
Wanaka Closed Landfill	Located on the west side of the Cardrona River, on the corner of Ballantyne Road and Riverbank Road	April 2023	6 monthly and annual

Source: QLDC Environmental Monitoring of Closed Landfills, Annual Report 2019/20

Unconsented closed landfills:

There are five known unconsented closed landfills that Council is assessing but does not actively monitor. These are located in:

- Albert Town
- Arrowtown
- Fernhill
- Kingston
- Warren Park.

5.3.2 Kerbside collection assets

Council provides kerbside refuse collection using refuse bins, glass recycling bins and mixed recycling bins. On 1 July 2019, a new solid waste contract came into effect.

There are 21,505 eligible dwellings as at 5 July 2021. The majority of these dwellings have the standard three bins, 140 litre residual waste bin, 240 litre mixed recycling and 140 litre glass bin. Some multi-unit developments have opted for fewer but larger bins, within their total entitlement. This is charged for in rates (Waste Management Charge). Queenstown Lakes was the first district in New Zealand to implement a glass wheelie bin system to ensure a high standard of recycling.

Bins are owned and maintained by the waste services contractor during the contract term, with ownership transferring to Council at the end of the contract.

Glass and mixed recycling bins are also supplied to the 25 educational centres within the district. These include:

- State
- State-integrated
- Not for profit

5.4 Critical assets

There is a range of critical assets that support the services these are listed below along with ownership information:

- Wheelie bins (contractor owns and maintains).
- Collection vehicles (contractor owns and maintains).
- Existing MRF processing equipment and buildings (Council owns and maintains). Note ownership of the new facility is yet to be decided.

- Existing RTS assets (Council owns and maintains). Note ownership of the new facilities is yet to be decided.
- Landfill assets (contractor owns and maintains).

The contractor has a BCP covering how the services will continue to be delivered if there is any asset or equipment breakdowns or other emergency event. The contractor has backup resources are available (refer to Section 4.3 Emergency Risk Planning).

5.5 Asset age

Council owns the land at all three facilities. The landfill commenced operation in 1999. The RTSs commenced operation in 1999/2000. The MRF commenced operation in 2007/08.

5.6 Capacity and performance

The existing MRF is at risk of critical failure. Significant investment in the MRF and RTS has been required since July 2019 to keep these facilities operational.

As discussed under the demand section, waste volumes are variable based on visitor numbers. The contractor provides additional resources during these times to meet demand. Backup resources are available via their other operations throughout the country.

All QLDC waste is contracted to go to Victoria Flats Landfill which has an expected life of 45 years. Council is working with local business and the community to drive zero waste strategies.

Another key performance or capacity issue is provision of diversion processing facilities to increase diversion such as organic processing or C & D processes. This is incorporated into the capital development programme.

At the Victoria Flats Landfill a gas collection and destruction system has recently been commissioned. Currently the default ETS emissions factor is being applied. After 12 months of operating the landfill gas system, Council will be able to apply for a unique emissions factor based on actual emissions.

5.7 Asset condition

The last formal condition assessment was completed in 2019 and focussed on RTS and MRF assets. Overall, assets at the transfer stations are in poor condition. Council has upgraded critical assets over the past two years and has adequate budget to keep on top of maintenance and repairs at these facilities. A full condition assessment is recommended every five years as good industry practice for the asset value and risk.

The existing MRF is in poor condition and Council is managing repairs and maintenance carefully. This equipment needs to continue operating for up to another four years before the new MRF is fully operational.

The landfill assets are considered in good condition.

5.8 Service delivery arrangements

Council streamlined the service delivery framework in 2019 with a new comprehensive waste services contract. This was awarded to Waste Management Ltd (WM) and the contract covers provision of all Council collection services, bins, public place bins, operation and management of transfer stations and MRF, greenwaste sites, inorganic collections, waste education and illegal dumping. The Contract has a full term of 15 years with renewals after 7.5, 2.5, 2.5 and 2.5 years.

Victoria Flats Landfill is the sole operational landfill. This land is owned by QLDC, and the landfill is owned and operated by Scope Resources Ltd under a BOOT (Build Own Operate Transfer) contract, which expires at the end of June 2034. The landfill consent expires earlier in 2032.

Council works with several community groups to deliver education programmes (refer to Section 3.6 Demand Management Programme).

5.9 Operations and maintenance plan

The Victoria Flats Landfill and waste services contractors are responsible for providing contract management plans that set out how the services will be provided and outline any operation and maintenance requirements aligned to contract specifications. The contract management plans include traffic management, health and safety management, environmental management, and quality. The key O & M tasks are:

Transfer Stations:

- Operations – Operational hours for the facilities are set by Council and only modified due to issues such as facility failures or changes to COVID-19 alert levels. All operational staff including weighbridge staff are employed by the contractor. Tasks include management of public and commercial users (site access and control), traffic management, environmental monitoring (as required), management of hazardous materials, site maintenance (building, grounds, services, stormwater and leachate systems), recording and reporting.
- Maintenance – Plant and equipment are owned by the contractor who is responsible for routine servicing, maintenance and repairs. They also provide assistance with the maintenance of Council own assets within the facilities they operate (RTS and MRF).

Landfill:

- Operations – Operational hours at the landfill are set by the contractor (Scope) and only modified due to issues such as facility failures or changes to COVID-19 alert levels. All operational staff including weighbridge staff are employed by the contractor. Tasks include management of commercial users (site access and control), traffic management, environmental monitoring (as required), management of hazardous materials, site maintenance (building, grounds, services, stormwater and leachate systems), recording and reporting.
- Maintenance – All plant and equipment are owned by the contractor (Scope) who is responsible for routine servicing, maintenance and repairs.

Waste and recycling:

Rubbish is consolidated at the transfer stations before being landfilled. Mixed recycling is processed and sorted in the MRF before being sent for recycling. Glass recycling from glass bins is consolidated and sent for recycling. Operations and maintenance for each transfer station / MRF site is managed by the contractor.

Green waste:

The five community association green waste drop off sites are managed by each association. The waste services contractor mulches at these sites and manages volumes. Green waste at the transfer stations is transported to either the Shotover Delta or Riverbank Road sites where it is mulched by the waste services contractor, before use by the Parks and Reserves team on Council's parks and reserves.

Closed landfills:

Operational activities associated with the closed landfills are limited to the ongoing management of vegetation at the sites through mowing and environmental monitoring to meet consent requirements.

5.10 Asset renewal programme

The asset renewal programme provides for the progressive replacement of assets as they reach the end of their useful lives.

There is a programme to keep on top of asset replacements at both transfer stations until these facilities are upgraded. Council also has a budget to maintain the existing MRF until the new MRF is operational.

All mobile plant at the RTs and MRF are the responsibility of the contractor. The kerbside wheelie bins and collection trucks are the contractor's responsibility to maintain and replace. There is a rolling public place bin replacement and rationalisation programme.

All landfill assets are the responsibility of the landfill contractor to maintain and replace.

The following is a list of key renewal projects over the next ten years. The existing Wakatipu Waste Facilities is the largest renewal project at \$3.8 million for maintaining existing MRF until Kimiākau Resource Recovery Hub is built and commissioned. It is for essential investment in the existing refuse and recycling facilities. Consenting is the next largest renewal project at \$970k. It is for the renewal of landfill, transfer stations, and closed landfill consents.

Table 10 Summary of renewal projects

Renewal projects	Location	Ten-year budget (\$)
Public place waste bins	Queenstown	814,700
Solid waste - minor asset renewals - Wanaka	Wanaka	38,359
Solid waste - minor asset renewals - Wakatipu	Queenstown	38,359
Existing waste site consenting	Queenstown	964,700
Existing Wakatipu Waste Facilities	Queenstown	3,775,000
Solid Waste - large asset renewals - Wakatipu	Queenstown	400,000

Source: 2021 LTP budgets (uninflated as at June 2021)

5.11 Asset development programme

The asset development programme is intended to close current and forecast service level gaps. To meet key zero waste and diversion targets, additional processing facilities are required. This is centred around organic processing and diversion of construction and demolition waste. Future stages of the Kimiākau Resource Recovery Hub will provide for activities such as these, noting that funding for master planning will help determine whether these types of activities are Council owned, Council supported, or private sector.

The following is a list of key capital development projects over the next ten years. The largest project is the New Wakatipu Waste Facilities at \$31.6 million. It is for the new MRF and Transfer Station, enabling the decommissioning of the existing facilities located in Frankton Flats. Facilities will form the basis of a community Kimiākau Resource Recovery Hub, which would one day be expanded to include other activities. The Wanaka Waste Facilities at \$3.45 million is next largest capital project. It is for the existing site rearrangement and upgrade of transfer station.

Table 11 Summary of capital development projects

Capital development projects	Location	Ten-year budget
Asset management improvements - Wakatipu	Queenstown	132,000
Product stewardship	District wide	400,000
Master Planning - Wakatipu	Queenstown	1,200,000
New Wakatipu Waste Facilities	Queenstown	31,600,000
Zero Waste District Programme - Wakatipu	Queenstown	2,520,000

Capital development projects	Location	Ten-year budget
Asset management improvements - Wanaka	Wanaka	88,000
Master Planning - Wanaka	Wanaka	800,000
Zero Waste District Programme - Wanaka	Wanaka	1,680,000
Wanaka Waste Facilities	Wanaka	3,450,000
Organic waste management	Queenstown	500,000

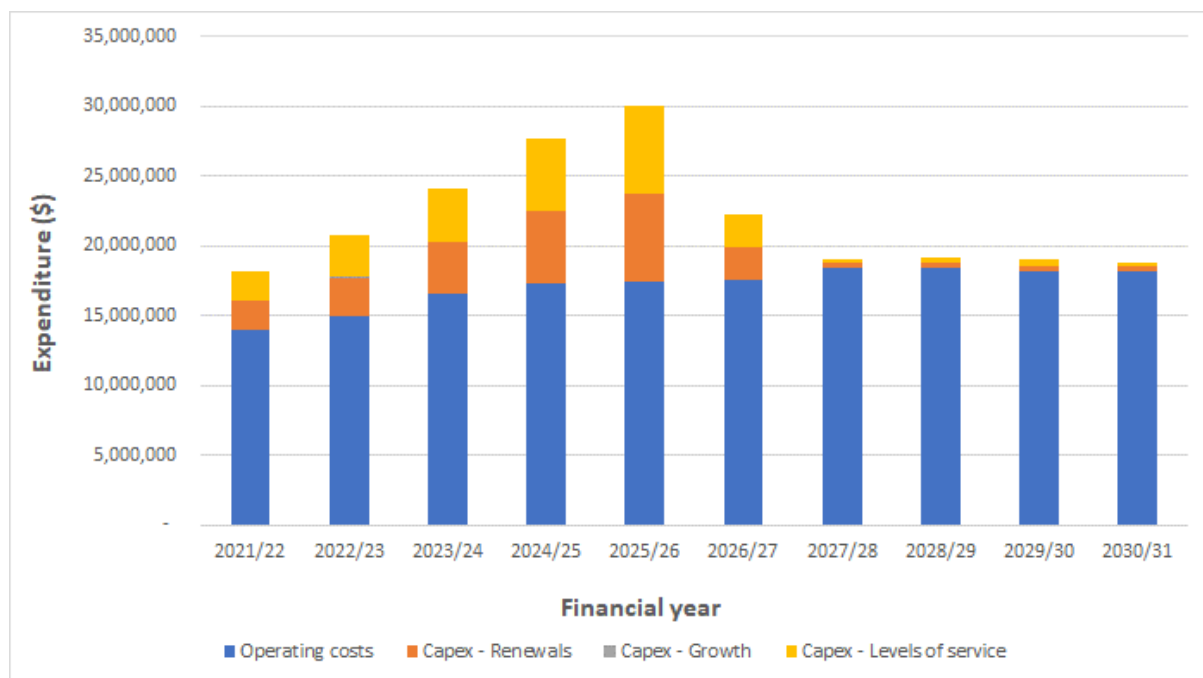
Source: 2021 LTP budgets (uninflated as at June 2021)

6 FINANCIAL SUMMARY

6.1 Financial overview

The total amount of expenditure for operations, maintenance, and capital for the waste activity over the next ten years is \$219 million, as shown in Figure 10 and as detailed in Table 12 below. This shows that the average annual activity costs are about \$21.9 million per year. Of the ten-year forecast, operating costs make up 78% with levels of service and renewals both at 11%.

Figure 10 Summary of waste management and minimisation 10-year forecast



Source: 2021 LTP budgets (uninflated as at June 2021)

Expenditure types are defined and reported as follows:

- Operating expenditure is used to fund the ongoing day to day activities and services of the Council. It is expensed (not capitalised) work that continues the provision of services and services provided by assets
- Capital expenditure is used to replace existing deteriorated assets or components of assets to restore their remaining life and service potential.

The Council has three categories of capital expenditure spread across its activities:

- Renewals – Defined as capital expenditure that increases the life of an existing asset with no increase in service level. It replaces existing deteriorated assets or components of assets to restore their remaining life and service potential
- Level of Service – Defined as capital expenditure that increases the service level delivered by the asset
- Growth – Defined as capital expenditure that is required to provide additional capacity in whole or part.

Table 12 Summary of waste management and minimisation ten-year forecast

Year	Yr1	Yr2	Yr3	Yr4	Yr5	Yr6	Yr7	Yr8	Yr9	Yr10	10 Year Total
Expenditure	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	
Operating costs	\$14,005,380	\$14,901,741	\$16,535,578	\$17,320,861	\$17,388,283	\$17,490,346	\$18,385,675	\$18,407,112	\$18,101,442	\$18,156,901	\$170,693,318
Capex - Renewals	\$2,016,916	\$2,796,759	\$3,696,450	\$5,189,995	\$6,289,837	\$2,402,230	\$339,627	\$389,674	\$489,587	\$339,484	\$23,950,559
Capex - Growth	\$20,000	\$40,000	\$40,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$100,000
Capex - Levels of service	\$2,096,916	\$2,956,759	\$3,856,450	\$5,189,995	\$6,289,837	\$2,402,230	\$339,627	\$389,674	\$489,587	\$339,484	\$24,350,559
Total	\$18,139,212	\$20,695,259	\$24,128,478	\$27,700,851	\$29,967,957	\$22,294,806	\$19,064,929	\$19,186,460	\$19,080,616	\$18,835,869	\$219,094,436

Source: 2021 LTP budgets (uninflated as at June 2021)

6.2 Operational expenditure summary

The recommended ten-year operational forecast for the waste activity is shown in Table 13 with \$171 million forecast over the next ten years. Annual operational expenditure is about \$17 million per annum.

It is noted that the operational forecasts for refuse and recycling collection services have not been adjusted to allow for population and business growth. This needs to be monitored to ensure it is sufficient.

Table 13 summary of operational expenditure

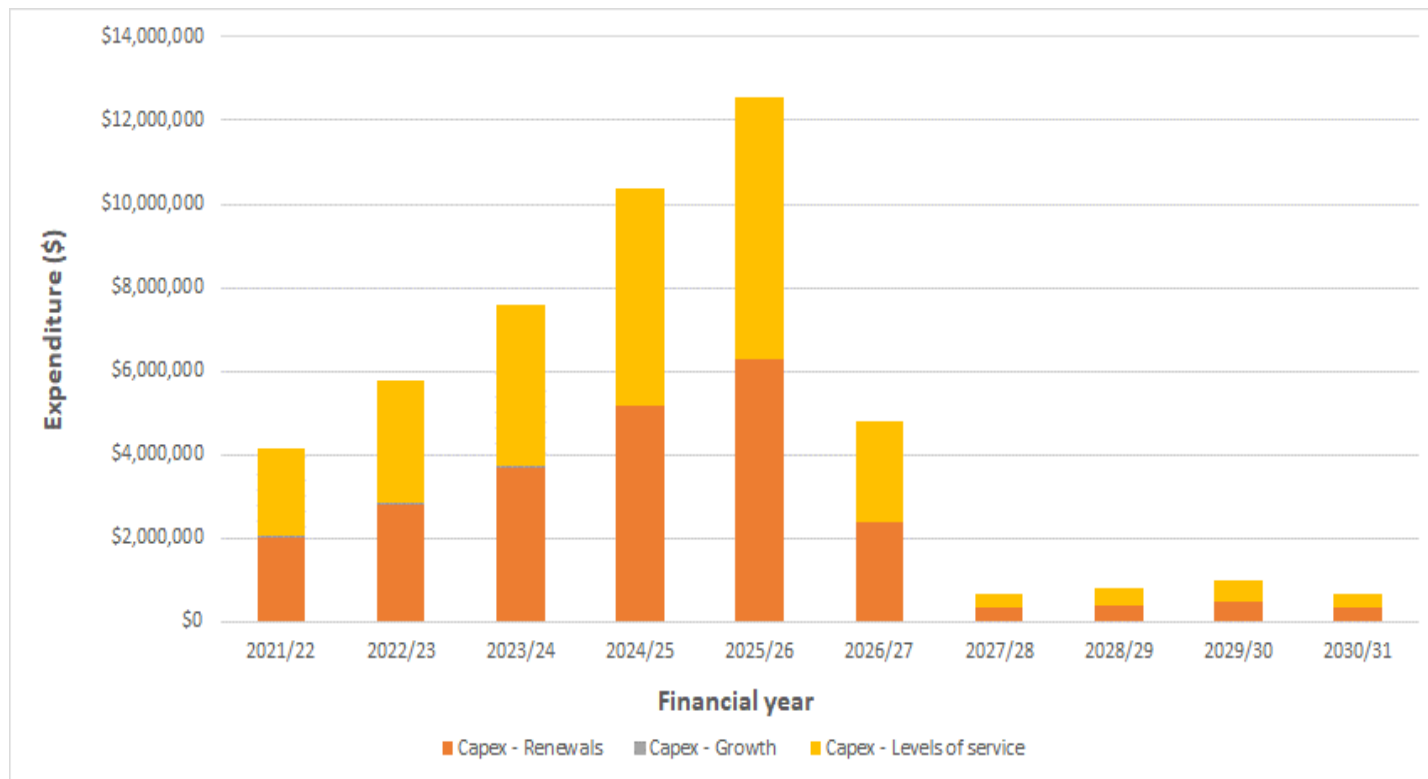
Operating Expenditure	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	10 Year Total
	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	
Depreciation	\$197,014	\$228,405	\$421,220	\$598,656	\$661,037	\$777,371	\$1,595,319	\$1,620,759	\$1,546,734	\$1,752,822	\$9,399,336
Refuse costs - collection and disposal	\$3,852,000	\$3,981,000	\$4,116,451	\$4,116,451	\$4,116,451	\$4,116,451	\$4,116,451	\$4,116,451	\$4,116,451	\$4,116,451	\$40,764,608
Recycling costs	\$2,150,000	\$2,150,000	\$2,150,000	\$2,150,000	\$2,150,000	\$2,150,000	\$2,300,000	\$2,300,000	\$2,300,000	\$2,300,000	\$22,100,000
Landfill costs	\$4,398,000	\$4,955,000	\$5,965,000	\$6,372,000	\$6,372,000	\$6,372,000	\$6,372,000	\$6,372,000	\$6,372,000	\$6,372,000	\$59,922,000
Consultants	\$70,000	\$70,000	\$90,000	\$140,000	\$70,000	\$70,000	\$70,000	\$90,000	\$70,000	\$70,000	\$810,000
Management Services	\$910,000	\$910,000	\$910,000	\$910,000	\$910,000	\$910,000	\$910,000	\$910,000	\$910,000	\$910,000	\$9,100,000
Green waste	\$109,000	\$109,000	\$109,000	\$109,000	\$109,000	\$109,000	\$109,000	\$109,000	\$109,000	\$109,000	\$1,090,000
Education and Sponsorship	\$452,000	\$452,000	\$452,000	\$452,000	\$452,000	\$452,000	\$452,000	\$452,000	\$452,000	\$452,000	\$4,520,000
Other (fees, legal, rates, interest, insurance, illegal dumping)	\$1,867,367	\$2,046,336	\$2,321,907	\$2,472,754	\$2,547,795	\$2,533,524	\$2,460,905	\$2,436,902	\$2,225,257	\$2,074,628	\$22,987,374
Total	\$14,005,380	\$14,901,741	\$16,535,578	\$17,320,861	\$17,388,283	\$17,490,346	\$18,385,675	\$18,407,112	\$18,101,442	\$18,156,901	\$170,693,318

Source: 2021 LTP budgets (uninflated as at June 2021)

6.3 Capital expenditure summary

The total capital expenditure over the next ten years is forecast to be \$48.4 million, as shown in Figure 11 and is mainly comprised of renewal and level of service activities. Refer to Appendix 8.5 for the 30-year capital forecasts.

Figure 11 Summary of 30-year capital expenditure forecast



Source: 2021 LTP budgets (uninflated as at June 2021)

6.4 Implications of funding constraints

QLDC has experienced significant funding constraints as a result of managing debt prudently across all Council activities while continuing to invest. The implications of the funding constraints on the waste activity are summarised in the following table. Five capital projects were not funded as part of the 2021 LTP process despite four of these projects being identified in the 2018 WWMP. This may impact Council’s ability to meet its WWMP objectives as the identified action plan cannot be fully implemented. Council will continue to monitor its waste activity to ensure that there are no significant service gaps due to funding constraints.

Table 14 Summary of unfunded capital projects

Unfunded capital development projects	Project description	2018 WMMP project	Ten-year project total	Consequences of unfunded project
Organic waste	Provide organic waste solutions for beneficial reuse of organic materials including trials, drop off facilities, kerbside services, education, community initiatives, and processing facilities.	Yes	\$10,900,000	Waste diversion from landfills targets not achieved without reuse of organic materials.
Commercial waste – CBD	Review methodology and provision of CBD rubbish collection services including receptacles, frequency and funding mechanisms. Provide solution for commercial waste storage to alleviate collection challenges in the CBD where traditional service lanes have been taken over by businesses operating under licences to occupy.	Yes	\$3,214,280	Footpaths may be blocked in CBD with waste collection services not optimised. May also result in untidy streets which is not acceptable in a tourist destination.
Construction and demolition waste facility	Develop resources and facilities to monitor and minimise waste and reduce resource use in the construction and demolition sector including QLDC’s own infrastructure and property capital programmes.	Yes	\$5,200,000	Waste diversion in the construction sector will not be realised.
Smart technology – waste	Develop interactive tools and technology to support waste services.	Yes	\$120,000	Difficult to provide targeted communication on waste minimisation to the community with the existing tools.
Kerbside collection bins	Procurement and provision of residential bins for new organic collection service.	No (not explicitly)	\$1,000,000	This project is linked to the organic waste solution project as above. Waste diversion targets not achieved without roll out of organic service. <i>(Becs to confirm with Jesse; this may need amending)</i>

Source: Council’s 2021 LTP budget (uninflated as at July 2021)

6.5 Revenue summary

There is about \$11 million revenue forecast per annum over the next ten years. There is a higher forecast in 2026/27 due to the sale of the existing Queenstown MRF and RTS land (estimated at \$14.15 million).

Table 15 Summary of revenue forecast

Revenue Summary	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	10 Year Total
	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	
Landfill levy	\$1,026,000	\$1,068,600	\$1,113,330	\$1,113,330	\$1,113,330	\$1,113,330	\$1,113,330	\$1,113,330	\$1,113,330	\$1,113,330	\$11,001,240
Transfer station	\$7,327,000	\$8,033,000	\$8,989,000	\$9,395,000	\$9,393,000	\$9,483,000	\$9,811,000	\$10,073,000	\$10,312,000	\$10,319,000	\$93,135,000
User charges	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$250,000
General rates	\$420,000	\$441,000	\$463,050	\$463,050	\$463,050	\$14,613,050	\$463,050	\$463,050	\$463,050	\$463,050	\$18,715,400
Total	\$8,798,000	\$9,567,600	\$10,590,380	\$10,996,380	\$10,994,380	\$25,234,380	\$11,412,380	\$11,674,380	\$11,913,380	\$11,920,380	\$123,101,640

6.6 Asset valuation

Council's most recent asset valuations for Victoria Flats Landfill, the MRF and two transfer stations are summarised in Table 16 and Table 17. A valuation needs to be undertaken so it is up to date and reflects the assets covered in this activity (refer to Improvement Plan). Note that the landfill assets are Scope Resources until at least June 2034 as part of the agreement.

Table 16 Victoria Flats landfill asset valuation summary

Asset group	Replacement cost	Depreciated replacement cost	Accumulated depreciation	Annual depreciation
Easement Road	\$40,436	\$29,467	\$10,969	\$577
Landfill Site Roads	\$255,049	\$250,961	\$4,088	\$511
Water Bore and Pump	\$16,865	\$11,794	\$5,071	\$558
Irrigation System and Pump	\$13,293	\$7,622	\$5,672	\$310
Bins	\$126,807	\$31,702	\$95,105	\$6,340
Firefighting / Potable Water Supply	\$90,605	\$58,157	\$32,448	\$2,499
Cables - Phone and Power	\$30,354	\$22,794	\$7,560	\$434
Workshop	\$106,861	\$54,945	\$51,916	\$3,722
Weighbridge	\$60,309	\$38,623	\$21,687	\$1,453
Admin Office	\$41,939	\$21,058	\$20,881	\$1,495
Hazardous Goods Shed	\$9,367	\$4,143	\$5,224	\$252
Fencing, Access Gates and Landscaping	\$124,089	\$27,379	\$96,710	\$5,647
Storage	\$3,968	\$595	\$3,373	\$198
Leachate Ponds	\$534,342	\$431,957	\$102,386	\$5,551
Refuse Cells 1 to 6	\$7,494,318	\$6,496,183	\$998,135	\$74,943
Bunds	\$101,200	\$101,200	\$0	\$0
Water Race	\$210,086	\$186,977	\$23,109	\$2,101
Machinery	\$2,414,762	\$1,651,408	\$763,353	\$83,195
Monitoring	\$12,123	\$2,026	\$10,097	\$606
TOTALS	\$11,686,773	\$9,428,989	\$2,257,784	\$190,394

Source: Asset Valuation (as at June 2019)

Table 17 Transfer station valuation summary

Location	Replacement cost	Depreciated replacement cost	Annual depreciation
Queenstown Transfer Station	\$1,773,942	\$717,681	\$38,856
Wanaka Transfer Station	\$1,083,499	\$432,799	\$18,946
Queenstown MRF	\$6,753,769	\$3,157,454	\$285,380
TOTALS	\$9,611,211	\$4,307,934	\$343,182

Source: Asset valuation, Rationale (as at June 2019)

The market valuation for the Queenstown Transfer Station building and land (at 110 to 112 Glenda Drive) was assessed at \$14.15 million (as at October 2020 by APL Property). This excludes the waste equipment. The Wanaka Transfer Station building, and land is owned by QLDC. Wastebusters lease a portion of the land at this site for operating resource recovery activities. Buildings on this portion are owned by Wastebusters.

6.7 Financial policies and funding

Funding for the waste activity is currently sourced from:

- general rates and fees and charges fund the operational programme
- loans and government grants fund the capital programme.

6.8 Key financial forecast assumptions

6.8.1 Financial assumptions

The assumptions upon which the financial needs are based on the following:

- Forecast is uninflated
- Based on existing information available
- Based on existing legislation and service levels
- Budgeted pricing for carbon credits will be consistent with current market prices
- No tonnage growth or bins to service growth
- The order of priority or call on funds by Council is generally:
 - operations and maintenance
 - renewals
 - new works for increased service level improvement
 - new works for growth
- Useful asset lives are based on estimates by actual performance, industry standards and valuers as recorded in Council's AMPs. Asset information is considered good for this activity. Some assets are at the end of their life and timing of capital projects are constrained by approved funding.

6.8.2 Confidence of financial forecasts

Considering the assumptions made in deriving the future financial needs of the service, asset needs and the historical levels of expenditure for the activity, the reliability of the financial forecast to deliver the current level of service is assessed as follows:

Table 18 Confidence in waste financial forecast

Information Type	Confidence Grade	Comments
Asset values	C Medium	Asset values are based on the asset valuation as at June 2019 (for MRF and RTS).
Expenditure projections	C Medium to B High	<p>Operational projections are largely based on historical operational budgets. They have been adjusted to reflect known changes in expenditure. However, there is significant disruption in the waste industry and costs for landfill disposal are increasing.</p> <p>Capital projections are based on indicative cost to upgrade the existing transfer station and MRF sites, this includes renewal of significant assets.</p> <p>It can be difficult to predict closed landfill aftercare costs as environmental factors can trigger the need for additional expenditure.</p> <p>There is a degree of confidence that the projections are based on appropriate budgeting and approval processes and represents the best available information.</p>
Depreciation	C Medium	The assessment of useful lives and the calculation of depreciation expense are undertaken on an annual basis.
Funding sources	C Medium	Most capital renewal expenditure will be funded by loans and Government grants.
Carbon credits and liabilities	C Medium	<p>Council purchases carbon emission units (NZUs) under the New Zealand Emissions Trading Scheme for the Victoria Flats Landfill. Costs are passed on through gate fees for the landfill and fees and charges at the transfer stations.</p> <p>The Property and Infrastructure Group, finance and climate action teams are working together to consider the implications of the proposed changes on the way the ETS managed on behalf of the district. Effective management of the ETS is part of a broader system of technological and behaviour change that all need to work in a complementary fashion to reduce emissions and the cost associated with purchasing carbon credits. Legislative change moves quickly in this area and as such, officers will ensure that all changes are understood and actioned quickly.</p> <p>The impact of carbon credits in accordance with the Emissions Trading Scheme is reviewed on an annual basis to ensure pricing of waste services is amended in-line with forecast prices for carbon credits.</p>

Table 19 Confidence grade for information used for financial forecasts

Confidence Grade	General Meaning
A Very High	Information based on sound records, procedure, investigations and analysis, documented properly and recognised as the best method of assessment.
B High	Information based on sound records, procedure, investigations and analysis, documented properly but has minor shortcomings, for example the data are old, some documentation is missing, and reliance is placed on unconfirmed reports or some extrapolation.
C Medium	Information based on sound records, procedure, investigations and analysis which is incomplete or unsupported, or extrapolated from a limited sample for which grade A or B data are available.
D Low	Information based on unconfirmed verbal reports and/or cursory inspection and analysis.
E Very Low	None or very little information available.

7 ASSET MANAGEMENT PRACTICES

7.1 Overview

Council is committed to continue with good practice AM as a sustainable standard for its waste activity. A key feature in Council's AM framework is to continue to improve practices, processes and tools. This is essential to ensure the asset system and services are effectively managed.

Through the initiatives presented in this section, Council is committed to appropriate AM practices. This practice is being developed in keeping with the NAMS practice as presented in their suite of AM publications including the IIMM. Council is committed to delivering the most appropriate levels of service balanced with affordability and good industry practice.

7.1.1 AM framework

Council has an adopted AM Framework to support the delivery of its corporate objectives and to ensure AM is implemented consistently across the infrastructure activities. The AM Framework is detailed in the Strategic AMP (under development).

The Strategic AMP takes the strategic goals from Council's Vision, Infrastructure Strategy, and the principles from the AM Policy, and develops the frameworks and strategies required to achieve the AM objectives for the infrastructure assets. Council's AM Policy (2016) defines the key principles for infrastructure AM practices. The policy will be revised and adopted by June 2022.

7.1.2 AM maturity

An independent assessment of AM maturity was completed of Council activities in 2020 by Infrastructure Decisions. The results for the waste activity are summarised in the figure below and show that this activity is performing at an average of core level across the AM functions.

The average score increased from 42% to 55% in the last two years. The main improvement related to:

- Establishment of the new contract (which contained more specific AM requirements)
- Review / completion of the bin register and confirmation of ownership and location
- Updating of the waste minimisation and management plan and associated consultation
- Work being undertaken around waste analysis and demand forecasting (to support prioritisation and monitoring of waste minimisation efforts).

The maturity targets for the waste activity are:

- Intermediate for the strategic and improvement related functions
- Core for the lifecycle planning related functions.

A list of the improvements from the 2020 assessment is detailed in Appendix 8.3.

Figure 12 AMMA score



Source: Infrastructure Decisions (November 2020)

7.1.3 Key achievements

Council has generally made good progress since developing the 2018 Waste AM Improvement Programme. The key achievements include:

- AM maturity average scores increased from 42% to 55% in the last two years.
- Council has adopted its Climate Action Plan 2019-2022.
- A new district-wide residential waste and recycling service started on 1 July 2019 and was the first district in New Zealand to implement a glass wheelie bin system to ensure a high standard of recycling (as sensitive to contamination).
- Three-yearly waste assessment for the district was undertaken to monitor changes in the waste stream and inform the planning of new initiatives. The audit of kerbside rubbish and recycling occurred in December 2019. The visual survey of the composition of waste disposed at the transfer stations was undertaken in February 2020.

7.1.4 Key improvements

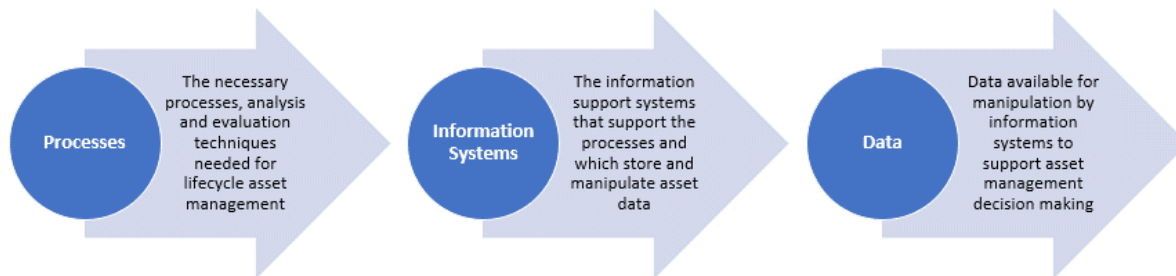
The improvement opportunities have been identified throughout the development of this Waste AMP. Council’s key improvement focus areas over the next three years will be:

- Establishing Strategic Direction:
 - Develop Strategic AMP for the infrastructure activities including waste
 - Review the WWMP in 2023 (part of six-year cycle) ready for adoption in 2024
 - Finalise and adopt the draft waste bylaw.
- Establish single source of the truth to enable robust decision making:
 - Undertake a verification process to ensure the relevant asset data for the activity is in the asset repository so there is one source of the truth
 - Consolidate the various spreadsheets into a single asset data repository for the waste assets.

7.2 Asset management practices

This section discusses the status of QLDC’s current AM practices and identifies practices the organisation wishes to use. The key AM practices can be grouped into three broad areas.

Figure 13 AM practice areas



7.2.1 Data

Data quality is important for end users so that they can have confidence in making an analysis using that data. The inventory completeness for waste management and minimisation asset classes is shown in the table below. This shows that asset data is mostly complete for waste assets. Some asset data has been loaded into Technology One. A verification process needs to be undertaken to ensure the relevant asset data for the activity is stored in the asset repository so there is one source of the truth.

Note the contractors hold asset information relating to the assets they own to undertake the services (Scope for landfill assets and Waste Management for bin assets).

Table 20 Waste management and minimisation data summary

Asset Class	Data confidence rating			
	Asset condition	Asset performance	Data completeness	Overall
Public litter bins	Uncertain	Reliable	Reliable	Reliable
Kerbside collection bins	Reliable	Reliable	Reliable	Reliable
Building and facility assets – transfer stations	Certain	Certain	Certain	Certain
Building and facility assets – MRF	Certain	Certain	Certain	Certain
Closed landfill assets (with resource consents)	Reliable	Reliable	Reliable	Reliable

Note that the confidence rating is based on the IIMM from A Highly reliable data to D Very uncertain data.

7.2.2 Systems

Information systems are essential for storing and analysing asset information to make good AM decisions. The key AM information systems used for managing the waste activity are summarised in the table below.

Table 21 AM systems summary

Information System	Purpose	Status / enhancements
Technology One	Customer enquiries / requests for service / complaint.	No changes proposed at this time. New facility assets (i.e. balers and compactors) have been loaded into Technology One. Other existing assets including property assets still need to be consolidated into a single repository.
	Fixed asset register (buildings and equipment).	
	Holds property waste eligibility data.	
	Records financial information.	
Contractors bin database - Integrated Management System	All waste services for recording asset information, waste demand stats, for preparing reports, future planning for servicing growth areas, and developing target deduction programmes.	The solid waste service contractor has implemented Elemos. Bin asset information will transfer to QLDC at the end of the contract. Quarterly database comparison to ensure alignment.
Building and facility assets data is currently held in various spreadsheets and tables as well as in Technology One.	Complete and accurate data recorded in single location on building and facility assets.	Move all waste asset data currently held in spreadsheet and various tables into Technology One (or similar) so there is one source of the truth.
Consents consolidated spreadsheet	Records environmental management information related to consents.	No changes proposed at this time.
HAIL GIS layer	Provides information on all closed landfills located in the district.	No changes proposed at this time.
GIS layer	Transfer station asset location, public litter bins, signage and kerbside bin data.	No changes proposed at this time.

7.2.3 Processes

The key AM processes for the waste activity are summarised in the table below:

Table 22 AM process summary

AM Process Area	Purpose	Status / enhancements
Asset valuations	Asset valuations are coordinated by Council's Finance Department.	The building assets for the waste activity are overdue to be revalued and identified as an improvement action. (Note this is different to the annual insurance process).
Risk management framework	Enterprise-wide approach to ensure a comprehensive review of all potential risks across the whole Council.	Ongoing review of strategic risks and manage / monitor through Council's risk register.
Comprehensive asset data for waste services across all asset classes is not currently available	Asset data is collected to ensure complete and accurate data is available for AM decision making.	A methodology for maintaining asset records has been identified as an improvement project so there is consistency.

AM Process Area	Purpose	Status / enhancements
Waste data and reporting	Waste data is used for ensuring service completion, contamination events and bin inspection results, daily waste stats, mixed recycling and glass collection tonnage, for reporting monthly. High quality reporting and transparency of information, critical to building a knowledge base and reporting according to the National Waste Data Framework Requirements.	The raw data presented monthly by the solid waste service contractor needs to be supported by analysis that helps Council and WMNZ understand what is happening in the field and supports service improvements. WMNZ is working on presenting the raw data in different formats.

7.3 Improvement plan

Key improvement programmes and associated projects have been developed through a review of the gaps identified during the development of this draft AMP, AM maturity assessment and the issues identified. The three-year improvement programme is summarised in the following table.

Table 23 AM improvement programme

AM improvement area	No	Item	Description	Priority	Responsibility	Indicative timeframe		
						2021/22	2022/23	2023/24
Establishing strategic direction – AM policy and strategy	1	1.1	Revise and adopt the AM Policy.	High	Policy and Performance Programme Manager			
		1.2	Finalise and adopt the draft waste bylaw.	Medium	Contracts Manager			
		1.3	Develop Strategic AMP for the infrastructure activities including waste. This will cover the AM Framework and objective removed from the Infrastructure Strategy. Consider using Power BI or similar for storytelling to decision makers.	High	Policy and Performance Programme Manager			
		1.4	Review the WWMP in 2023 (part of six-year cycle) ready for adoption in 2024.	High	Senior Waste Minimisation Planner			
Levels of service and performance management	2	2.1	Identify any significant service gaps as the new performance measures are bedded in on an annual basis and the financial implications.	High	Infrastructure Data Analyst			
		2.2	Monitor the implications of the funding constraints on achieving the WWMP objectives and to ensure that there are no significant service gaps.	High	Policy and Performance Programme Manager			
Demand forecasting	3	3.1	Complete waste analysis and forecasting model and review demand management strategies, prior to updating the 2024 WWMP. Monitor the effectiveness of demand management strategies – SWAP (Solid Waste Analysis Protocols).	High	Senior Waste Minimisation Planner			
Asset register data	4	4.1	Undertake a verification process to ensure the relevant asset data for the activity is in the asset repository so there is one source of the truth.	High	Infrastructure Data Analyst			
Asset performance and condition assessment	5	5.1	Schedule condition assessments of the facilities every five years.	Medium	Infrastructure Data Analyst			
Decision making	6	6.1	Embed the waste guiding principles in decision-making processes to ensure strategic fit.	Medium	Senior Waste Minimisation Planner			
Risk management	7	7.1	Complete and implement Resilience Strategy in conjunction with core infrastructure activities.	Medium	Policy and Performance Programme Manager			
Operational planning	8		None identified at this stage.					
Capital investment strategies	9		None identified at this stage. <i>(Sophie – are there capital investment workstreams that should be an improvement action? Laura suggested this)</i>					
Financial and funding strategies	10	10.1	Undertake a valuation of the waste assets to ensure up to date and reflects the assets covered in this activity.	High	Finance Manager			
		10.2	Monitor the operational forecasts for refuse and recycling collection services to ensure sufficient for covering population and business growth. (Laura – need to keep this in; this needs to be considered with the corporate operational financial model; currently flat lined)	High	Finance Manager and Contracts Manager			
Leadership and teams	11		None identified at this stage.					

AM improvement area	No	Item	Description	Priority	Responsibility	Indicative timeframe		
						2021/22	2022/23	2023/24
AM plans	12	12.1	Develop AMP on a Page for the waste activity to help storytelling to decision makers.	Medium	Policy and Performance Programme Manager			
Management systems	13		None identified at this stage.					
Information systems	14	14.1	Consolidate the various spreadsheets into a single asset data repository for the waste assets. Consider using the existing enterprise system Technology One (or RAMM). Some asset data already loaded into Technology One.	High	Infrastructure Data Analyst			
Service delivery models	15		None identified at this stage.					
Improvement planning	16	16.1	Undertake scheduled AM maturity assessment to track progress in practices.	Medium	Policy and Performance Programme Manager			

7.4 Monitoring and improvement

The AMP is a living document and needs to be kept current and relevant. It is recognised that priorities will change which makes review activities even more important to ensure this plan is a live document.

The following review activities will be undertaken:

Table 24 Monitoring and review summary

Frequency	Review task	Action	KPI	Report name	Audience	Responsibility
Annually	AMP review (internal)	Review plan annually to incorporate new knowledge from the AM improvement programme	100% achievement	Internal report	Property and Infrastructure Group	Waste Asset Manager
Annually	Monitoring and reporting	The KPIs identified in this table will be monitored and reported on an annual basis through the business plans	100% achievement	Business Plan Report	Property and Infrastructure Group	Policy and Performance Programme Manager
Quarterly	Progress of the Improvement Plan	Tracking the progress of implementing the improvement programme quarterly, particularly of projects in the short-term improvement programme	100% achievement	Quarterly reports	Property and Infrastructure Group	Policy and Performance Programme Manager / Infrastructure Data Analyst
Three-yearly	AMP development	Formal adoption of the plan by Council	100% achievement	Council AMP Report	Council and Audit New Zealand	Policy and Performance Programme Manager
Three-yearly	AMP peer review	The plan will be formally reviewed three-yearly to assess adequacy and effectiveness.	100% achievement	External Consultant report	Property and Infrastructure Group, SLT team, Audit New Zealand	Policy and Performance Programme Manager
Annual	AM maturity assessment	Undertake annual AM maturity assessment.	100% achievement	External Consultant report	Property and Infrastructure Group	Policy and Performance Programme Manager

8 APPENDICES

8.1 Acronyms

Abbreviation	Definition
AM	Asset Management
AMP	Activity Management Plan or Asset Management Plan
BCP	Business Continuity Plan
BOOT	Build Own Operate Transfer
C & D	Construction and Demolition
CODC	Central Otago District Council
EERST	Environmental Education for Resource Sustainability, Enviroschools
GHG	Greenhouse gas
IIMM	International Infrastructure Management Manual
KPI	Key Performance Indicator
LTP	Long Term Plan
LOS	Levels of service
MfE	Ministry for the Environment
MRF	Materials Recovery Facility
NAMS	New Zealand Asset Management Support
NZU	Carbon emission units (in the New Zealand Emissions Trading Scheme)
PMO	Project Management Office
QLDC	Queenstown Lakes District Council
RFS	Request for Service
SWAP	Solid Waste Analysis Protocols
WMCF	Waste Minimisation Contestable Fund
WMNZ	Waste Management New Zealand Ltd
WMMP	Waste Minimisation and Management Plan

8.2 Full LOS summary

Community outcomes	Well beings	Key service attribute	LOS	Performance measure	PM type	Baseline at 30 June 2020	Current year 2020/21 target	2021/22 target (year 1)	2022/23 target (year 2)	2023/24 target (year 3)	2024/25 to 2030/31 target (years 4 to 10)	Responsibility	Measurement procedure	Comments
Zero Carbon Communities Parakore Hapori Zero waste is just something that we do here	Environmental	Environmentally Sustainable	Our Council promotes effective and efficient waste minimisation and management	Percentage of MRF recycling contaminated	LTP	New measure Baseline 28%	New measure	<20%	<20%	<20%	<20%	Contracts Manager		
				Total waste diverted from landfill	LTP	7,736t	>8,500t	>7,800t	>8,000t	>8,200t	>23,000t (by year 10)	Contracts Manager	Weighbridge records	2019/20 results impacted by COVID-19 levels 3 and 4 restrictions with closure of MRF
				Total waste sent to landfill	LTP	43,700t	<40,000t	<42,000t	<44,000t	<46,000t	<59,000t (by year 10)	Contracts Manager	Weighbridge records	2019/20 results did not achieve target but better results second half year
				Emissions (CO ₂ e) for waste to landfill – kerbside and transfer station tonnes	LTP	New measure	New measure	Annual reduction of 4.2%	Annual reduction of 4.2%	Annual reduction of 4.2%	Annual reduction of 4.2%	Senior Waste Minimisation Planner		CO ₂ e means carbon dioxide equivalent. It is a term for describing different greenhouse gases in a common unit
Deafening Dawn Chorus Waraki We are all kaitiaki of our protected and restored incredible environment, flora and fauna			Effects on the natural environment are minimised	Zero significant non-compliance events with the resource consent conditions for the waste facilities	AMP technical	New measure	New measure	Zero non-compliance events	Zero non-compliance events	Zero non-compliance events	Zero non-compliance events	Contracts Manager	Number of significant non-compliances in ORC resource consent audit reports	Added in as good industry practice
				Zero significant non-compliance events with the resource consent conditions for the closed landfill sites	AMP technical	New measure	New measure	Zero non-compliance events	Zero non-compliance events	Zero non-compliance events	Zero non-compliance events	Environmental Manager		
Thriving people Whakapuāwai Hapori Our environments and services promote and support health, activity and wellbeing for all	Social	Safety	Safe and reliable waste services are provided	Number of serious harm incidents at the waste facilities	AMP technical	New measure	New measure	Zero serious harm incidents	Zero serious harm incidents	Zero serious harm incidents	Zero serious harm incidents	Contracts Manager	Contractors' H&S monthly management reports against KPIs for all facilities (ie landfill, RTS and MRF)	Added in as good industry practice Consistent with Solid Waste Service Contract KPIs
				Number of serious harm incidents with waste collection services	AMP technical	New measure	New measure	Zero serious harm incidents	Zero serious harm incidents	Zero serious harm incidents	Zero serious harm incidents	Contracts Manager		
		Reliability / responsiveness		Percentage of users satisfied with the kerbside collection services in our Quality of Life survey	AMP customer	New measure	New measure	>70%	>70%	>70%	>70%	Policy and Performance Programme Manager		

Community outcomes	Well beings	Key service attribute	LOS	Performance measure	PM type	Baseline at 30 June 2020	Current year 2020/21 target	2021/22 target (year 1)	2022/23 target (year 2)	2023/24 target (year 3)	2024/25 to 2030/31 target (years 4 to 10)	Responsibility	Measurement procedure	Comments
				Percentage of Request for Service (RFS) completed on time	AMP customer	98%	95%	>95%	>95%	>95%	>95%	Contracts Manager	RFS	Added in as good industry practice Aligned to contract

8.3 AM maturity improvement actions

Table 25 Detailed improvements

AM Function	Basis for Current Scores	Improvement Areas
Establishing Strategic Direction	<p>Vision 2050 being driven into AMPs, IS, LTP, CAPEX planning through Strategic Outcomes Framework.</p> <p>Strategic context / analysis included in the Waste Management and Minimisation Plan, Infrastructure Strategy and AMP.</p> <p>'AM System' and scope of Council / contractor roles confirmed / documented as part of contract review.</p> <p>AM Objectives and AM Framework documented in 2018 Infrastructure Strategy (currently being updated).</p> <p>AM Policy in place but updates have not occurred as per policy and some requirements are not followed (e.g., annual AMP updates).</p> <p>The timing and coordination of corporate strategy development and AM planning could be improved.</p>	<p>Review overall timing of corporate strategy planning IS / AMP / LTP / financial strategy / National Land Transport Programme development.</p> <p>Consider where to move AM content removed from IS (Council AM Framework, AM objectives) - such as into AM Policy or SAMP.</p> <p>Review and update the AM Policy.</p>
Levels of Service and Performance Management	<p>Service levels / costs evaluated as part of WWMP and KPIs established.</p> <p>Levels of service reviewed and confirmed with Infrastructure committee.</p>	<p>Review levels of service and performance targets as part of 2021 LTP (to reflect waste minimisation targets following waste analysis and forecasting).</p> <p>Annual reporting on revised KPIs.</p>
Demand Forecasting	<p>Demand forecasts developed for 7 options as part of WWMP, including consideration of demand management (recycling, etc).</p> <p>Waste analysis is underway (Oct 2020) - SWAP survey complete and being used to develop demand forecasts and assess demand management strategies.</p>	<p>Complete waste analysis and forecasting model and review demand management strategies.</p>
Asset Register Data	<p>Bins have been captured into GIS and significant work done to validate ownership and location.</p> <p>Asset register not maintained for other assets.</p>	<p>Establish asset register for transfer station / landfill assets.</p>
Asset Performance and Condition Assessment	<p>No asset condition or performance data recorded against assets; however, condition and performance issues are included in the monthly contractor's report.</p>	<p>Confirm condition / performance assessment requirements (inspection frequency, data recording requirements) with contractor.</p>
Decision Making	<p>The business case framework has been used to analyse preferred option for provision of services and assets for new contract.</p> <p>Major CAPEX assessed / delivered through QLDC business case and capital delivery framework (PMO).</p>	<p>Continue to use business cases to evaluate options and determine solutions.</p>
Risk Management	<p>Risks have been evaluated as part of the business case for new contract/ service model.</p> <p>There is a risk register for the landfill and contract.</p> <p>Council has undertaken a resilience gap assessment as an initial step in the development of a resilience strategy.</p>	<p>Review strategic risks and manage / monitor through Council's risk register.</p> <p>Complete and implement Resilience Strategy.</p>

AM Function	Basis for Current Scores	Improvement Areas
Operational Planning	O&M programme the responsibility of the contractor, currently 'sweating' the assets (largely reactive maintenance) until decision on new facility.	Complete O&M plan for landfill and facilities, review annually. Complete business continuity / response plan for major disasters (e.g., debris management).
Capital Investment Strategies	Major CAPEX projects have been identified and business cases developed but being reviewed as part of LTP funding. No ten-year renewal forecast prepared - occurs reactively pending a decision on new facilities.	Review renewal CAPEX forecast once decision on major facilities made.
Financial and Funding Strategies	OPEX costs reviewed as part of contract renewal and provide basis for next ten-year forecasts.	OPEX forecasts dependent on decisions on new facility.
Asset Management Leaders and Teams	There has been lack of clarity of AM role between Council and current contractors, this was re-defined in the contract but need to confirm contractor is meeting requirements (e.g., maintain asset register, annual O&M plan). Corporately, Council is supportive of AM.	Review and confirm contractor AM responsibilities. Establish Council AM coordination structure to support consistent approach to AMPs and AM Planning and shared knowledge.
AM Plans	A Solid Waste AMP was drafted in 2019 but is limited because of the absence of an asset register (though some high-level asset listings and financial information was included) and financial forecasts. Levels of service, demand sections are good. Some of the information seems theoretical rather than relevant to QLDC asset base - e.g., deterioration curves for landfill assets - needs a strong sense-check.	Update, complete and approve the Solid Waste AMP. Establish dashboards (e.g., Power BI) for key AMP inputs.
Management Systems	Workflow mapping (e.g., Promapp) / process documentation is in place for some key processes - e.g., ETC obligations, monthly claims, some general Council processes around asset creation / disposals and business cases.	Review process documentation, identify gaps and complete workflow mapping for key AM processes.
Information Systems	The GIS is used as a repository of bins asset locations. Other than that, the activity uses TechOne for financial management/RFS.	Contractor required to maintain asset information systems - consider interface with TechOne.
Service Delivery Models	Major procurement review and contract development process undertaken prior to waste management contract review - contract now in place for ten-year period.	Contractor still establishing under terms of new contract – will expect them to undertake a number of the improvements identified.
Improvement Planning	Improvement Plan (performance plan) developed following 2018 maturity assessment and reviewed. This Maturity Assessment process provides external monitoring and oversight of AM improvement every 1-2 years.	Review Improvement Plan with outcomes from this Maturity Assessment. Add more specific deliverables and dates to Performance Plan.

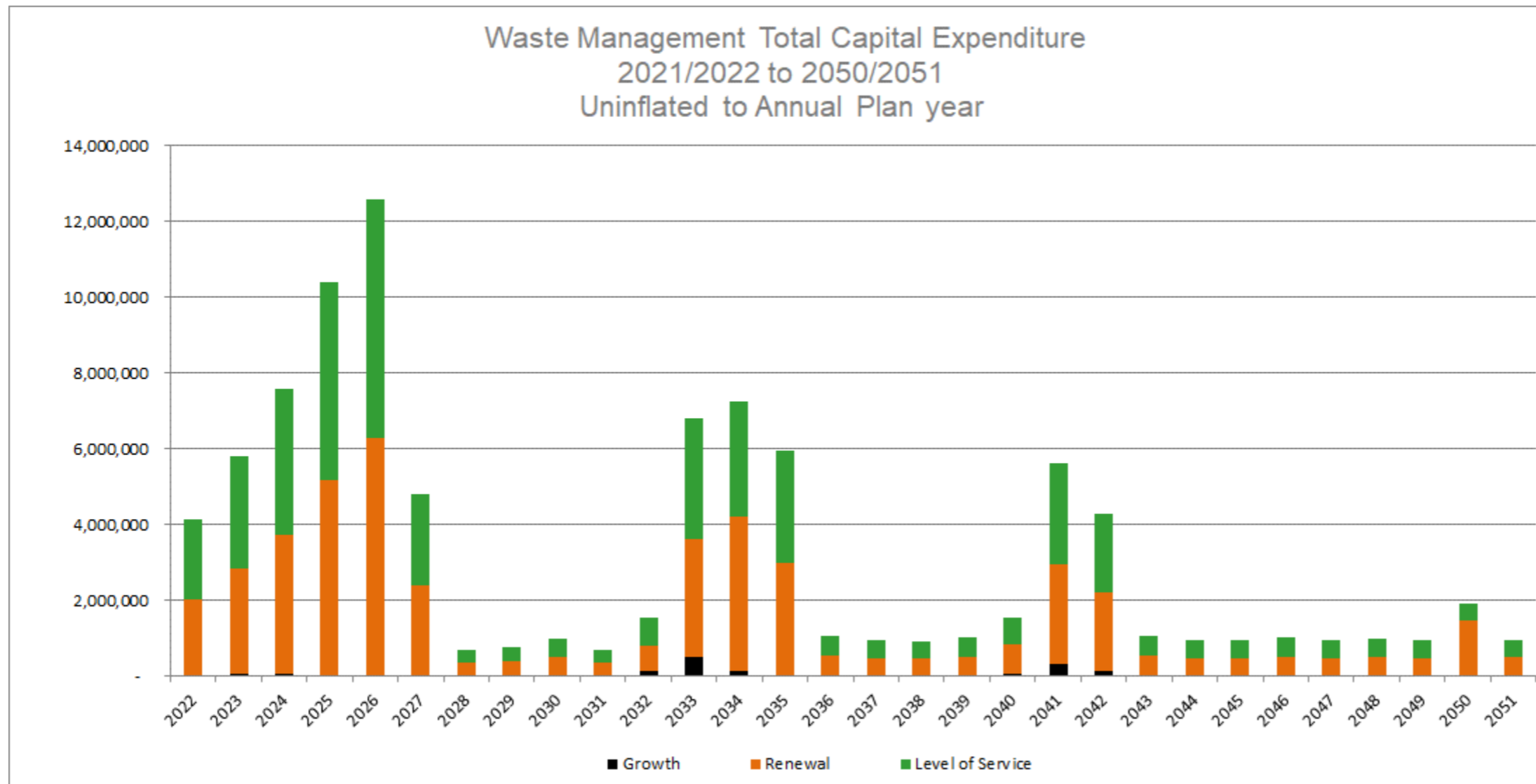
Source: Infrastructure Decisions (as at November 2020)

8.4 Critical activity risk register

Area of Risk	Identified Risk	Likelihood	Consequence	Risk Rating	Administrative, Eliminate or minimise	Controls	Likelihood	Consequence	Risk Rating	Risk Owner	Date Reviewed	Additional notes or controls required
				Uncontrolled Risk Rating		Controlled Risk Rating						
Strategic/ Political/ Reputation												
Landfill unable to keep pace with waste growth	Ability to operate, environmental harm, reputation, compliance	3	4	18	Administrative	Contract; WMMP; Asset planning	2	3	12	Senior Waste Minimisation Planner	Jan-20	Growth modelling required
Landfill location compromised	Ability to operate, compliance	3	5	23	Administrative	Asset Planning	1	5	19	Senior Waste Minimisation Planner	Jan-20	Long term strategy outlining options required
Environmental												
Landfill liner failure	Ability to operate, environmental harm, reputation, financial impact	1	5	19	Administrative	Contract	1	5	19	General Manager P&I	Jan-20	Landfill liner is unable to be insured
Business Continuity												
Sludge transportation interrupted	Ability to operate, environmental harm, reputation, compliance	2	4	17	Minimise	Alternative process	1	3	11	Contracts Manager	Jan-20	Process for sacrificial liner being investigated
Facilities capacity maximised	Ability to operate, reputation	5	4	21	Minimise	Asset Planning	3	4	18	Contracts Manager	Jan-20	New facilities are planned; Extra shifts in operation at existing MRF
Equipment and machinery failure	Ability to operate, individual harm, environmental harm, reputation	4	4	20	Minimise	Asset Management; Maintenance; Replacement	3	4	18	Contracts Manager	Jan-20	Ensure contractor has processes in place for early identification of issues; new bailer has been ordered
Community												
Fire	Ability to operate, individual harm, environmental harm, reputation, compliance	5	3	15	Minimise	Contract mechanisms; Communication	3	3	13	Contracts Manager	Jan-20	Ensure contractor has processes in place for dealing with issues; ensure risk is communicated to the community
Financial												
Cost of services escalates	Ability to operate, reputation	4	3	14	Minimise	Contract mechanisms; Communication	3	2	8	Contracts Manager	Jan-20	Contract mechanisms including target cost model
Workforce												
Cost of services escalates	Ability to operate	3	3	13	Minimise	Resource planning	2	2	7	Maintenance & Operations Manager	Jan-20	Ensure succession planning in place for key roles
Regulatory/ Legal/ Compliance												
Change in legislation requiring service changes	Ability to operate, compliance	4	3	14	Minimise	Contract mechanisms; Communication	4	2	9	Contracts Manager	Jan-20	Contract allows for flexibility

Source: AECOM (as at February 2021)

8.5 Thirty-year capital forecasts



Year	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	Total
Growth	\$20,000	\$40,000	\$40,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$150,000	\$500,000	\$150,000	\$0	\$0	\$0	\$0	\$0	\$47,250	\$300,000	\$150,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$10,000	\$1,407,250
Renewal	\$2,016,916	\$2,796,759	\$3,696,450	\$5,189,995	\$6,289,837	\$2,402,230	\$339,627	\$389,674	\$489,587	\$339,484	\$664,550	\$3,124,550	\$4,049,550	\$2,974,550	\$524,550	\$474,550	\$449,550	\$514,550	\$799,550	\$2,649,550	\$2,074,550	\$524,550	\$474,550	\$474,550	\$514,550	\$474,550	\$499,550	\$474,550	\$1,449,550	\$474,550	\$47,611,559
Level of Service	\$2,096,916	\$2,956,759	\$3,856,450	\$5,189,995	\$6,289,837	\$2,402,230	\$339,627	\$389,674	\$489,587	\$339,484	\$714,550	\$3,174,550	\$3,049,550	\$2,974,550	\$524,550	\$474,550	\$449,550	\$514,550	\$702,300	\$2,649,550	\$2,074,550	\$524,550	\$474,550	\$474,550	\$514,550	\$474,550	\$499,550	\$474,550	\$449,550	\$474,550	\$46,014,309
Total	\$4,133,832	\$5,793,518	\$7,592,900	\$10,379,990	\$12,579,674	\$4,804,460	\$679,254	\$779,348	\$979,174	\$678,968	\$1,529,100	\$6,799,100	\$7,249,100	\$5,949,100	\$1,049,100	\$949,100	\$899,100	\$1,029,100	\$1,549,100	\$5,599,100	\$4,299,100	\$1,049,100	\$949,100	\$949,100	\$1,029,100	\$949,100	\$999,100	\$949,100	\$1,899,100	\$959,100	\$95,033,118