

Resource Recovery Asset Management Plan

Table of contents

1	Introduction to our Asset Portfolio	2
1.1	Background.....	2
1.2	Asset Lifecycle Approach	2
1.3	Goals and objectives of Asset Management	3
2	Lifecycle Management Plans	3
2.1	Asset Overview (what assets we have)	3
2.2	Location and Value	4
2.3	Network Age and Lifecycle Stage	9
2.4	Critical Assets.....	9
2.5	Asset Data Confidence	10
2.6	Asset Data Improvements.....	11
3	Managing Risk and Investing in Resilience	11
3.1	Managing Risks	12
3.1.1	Risk Management plan (risk framework)	12
3.2	Critical Risk Identification and Management	12
3.2.1	Climate Change Impacts	12
3.2.2	Asset Risks.....	13
4	Continuous Improvement	20
4.1	Overview of the Improvement Programme	20
4.2	Current Asset Management Maturity	20
4.3	Monitoring and review	21
4.4	Review of Progress against Previous Plan	21
4.5	Improvement Plan 2024.....	22
5	Appendices (Supporting information)	25
	Appendix I – Asset Management Objectives	207
	Appendix II - 2020 Resource Recovery Asset Management Maturity	209
	Appendix III – Capital Investment Programme 2025-34	31

1 Introduction to our Asset Portfolio

1.1 Background

Council operates a waste collection service in accordance with the Local Government Act (2002) and Waste Minimisation Act 2008. A requirement of these acts is to develop, a Waste Management and Minimisation plan, and Asset Management Plan (AMP). This enables local authorities to develop a framework to support a reduction of waste sent to landfill and strive to the long-term goal towards zero waste.

The Waste Management and Minimisation Plan is reviewed every six years and was last reviewed and adopted by the Council in 2020. The plan provides strategic direction for any further asset investment or modification of services with a long-term view to 2030.

The Asset Management Plan (AMP) is the basis for Resource Recovery activity planning. The purpose of this plan is to demonstrate responsive management of assets (and services provided from assets), compliance with regulatory requirements, and to communicate funding needed to provide the required levels of service over a 30-year planning period.

Council provides both kerbside and drop-off facilities for residential waste, organics, and recycling. Traditional Council run landfills, where residents could discard unwanted material directly to the tipping face have been replaced with high tech collection and resource recovery systems and any residual waste is now sent to a single regional landfill (Kate Valley), owned by joint venture between Canterbury Council's and a commercial waste management company.

Council's waste services are designed to adapt to the changing needs of our residents. Historically this has included the shift to a three-bin kerbside collection system and looking forward it will include a review of the inner-city collection and access to recycling markets. As the ability to divert waste through offshore processors changes so too may the treatment and therefore service arrangements provided by Council.

Councils' commitment towards net carbon neutrality by 2045 will also influence our collection and transport networks with a view to reducing vehicle emissions, this may significantly impact how services are delivered in the future.

1.2 Asset Lifecycle Approach

The Council has established a lifecycle management framework, aligned to the *International Infrastructure Management Manual* as illustrated in Figure 1.22. However, this activity does not have a specific documented approach to lifecycle planning or modelling. This aspect has been identified as an asset management improvement item. This improvement item outlines the need to develop a planned, and best practise, approach for the management of the activity's assets.

Asset Lifecycle Management

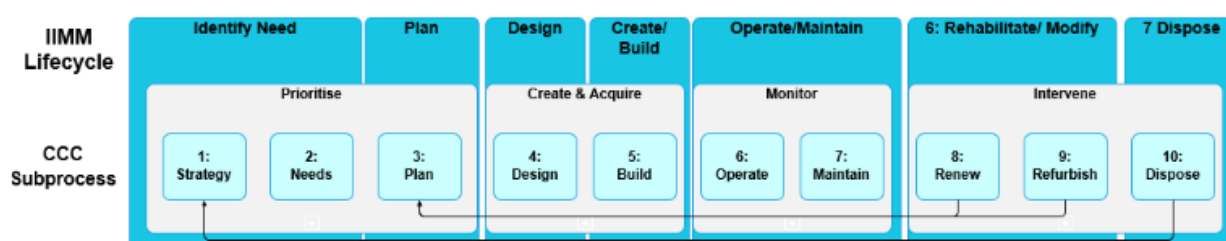


Figure 1.2: Asset lifecycle categories.

1.3 Goals and objectives of Asset Management

Asset management is a business process which guides the lifecycle management of assets. Lifecycle management includes the planning, acquisition, operation, maintenance, renewal, and disposal of assets.

Effective asset management enables the delivery of levels of service in the most cost-effective manner to present and future communities.

The Council's Asset Management Policy (approved by Council's Executive Leadership Team on 26 March 2018) provides the organisation's long-term vision, values, and direction for asset management. The policy aligns with the organisation's strategic framework. The policy relates to Council's overarching intentions for asset management and the asset management system and not specifically assets or asset decisions.

The five principles underpinning the policy are:

- Asset management outcomes align with the strategic direction of Council.
- Asset management is an organisational wide practice.
- Decisions about assets are based on well-managed, quality information.
- Asset management maturity is appropriate to the assets, services and risks we manage.
- Asset management plans are living documents.

The Asset Management policy sets out the assets Council manages in accordance with its asset management principles, and therefore within the asset management system scope.

The Asset Management Policy demonstrates commitment to maintaining an Asset Management System that promotes responsible management of assets to deliver value to customers and support business objectives, in accordance with best practice and alignment across the organisation. This provides a framework for establishing detailed plans and targets that support these objectives; and are measured and monitored to ensure continual performance improvement for Asset Management.

The Asset Management objectives (see Appendix I) enable the management of assets in a manner consistent with the principles of the policy, and the organisation's objectives.

2 Lifecycle Management Plans

2.1 Asset Overview (what assets we have)

Assets covered under the Resource Recovery portfolio are largely managed through operational contracts. For the purposes of this AMP, Resource Recovery assets are considered as follows:

Table 2.1: Scope of assets and services covered in this plan.

In Scope	Out of Scope
Transfer Stations and Community Collection Points	Regional Landfill (Kate Valley) – Not considered under the AMP – Council as a 38.9% shareholder of Transwaste Canterbury Ltd
Material Recovery Facility (MRF)	Kerbside Collection Assets. Under the terms of the collection contract, the contractor (Waste Management (NZ) Ltd.) supplies, maintains and retains ownership of the bins throughout the contract term.
Organics Processing Plant (OPP)	
Burwood Landfill, Gas Collection and Treatment Plant	
Closed Landfills	

2.2 Location and Value

Quantities of Resource Recovery assets are illustrated in table XX and shown on figure XX.

Table 2.2.a: Quantity of Resource Recovery assets.

Asset Group	Quantity
Waste Collection	
Banks Peninsula Transfer Stations	2
Community Collection Points	12
EcoDrops/Transfer Stations	3
Waste Processing	
Material Recovery Facility – Recyclables Sorting and Sales Facilities	1
Organic Processing Plant – Composting Facility	1
Management of Closed Landfills	
Burwood gas collection and treatment plant	1
Burwood landfill gas wells	36
Closed landfills	56

Banks Peninsula Assets

The operation and management of the Banks Peninsula facilities and drop-off points is contracted to Waste Management New Zealand Limited to June 2029. The assets covered are:

- A main waste transfer station at Barrys Bay.
- A secondary waste transfer station at Birdlings Flat.
- Two recycling depots at Little River and Akaroa.
- Community Collection Points (CCPs)
 - Seven CCPs at Le Bons Bay, Okains Bay, Little Akaloa, Pigeon Bay, Little River, Akaroa and Takamatua.
 - Three sites comprising rubbish and recycling skips on Council road reserve at Robinsons Bay, Onuku and near The Cab Stand.
 - One wheelie bin collection point at Port Levy.
 - One pole construction platform at Church Bay for storing and collection of residents' wheelie bins.

EcoDrop and Transfer Stations

The purpose of this asset group is to provide recycling and waste diversion services. There are three city refuse stations and recycling centres branded EcoDrops. These are located at:

- Parkhouse Road (Wigram).
- Metro Place (Bromley).
- Styx Mill Road (Redwood).

EcoCentral Limited has a contract to operate the Transfer Stations until January 2024. Negotiations are currently underway to introduce a contract variation that sets a contract end date of 30 June 2029. Under the contract agreements Council is responsible for normal wear and tear of the Council owned buildings and fixed plant. Features of the Transfer stations include:

- A recycling centre, for the free drop-off of domestic quantities of recyclable, reusable, or household hazardous waste materials.
- A resource recovery building.
- A concrete bin for scrap metal.
- A hazardous waste drop-off station.
- A waste oil tank (in a shed).
- Bins and containers for recyclables (non-Council assets).
- Sealed drop-off and yard areas.
- Concrete bin for hardfill.
- Concrete bin for clean soil.
- Greenwaste drop off area.
- Pit building plus offices.

- Fixed plant (weighbridges and compactors).

EcoSort Materials Recovery Facility (MRF)

The EcoSort Site is a 1.63 ha industrial site adjoining the Parkhouse EcoDrop. The site has developed since 2000 and is leased to EcoCentral Limited. In 2009 a 4,000 m² Materials Recovery Facility (MRF) opened on the site. The MRF was designed and constructed to separate domestic recyclable paper and containers collected in a commingled kerbside wheelie bin collection compacted in the collection vehicles. The MRF building is now owned and operated by EcoCentral Limited. The building was scheduled to transfer to Council in January 2024 at the end of the 15-year contract period. The building transfer date will be adjusted pending the outcome of the contract variation negotiations. EcoSort Council owned assets at the site include:

- A 3 bay 460m² warehouse building.
- A 3 bay 360m² shed.
- Other smaller buildings and sheds.
- A weighbridge.
- Certain site works.

The Council has the overall responsibilities over these assets and site works at the EcoSort, Parkhouse Road recycling processing site. The Materials Recovery Facility (MRF) is excluded as this is owned and operated by EcoCentral. Details of the assets and processes used at the MRF can be found in the Asset Management Plan developed for the facility in 2010. Council owns a 1.7 ha site between the Parkhouse EcoDrop and EcoSort sites. Canterbury Waste Services Limited leases the site (until 2025) and has constructed and operates a commercial refuse station on the site. Council owned assets are limited to service lines crossing the site. This contract ends 30 June 2025.

Organics Processing Plant (OPP)

The Organics Processing Plant is a Council-owned composting facility in Bromley, operated by Living Earth. The plant receives all the food and green waste collected in the kerbside green bins. The plant has been operating under Living Earth since 2009 and has helped divert over 400 thousand tonnes of organic material from landfill.

Organic material is delivered to the OPP by the kerbside collection contractors. Material is also received from commercial customers and via the Eco Drop transfer station. The following waste streams are cited in the consent which can be received at the OPP:

- Food waste – including fruit & vegetables, meat, bones and fish, food soiled cardboard, napkins, and some preapproved and pre-sorted uncontaminated compostable event food packaging.
- Green waste – leaves, tree & grass clippings, branches, shrubs, weeds.
- River weed – from Council maintenance contracts.

Waste Management New Zealand (WMNZ) has produced a detailed Asset Management Plan for the OPP dated 1 June 2012. This provides further details of the assets and processes used at the OPP.

The OPP has been identified by the community, Environment Canterbury, and the Council as contributing to the long-standing odour issues in the Bromley area. Environment Canterbury issued an abatement notice in January 2021, and nine notices of non-compliance during 2022 and 2023. In April 2022, the Council agreed in principle to relocate the OPP to an alternative site. In March 2023, the Council approved moving to the final stage of the procurement process to find a permanent alternative to the Organics Processing Plant. The final stage of the procurement process will involve the six shortlisted suppliers submitting a competitive bid through a Request for Proposal (RFP) process. The Council will then decide on the preferred supplier in December 2023.

Burwood Resource Recovery and Burwood Landfill

Burwood Landfill operated from 1984 until 2005 when Kate Valley was commissioned. The Burwood Landfill site was granted consent to re-open in November 2010 for a limited time to manage residual earthquake related demolition waste. Since the February 2011 earthquake, rubble from building demolitions was sent to the old Burwood Landfill and three other smaller areas of the surrounding Bottle Lake Forest, on the authority of the Civil Defence National Controller during the emergency. Without the recovery park, there was the potential for building rubble to be left in the central city, or worse, dumped in paddocks or riverbeds.

Burwood Resource Recovery Park was established, by an Order in Council on 18 July 2011¹, at site B adjacent to the closed landfill site at Burwood in Bottle Lake Forest. Bottle Lake Forest and the Burwood Landfill are owned by the Christchurch City Council and operated by Burwood Resource Recovery Park Limited (BRRP). The Order allows for the storage, sorting, and processing (including recycling) of earthquake waste. Operations were due to cease in September 2017. However, the pace of demolition work in Christchurch was slower than anticipated so resource consents were applied for and granted to keep BRRP operations going into 31 December 2020. Site B, which was initially designated a “sorting” or “stockpile” area, has since been designated a landfill zone. The BRRP is owned and operated by Transwaste Canterbury Ltd which has developed the site and operates the sorting area. This operation closed on 20 December 2019 and underwent rehabilitation and was transformed into a recreational space for the public, officially opening 27 February 2023. The Council has ongoing operation and maintenance responsibilities for closed landfill assets to ensure resource consents are complied with and that the site does not cause undue risk to health and safety to the community. As such, the site has now been incorporated into Bottle Lake Forest Park and under the Council's Park's Unit maintenance programme.

Burwood Gas Recovery and Reticulation

The Burwood Landfill gas recovery scheme was commissioned in early 2007. The scheme includes the following assets that are managed by the Resource Recovery Unit:

- 36 gas wells and collection piping.
- Gas treatment plant.

Closed Landfills

On Council owned land there are 56 closed landfills in Christchurch and Banks Peninsula. The Council has an on-going responsibility to manage the closed landfills. These assets are included in the Council's Resource Recovery asset register.

¹ Canterbury Earthquake (Resource Management Act—Burwood Resource Recovery Park) Order 2011.
<http://www.legislation.govt.nz/regulation/public/2011/0254/latest/whole.html>

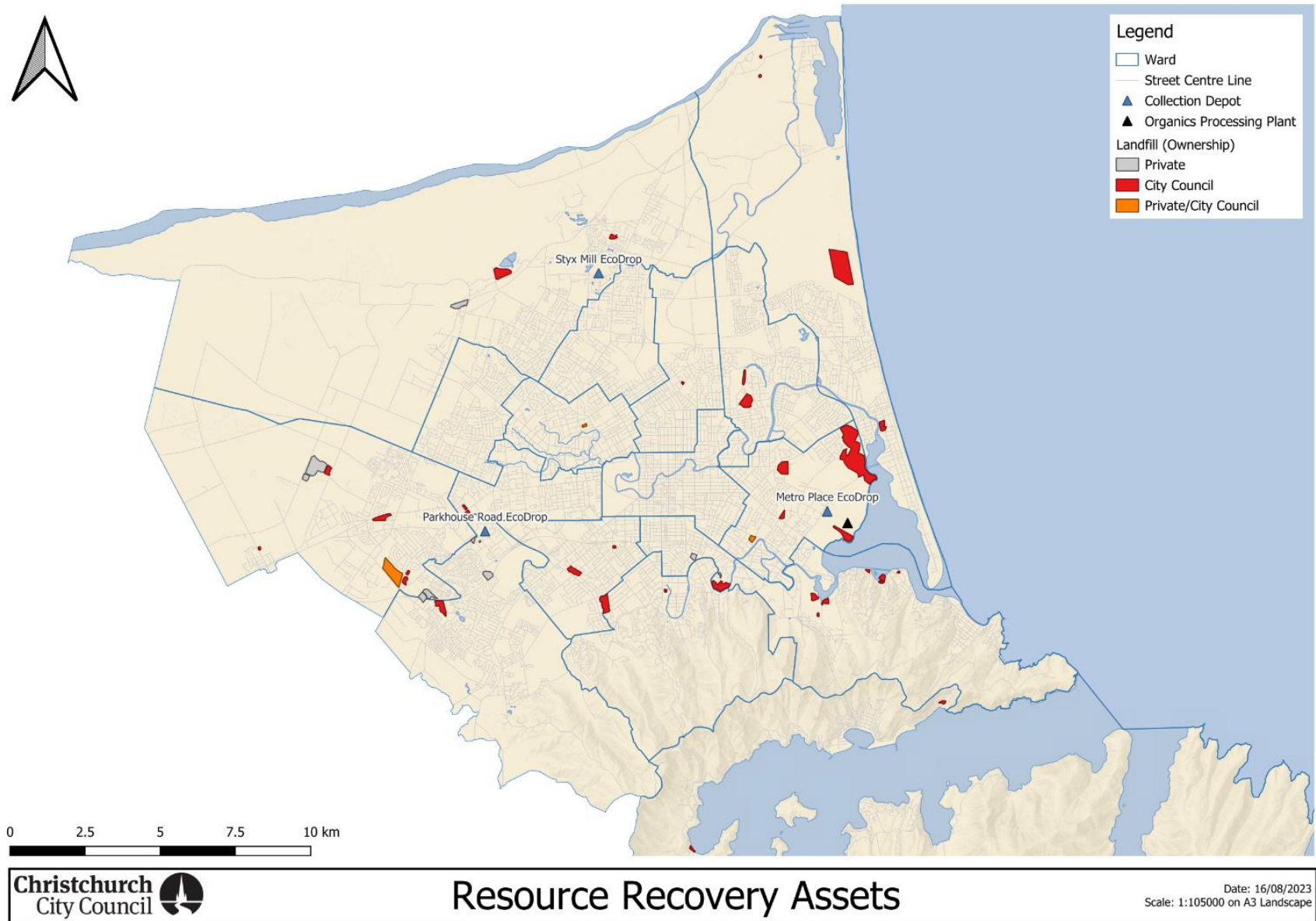


Figure 2.2.a: Location of Resource Recovery assets.

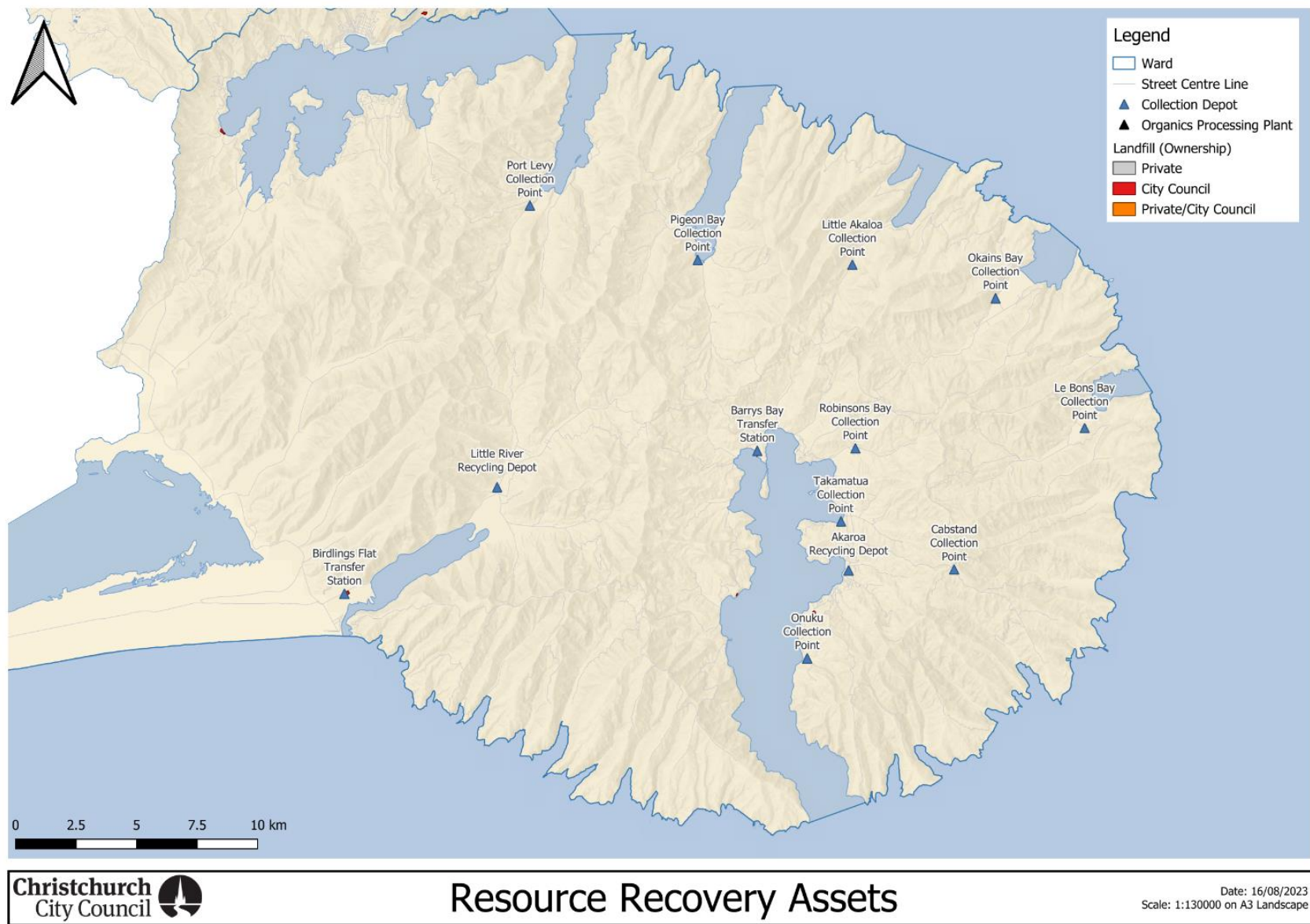


Figure 2.2.b: Location of Resource Recovery assets.

Value

In 2022, Assets under direct Council Control carried a book value of just shy of \$17 billion dollars. The value of Council owned assets (excluding land) across the portfolio (at end of contract) is approximately: \$44.1 million. The current value is based on the depreciated replacement cost less annual depreciation plus additions.

Table 2.2.b: Value of Resource Recovery Assets

Asset	Gross Replacement Cost	Current Building Value	Depreciated Replacement Cost	Annual Depreciation
Parkhouse Transfer Station	\$18,807,000	\$6,142,003	\$6,175,000	\$203,008
Styx Mill Transfer Station	\$12,578,000	\$4,128,466	\$4,255,000	\$126,534
Metro Transfer Station	\$10,938,000	\$3,775,659	\$3,885,000	\$109,341
Barry's Bay Transfer Station	\$154,000	\$60,410	\$62,000	\$1,590
Organics Processing Plant	\$55,595,000	\$30,083,259	\$30,632,000	\$548,741
Total	\$98,072,000	\$44,189,797	\$45,009,000	\$989,214

2.3 Network Age and Lifecycle Stage

Council waste services have changed over time as the way we deal with our waste has changed. The shift towards waste diversion and development in 2005 of a single regional landfill (Kate Valley) has driven the development of waste processing sites including the Materials Recovery Facility (EcoSort) and Organics Processing Plant. The Council own the land for each site and the buildings at the Organics Processing Plant. However, both are operated and maintained under contracts. Waste collection is managed through a service contract, with the Council no longer responsible for the bin infrastructure or fleet. Council's services are therefore largely contracted out with Council focus on service delivery, waste minimisation education and new services.

As assets have been maintained under contract, there is little information available on the age and lifecycle stage of the asset base. Offline asset registers indicate the majority of assets were installed prior to 2009, with the majority acquired or installed in the 1980s and 1990s.

2.4 Critical Assets

Critical assets are those whose failure would likely result in a significant disruption in service and financial, environment and/or social cost, and therefore warrant a higher level of asset management.

Resource Recovery does not have a formalised and documented asset criticality framework. Developing and implementing this framework has been identified as an improvement item. However, assets considered critical within the activity take the following aspects into consideration:

- Waste tonnage capacity per day (911 Tonnes).
- Onsite storage capacity for each facility.
- Council's Levels of Service to the public.
- Age of facility and/or plant.

Using the above aspects, the critical assets for Resource Recovery is as follows:

Transfer Stations

Resource Recovery provides a contracted collection of all municipal waste on a weekly basis, with collected waste transferred to the three EcoDrop Transfer Stations. Failure of any one of these sites could be managed by substitution to another site. However, in the unlikely failure of all three city sites we would require an alternative aggregation facility for disposal to Kate Valley. Failure of the Barrys Bay transfer station on Banks Peninsula will require residents and the

collection contractor to dispose of waste at one of the Christchurch based EcoDrops which would create an increased operational cost to delivering this service.

Alternative collection and aggregation points include:

- Reopening Burwood Landfill as an emergency facility (See DRAFT Resource Recovery Disaster Resilience Plan (2012)).
- Use of non-Council owned facilities and collection (e.g., commercial, other Councils).

Organics Processing Plant

The Council owned facility processes all of Christchurch's kerbside organics (circa 53,000 tonnes per annum) and organics from the Metro transfer station and commercial providers. This asset is managed under contract until 2024. Failure of this asset would have a significant impact on operational expenditure and sustainability – with an alternative processing site required or disposal to Kate Valley Regional Landfill.

During 2022 and 2023 offensive and objectionable odours were detected outside the organics processing plant (OPP) site boundary. This resulted in enforcement action from the regulator (Ecan). Council has now resolved to relocate the OPP to a new site. The procurement process for the OPP is scheduled to conclude with a Council decision in December 2023.

Materials Recovery Facility

The Council owned facility processes all of Christchurch's kerbside recycling (circa 35,000 tonnes per annum) and additional recyclables from neighbouring Territorial Authorities and Council Transfer Stations. This asset is managed under contract until 2024 and is anticipated to be extended to 2029 subject to agreement on a contract variation. Failure of this asset would have a significant impact on operational expenditure and sustainability – with an alternative processing site required or disposal to Kate Valley Regional Landfill.

2.5 Asset Data Confidence

Table 2.6 summarises the asset information available for the Resource Recovery asset base, in terms of completeness (% of assets for which that data type is stored) and reliability (using the A-E grading below).

Resource Recovery is relatively new to adopting formalised asset management practices and utilising information systems. Work initiated in 2012 saw some station assets loaded into SAP. However, as there was no clear data structure, object types, or naming conventions established, this resulted in significant inconsistencies in the information. Further, as there was no clear process established, appropriate resourcing, or training for the unit to update this data since it was imported, the information in SAP has now been classed as depreciated.

Further, as the majority of Resource Recovery's assets are managed under formalised contracts, asset data has been primarily held by the relevant contractor. It is worth noting that Resource Recovery is undergoing a Local Government Act 2002 section 17A review. This assesses the cost-effectiveness of current arrangements for meeting the needs of communities within its district or region for good-quality local infrastructure, local public services, and performance of regulatory functions. This review is expected to be completed in December 2023 and will influence current maintenance contracts and the services they involve. As part of this process, there will be a push to bring asset data into Council ownership to improve understanding and transparency of the asset base. It should be noted that the Resource Recovery activity is intent on realigning all service contracts to 1 July 2029. This realignment exercise will involve contract variations which can be utilised to capture repair and maintenance requirements for in field assets currently managed by contractors.

Resource Recovery renewal planning is based off staff knowledge and offline through ancillary data storage applications such as excel which are stored in the Councils electronic management system, Content Manager. With the lack of appropriate asset management systems to monitor, review, and support planning, renewal work is currently identified by purchase orders and not stored against a particular asset. This makes operational analysis and reporting inefficient and often unobtainable.

Table 2.5: Resource Recovery asset data confidence.

Category	Material / Size/type	Value	Age	Condition	Criticality	Capacity
Buildings	10% C	10% C	10% C	0% E	0% D	0% E
Equipment	10% C	10% C	10% C	0% E	0% D	0% E
Plant	10% C	10% C	10% C	0% E	0% D	0% E
Structures	10% C	10% C	10% C	0% E	0% D	0% E
Sites	10% C	10% C	10% C	0% E	0% D	0% E

2.6 Asset Data Improvements

The following improvements to data quality are included in the AM Improvement Plan in Section 4.

- Establish ownership of asset data to allow oversight and transparency of asset base.
 - Alternatively, require asset data and condition information to be a key component of all operational contracts. Develop clear integration of asset information between the Council and external provider.
- Develop fit for purpose asset data structure with defined object types and naming conventions.
- Develop documented standard operating procedures for asset condition assessments.
- Undertake data capture, validation, and condition assessment programmes and upload information into SAP and GIS where required.
- Develop, document, and implement asset criticality and vulnerability frameworks.
- Appropriately train and resource team to undertake asset management practices.
- Develop and implement mobile asset management system.
- Undertake auditing (contracts, condition information, operational activities) and analysis (e.g., KPI, lifecycle/renewal modelling) of asset information to help support evidence-based decisions.

3 Managing Risk and Investing in Resilience

Demand for Resource Recovery includes access to suitable facilities (e.g., public transfer stations and waste processing infrastructure) and services (e.g., kerbside collection services and community collection points). There are many factors influencing the demands on Resource Recovery services within Christchurch. They can be summarised under the following headings:

- Customer expectations.
 - Changes in community expectations will have implications for the waste management systems the Council deliver. These changing expectations imply lower tolerances for residual waste going to landfill and options to increase the ease and options for resource recovery, e.g., recycling bins on city streets.
- Improvements in technology.
 - New developments may lead to better recovery systems and reductions in waste before it enters the Council's waste streams.
 - Advancements in technology can improve recycling quality which along with changes in commodity markets may increase revenue and/or diversion of recyclable products.
- Population changes.
 - Over the past 10 years there has been a strong population shift to the north and west of Christchurch City. Throughout the next 10 years we will see continuing growth in the Greenfield areas in the north and the west; as the Greenfield areas begin to reach capacity growth, infill areas will become more predominant, particularly in the long term.
 - Population growth will increase demand in all aspects of Resource Recovery services and assets.
- Economic outlook.
 - The price received for material collected through the kerbside service has dropped significantly. Should these prices decrease further, the cost of recycling will increase, and the Council will need to identify new options for reprocessing or consider the viability of the materials currently collected.
 - The cost of waste disposal includes a carbon charge established through the New Zealand Emissions Trading Scheme. This cost is passed on to customers which pays for off-setting landfill emissions.
 - The development and acquisition of new assets will commit the Council to fund ongoing operations, maintenance, and renewal costs for the life of the asset. OPEX costs have been capped over recent

years and have not been adjusted for new assets resulting in some new or existing assets not being adequately maintained. Adjustment of annual OPEX budget is required to cover existing shortfalls, and an annualised increase for maintenance for new assets must be provided to meet the demands of growth.

- Legislative requirements.
 - Any new legislation will have the potential to impact demand for waste management services. An example of this would be changes to the Emissions Trading Scheme, and /or the development of a national cleanfill standard as these could have a key impact on the types and quantity of waste disposed to landfill.
 - Resource consent requirements has led to the council decision to relocate the OPP to a new location.
 - Closed landfill monitoring has the potential to lead to major environmental protection works.

Any change in demand will impact on the level of service and condition of each solid asset involved, potentially leading to differing maintenance requirements and/or the need for non-asset solutions. Demand for new services will be managed through a combination of managing existing assets, upgrading of assets, providing new assets to meet demand management. Demand management practices include non-asset solutions, insuring against risks and managing failures.

3.1 Managing Risks

Council's approach to managing risk is detailed in its Risk Management Policy and assessment framework. The framework provides a means for consistently identifying, recording, and assessing risks such that risk mitigations can be prioritised across the Council.

Resource Recovery's assets are vulnerable to a wide range of risks, from issues such as climate change and natural disasters through to inherent operational risks, such as workplace hazards or not complying with a consent. These are outlined below, along with potential mitigations.

3.1.1 Risk Management plan (risk framework)

Risk management is inherent in all of Council's asset management processes. Significant risk management strategies for this activity include:

- Improving asset management practices to better understand the condition and performance of the asset base.
- Risk register in relation to closed landfills.
- Defining repair and maintenance obligations through contract variations.

3.2 Critical Risk Identification and Management

3.2.1 Climate Change Impacts

Closed landfills are vulnerable to the effects of climate change, whether from coastal inundation, storm surge, erosion, landslides, rising groundwater and increased river flows. Climate change effects could lead to saturation and materials, including hazardous substances, leaching from the landfill.

We own 56 closed landfills across the district, with 15 of them being in coastal areas and/or close to rivers.

We also know of 131 non-Council closed landfills, including private tips and old municipal landfills on private land dating back to the 1870s. Many of these are in rivers or gullies. They are not lined or sealed, and we do not know what materials they hold.

Closed landfills on Banks Peninsula may be vulnerable to landslides. Capping these landfills and planting over them may improve their stability.

Erosion along the coast and in rivers will need to be carefully monitored to avoid landfills from becoming exposed and potentially releasing hazardous contents, including asbestos, heavy metals, hydrocarbons, pesticides, and other dangerous waste into the surrounding environment.

As exposure increases it may be necessary to move closed landfills and their contents to alternative disposal sites, including Kate Valley.

Closed landfills are closely monitored, and we are working with Environment Canterbury and central government to identify the best way to manage them as the effects of climate change increase.

Clear oversight of the asset base condition, and performance, is necessary to better understand greenhouse gas emissions, and vulnerable assets.

In April 2022, the Council agreed in principle to relocate the Organics Processing Plant (OPP) to an alternative site. In March 2023, the Council approved moving to the final stage of the procurement process to find a permanent alternative to the OPP. Both the location of the new facility, and type of organics processing provided, will need to be considered for their climate risk and emissions impact when making a final decision.

The Council continues to monitor opportunities to reduce the emissions impact of our assets. Ways we minimise emissions from our Resource Recovery assets include:

- Composting organic material such as food scraps and garden trimmings at the Organics Processing Plant that would otherwise be landfilled significantly reduces methane generated by landfills.
- To minimise emissions from waste, we ensure our refuse is delivered to a landfill that has an active gas collection and destruction system that maximises the reduction of methane discharges to atmosphere.
- We continue to utilise the landfill gas (methane) from the closed Burwood landfill as an energy resource for council buildings.
- We ensure that the kerbside collection fleet and other waste collection fleet is based on fuel efficient, low emission vehicles.

Key sources of greenhouse gas emissions from the Resource Recovery activity includes:

- Potential increase in emissions from organics processing during the period 2024 to 2029 (in response to processing away from Bromley)
 - Emissions impacted by increased transport movements and possible landfill emissions if organics are sent for disposal.
- Landfill emissions - Methane and Co2 produced at Kate Valley Regional Landfill
- Landfill emissions - Methane and Co2 emissions associated with the use of landfill gas from Burwood Landfill as an energy source.
- Vehicle emissions (service provision)- Co2 emissions from kerbside collection and transfer station vehicle movements
- Vehicle emissions - from community vehicle journeys associated with waste.

3.2.2 Asset Risks

A sizeable proportion of the risks identified for Resource Recovery are associated with the operation of facilities. As most operational services are managed under contracts, risks sit with the contractors. Under the contract, contractors are required to maintain their own risk registers and plans which include emergency, incident, business continuity and health and safety plans. The Council maintains an overview of risk for delivery of the waste minimisation and disposal service.

Disruptions to the kerbside collection services caused by a natural hazard or emergency event pose risks to the community and have been identified in the risk analysis. Location and population effects of the different natural hazards have been identified as part of the Disaster Resilience Plan. Actions to reduce these risks are being identified by the contractors assisted by the Council. Post-earthquake, kerbside collection was resumed as a high priority and included collection of human waste due to failure of the wastewater network.

Disruption to the EcoDrop and Organics Processing Plant has been identified as a high priority. Alternative dump sites for each facility have been identified during the recent earthquakes and the city has demonstrated the ability to put in place appropriate Disaster Resilience Plans. This risk has also been recognised in the OPP Loss Prevention and Recovery Plan. A disaster recovery plan for disaster relief and prompt resumption of services has been developed which includes provision of 3 days on-site storage for delivered organics supplemented with off-site storage.

The Council has identified interdependency issues between Resource Recovery and other utilities. Failure of a single utility has potential to cause knock-on impacts to others. The Resource Recovery service has been identified as being heavily dependent on power supply, fuel supply, and communications. Mitigation actions to limit the impact of these dependencies include generators, fuel tanks at a number of Council sites, and back up radios.

A Disaster Resilience Plan for Resource Recovery in Christchurch, complying with the CDEM Act 2008 has been prepared to assist the Council, its Emergency Manager and Civil Defence Emergency Management (CDEM) Group to prepare and respond to adverse events. The plan outlines the expected impact of a number of hazard events on the assets and service delivery for Resource Recovery. The Plan outlines how the Resource Recovery service will be delivered during and after emergencies including response arrangements and plans for alternative waste storage.

There are risks associated with customer and community behaviour, including illegal dumping. These risks may be linked to increasing transfer station fees or changes to the Council's policies, but this is currently only supposition. These risks are managed by:

- Improving public knowledge through public education programmes.
- Ensuring response procedures are in place.
- Monitoring the level of reported incidents.

Resource Recovery also face risks relating to asset and data management practices. Good asset management practice protects the organisation and the community from unexpected financial risks and liability while supporting health and safety in the community. Issues impacting the delivery of good asset management practices have been identified below.

As many core asset management processes have not been documented there is a strong reliance on the knowledge of a few individuals. If these people move on or retire from their roles there is a significant risk of losing key institutional knowledge. This reliance on a few individuals also poses a risk to the wellbeing of staff. If the level of organisational demands continues to be highly ambiguous and reactive, then staff will feel pressured and have unreasonable workloads. Retention of skilled, and experienced staff are crucial to the activity's ability to deliver the agreed level of service and meet strategic priorities set by the Council.

Further, there is no standard or document data structure, defined object types, or naming conventions. Without these aspects in place, it hinders the Council's ability to collect, ingest, and utilise asset data. An additional issue with data is that the majority of assets covered under the Resource Recovery portfolio are managed through operational contracts in which the contractor owns the data. This poses a risk to the Council and community through the lack of transparency and oversight of the asset base. It also hinders analysis and reporting, which is used to determine trends, lifecycle management. This information feeds into renewal planning and provides reliable evidence to assist decision makers on the future of the asset base.

Resource Recovery has also identified and recorded risks at a more detailed level, as shown in table 3.2.2 on the following page.

Table 3.2.2 Resource Recovery identified asset risks.

ID	Risk Description	Inherent rating	Treatments in place (today)	Residual impact	Residual likelihood	Residual rating	Proposed additional treatments
	<p>Inability to deliver an appropriate and compliant asset management practice.</p> <p>There is a risk of:</p> <ul style="list-style-type: none"> • Insufficient operating budget to support asset management practices. • Staff, with organisational knowledge/expertise, seeking opportunities elsewhere. • A lack of financial support and resources to effectively deliver asset management. 	High	<p>Utilising internal and external support to complete the AMP including:</p> <ul style="list-style-type: none"> • Asset condition surveys • Contract variations that capture asset management requirements • Transfer station master plan development • Organics processing plant procurement 	High	Medium	Medium	<ul style="list-style-type: none"> • Clearly articulate the financial requirements to senior management and ELT, emphasising the importance of asset management for the organisation's long-term success. • Implement succession planning and cross-training initiatives to ensure that critical asset management knowledge is retained even when staff members leave. • Develop a positive work environment that encourages staff retention and professional growth. • Clearly communicate the resource requirements to support effective asset management, including staffing, training, technology, and tools. • Regularly communicate the value and benefits of asset management to stakeholders, emphasising its role in achieving strategic objectives. • Provide ongoing training and professional development opportunities for staff involved in asset management.

	<p>Poor asset management decision-making data quality.</p> <p>There is a risk of:</p> <ul style="list-style-type: none"> • Incomplete asset registers/asset history information. • A lack of defined ownership and responsibility. • Poor asset information management practices. • Lack of/poor quality asset condition and performance information. • Inaccurate asset valuations and insurance value. • Increased operational maintenance costs. 	Medium	<p>Utilising internal and external support to complete the AMP including:</p> <ul style="list-style-type: none"> • Asset condition surveys • Contract variations that capture asset management requirements • Transfer station master plan development • Organics processing plant procurement 	High	Medium	Medium	<ul style="list-style-type: none"> • Implement regular audits and verification processes to ensure all assets are recorded accurately. • Establish clear procedures for updating asset information. • Clearly define roles and responsibilities for asset management. • Develop a culture of ownership and accountability for asset management across the unit. • Develop standardised processes for collecting, recording, and updating asset information. • Provide training to employees responsible for asset management to ensure they understand and follow best practices. • Implement a comprehensive asset inspection program to regularly assess asset condition and performance. • Conduct regular asset valuations based on market trends and industry standards. • Review insurance policies to ensure assets are adequately covered and valuations are up to date. • Engage with professional appraisers to obtain accurate and unbiased asset valuations of assets. • Develop and implement a preventive maintenance plan to reduce the likelihood of breakdowns and costly repairs.
--	---	--------	--	------	--------	--------	--

							<ul style="list-style-type: none"> Use data-driven insights to prioritise maintenance activities.
	<p>Forced life extension of assets.</p> <p>Failure to renew/replace assets when they reach the end of their useful life or failure to perform at minimum safety standards due to their condition.</p>	High	Limited renewal, condition assessment inspections are carried out at present.	High	Medium	Medium	<ul style="list-style-type: none"> Develop robust and consistent asset inspection programmes that focus on the assessment of all assets on a 3 yearly cycle to align with the long-term plan. Ensure that we have highlighted the need to better resource and fund asset management practices within the unit.
	<p>Major infrastructure failure/availability.</p> <p>There is a risk that the organics processing plant, EcoSort, transfer stations, Banks Peninsula Community Drop offs, MRF, Kate Valley, and the Canterbury Regional Landfill could fail, or access to one or multiple sites could be restricted. While unlikely, this would significantly impact Christchurch's Resource Recovery services with no alternative disposal sites necessarily available. In addition, road access could be impacted and has the potential to stop/disrupt/affect transport route to Kate Valley.</p>	High	Sites managed under Contract with specific requirements for the asset maintenance and operational contingencies.	High	Medium	Medium	Develop Christchurch's Disaster Waste Management Plan and work with Civil Defence and Lifelines to understand potential alternatives.
	<p>Susceptibility of former and closed landfills to natural hazards.</p> <p>Risks associated with the management and mitigation of former and closed landfills in relation to natural hazards include containment and capping of sites and the impacts related to erosion and release of landfill materials into the environment. A further risk is the potential inundation of low-lying coastal sites due to seal level rise. This</p>	High	Sites managed by Council Landfill Aftercare Manager with support from other council departments on an as required basis.	High	Medium	Medium	Ongoing review of at-risk sites and investment in management of former sites including remediation as required.

	has the potential to cause leakage of unknown contaminants into rivers and the estuary/ocean.						
	Fire at key infrastructure. Potential of MRF and other buildings catching fire and being destroyed.	High	Fire sprinkler systems in place and serviced as required.	High	Medium	Medium	<ul style="list-style-type: none"> Regular maintenance and compliance checking of fire suppression systems.
	Forced life extension of assets. Failure to renew/replace assets when they reach the end of their useful life or failure to perform at minimum safety standards due to their condition.	High	Limited renewal, condition assessment inspections are carried out.	High	Medium	Medium	<ul style="list-style-type: none"> Develop a proactive asset renewal and replacement strategy based on the estimated useful life of assets. Implement a robust condition monitoring program that includes regular inspections, assessments, and performance measurements. Prioritise asset renewal and replacement decisions based on risk assessments and criticality. Assess the potential risks of delaying renewal or replacement, considering factors such as safety, operational disruption, and cost implications. Perform safety audits and assessments to identify assets that fail to meet safety standards due to their condition. Perform lifecycle cost analyses to compare the costs of maintaining and extending the life of an asset versus replacing it. Involve relevant stakeholders and senior management in the decision-making process for asset renewal and replacement. Generate regular reports and performance metrics to facilitate data-driven decision-making and

							<p>demonstrate compliance with safety standards.</p> <ul style="list-style-type: none"> • Develop contingency plans to address unexpected asset failures or safety concerns, including emergency procedures and temporary solutions if assets must be kept in operation beyond their expected life. • Continuously review and improve asset lifecycle management processes based on lessons learned from past renewals, replacements, and failures.
--	--	--	--	--	--	--	---

4 Continuous Improvement

4.1 Overview of the Improvement Programme

Council has made a strong commitment to improvement of asset management practices and seeks to further improve the approach. Council acknowledges the need to focus efforts to further asset management practices over the next 2-3 years to an appropriate level of capability.

4.2 Current Asset Management Maturity

Resource Recovery was included in the Council wide asset management maturity assessment (AMMA) for the first time in 2020. The assessment determined the level of maturity varied from 'core' to 'advanced,' predominantly achieving an 'intermediate' level. The baseline maturity assessment was achieved through onsite interviews with a cross-section of participants. The assessment acknowledged there are systems and tools available but have not been implemented for this activity. A summary of this assessment is provided in Appendix II. AMMA are carried out once every 3 years and this assessment will be undertaken again in September 2023.

The 2020 AMMA identified several areas for improvement however little progress has been made in this space due to staff capacity, resourcing, and budget constraints. Areas identified for improvement included:

- Development of asset register data and inclusion of asset data maintenance within operational contracts.
- Developing and documenting asset management practices and standard operating procedures e.g., criticality framework, condition assessment criteria etc.
- Undertaking asset condition and performance programmes to inform capital works planning.
- Review staff functions and allocation of asset management practices.
- Implement business intelligence tools to undertake analysis to provide oversight of the asset base and help to inform decision making.
- Develop and monitor asset management improvement plan.

These improvement items have been reviewed and included in Resource Recovery's 2024 asset management improvement plan.

Section 4.5 provides a programme of activities required to close the remaining maturity gaps and address the weaknesses identified during the development of this AMP.



Figure 4-1: Resource Recovery 2020 asset management maturity assessment results.

4.3 Monitoring and review

The Asset Management Improvement Programme (AMIP) will be reported to the Strategic Asset Management Team (SAM). All improvement items and the improvement programme will be monitored by the SAM team and reported to the Executive Leadership Team as required.

4.4 Review of Progress against Previous Plan

The last improvement plan was developed as part of the 2020 AMP update. The indicative term of the improvement programme was three years. Table 4.2 provides an update on the status of the improvement programme items as of August 2023.

In addition to the items within the improvement programme, the following improvements have been made to the activity since the last AMP:

- Local Government Act 2002 (LGA) section 17(a) reviews are underway, with some reviews completed. These reviews assess the cost-effectiveness of current arrangements for meeting the needs of communities within its district or region for good-quality local infrastructure, local public services, and performance of regulatory functions. All reviews are expected to be completed by December 2023 and will influence current maintenance contracts and the services they involve.

Table 4.4: Progress against 2020 Improvement Plan.

Task ID	Action/Task	Timeline	Progress and Action
1	Contract renewals (17A recommendations). <ul style="list-style-type: none"> Review asset requirements for delivering resource recovery services in the future. 	Term of AMP.	LGA 2002 S17(a) for EcoCentral, MRF & RTS report has been completed. Request for remaining reviews to be completed prior to reporting to the Council. LGA 2002 S17(a) review for OPP is underway through procurement process. LGA 2002 S17(a) review for closed landfills still to be completed.
2	Contract renewals (17A recommendations) <ul style="list-style-type: none"> Update asset condition information into asset information systems. 	Term of AMP.	Resourcing challenges have meant that this has not progressed at this stage. Still planned for delivery to aid improved Asset Management.
3	Contract renewals (17A recommendations). <ul style="list-style-type: none"> Develop dashboard views of asset renewals information 	Term of AMP.	Resourcing challenges have meant that this has not progressed at this stage. Still planned for delivery to aid improved Asset Management.
4	Transfer Station Improvement Master Planning. <ul style="list-style-type: none"> Present an integrated overarching plan for the management & development of the Council's transfer stations. 	Term of AMP.	The transfer station master plan will be completed by December 2023 and will then be incorporated into the 2024-34 LTP.
5	Update closed landfill risk register. <ul style="list-style-type: none"> Develop an asset improvement programme for landfills. Develop a process for managing landfill risk data. Collect and update landfill risk data. 	Term of AMP.	Resourcing challenges have meant that this has not progressed at this stage. Competing priorities have pushed this activity back.

4.5 Improvement Plan 2024

The items listed in the asset management improvement tasks aim to get the basics (e.g., data ownership, data structure, standard operating procedures, inspection programmes) right to ensure the consistency and ongoing validity of information. Once the basics are right, the improvement tasks will then focus on how the information can be used and modelled to help provide support to enable evidence-based decisions for the future of the activity asset base.

Table 4.5: Asset management improvement tasks.

Task ID	Project / Task	AM Maturity Gaps	Priority (H, M, L)	Responsibility	Resources (teams, \$)
1	Establish ownership of asset data. Alternatively, require asset data and condition information to be a key component of all operational contracts. Develop clear integration of asset information between the Council and external provider to allow oversight and transparency of asset base.	Asset Register Data	H	Resource Recovery through LGA section 17(a) review and revision of operational contracts	Strategic Asset Management Data Management Spatial Information SAP Team
2	Develop fit for purpose asset data structure with defined object types and naming conventions.	Asset Register Data AM Information Systems	H	Resource Recovery	Strategic Asset Management Data Management Spatial Information SAP Team
3	Develop documented standard operating procedures for asset condition assessments.	Asset Performance/Condition Management Systems	H	Resource Recovery	Strategic Asset Management
4	Undertake data capture, validation, and condition assessment programmes and upload information into SAP and GIS where required.	Asset Register Data AM Information Systems Audit and Improvement Capital Works Planning Financial Planning Asset Performance/Condition	H	Resource Recovery	Strategic Asset Management Data Management
5	Develop, document, and implement asset criticality and vulnerability frameworks. <i>Note: Looking to implement Council criticality framework developed by the Strategic Asset Management Team.</i>	Management Systems Asset Register Data AM Information Systems Managing Risk	M	Resource Recovery	Strategic Asset Management Data Management SAP Team
6	Appropriately train and resource team to undertake asset management practices.	AM Leadership and Teams AM Information Systems Asset Register Data Management Systems	M	Resource Recovery	Strategic Asset Management Data Management
7	Develop and implement mobile asset management system.		M	Resource Recovery	Strategic Asset Management Data Management Spatial Information SAP Team

8	Undertake auditing (contracts, condition information, operational activities) and analysis (e.g., KPI, lifecycle/renewal modelling) of asset information to help support evidence-based decisions.	Management Systems AM Information Systems Asset Register Data Audit and Improvement AM Leadership and Teams Financial Planning Operational Planning Managing Risk	M	Resource Recovery	Strategic Asset Management Business Intelligence Team Procurement
---	--	--	---	-------------------	---

5 Appendices (Supporting information)

Appendix I - Asset Management Objectives

Principle	Objective
1. Asset management outcomes align with the strategic direction of Council	1.1 Linkages between Council's strategic direction and asset management outcomes are clear and understood
	1.2 All asset based services are linked to the attainment of Community outcomes
	1.3 A whole of life approach is taken for all asset management initiatives
	1.4 Asset management planning outputs provide the options and financial forecasts for the first draft of the Long-Term Plan (LTP)
	1.5 Investment in Infrastructure is optimised across all asset types
	1.6 Opportunities to increase resilience are considered in all asset management planning
2. Asset management is an organisational wide practice	2.1 The Strategic Asset Management Team (SAM) provides leadership of asset management practice at Council
	2.2 Asset management is co-ordinated across the organisation
	2.3 Core asset management processes are consistent across Council
	2.4 Asset management practice is compliant and appropriate
	2.5 Asset Management Teams across all lines of the business are motivated and driven by customer needs
	2.6 There is an organisational culture of continuous improvement in asset management
3. Decisions about assets are based on well managed, quality information	3.1 Asset data is available in corporate system for use in all decision making related to Council assets
	3.2 The performance and condition of assets is monitored and reported
	3.3 Decision making by asset owners and managers is outcome based and based on reliable asset information
	3.4 Supporting asset information is readily accessible
	3.5 Asset data is up to date
	3.6 Asset management decisions by asset owners and managers are based on evaluation of all viable options to deliver levels of service outcomes

Principle	Objective
4. Asset management maturity levels are appropriate to the assets, services and risks we manage	4.1 Identified asset management maturity gaps close over time
	4.2 The asset management capability of staff resources matches the needs of the organisation
	4.3 The organisation recognises the importance of AM and adequately resources the AM system
	4.4 Appropriate levels of asset management maturity are defined and reviewed as business needs change
	4.5 The level of AM practice is matched to the criticality of the assets
	4.6 Christchurch City Council gains recognition for its evolving AM practice
5. Asset management plans (AMPs) are living documents	5.1 AMPs are easy to follow
	5.2 AMPs are complete and at the agreed level of maturity
	5.3 AMPs reflect the current level of asset management practice for the asset type
	5.4 The asset management improvement programme in the plan, contains all actions necessary to close the existing maturity gaps
	5.5 AMPs contain the 30-year financial forecasts; suitable to develop the first draft of the Long Term Plan and the Infrastructure Strategy
	5.6 Life cycle strategies are articulated within the asset management plan

Appendix II – Resource Recovery Asset Management Maturity Assessment

Section	Current/ Target		Reason for scores 2020	Improvement actions planned or underway
AM Policy and Strategy	70	80	Corporate AM Policy and Strategic AM Plan in place, provides key principles, objectives, corporate AM improvement path, framework for AM planning. Strategic context analysis is thorough and documented in IS, AMP and Activity Plan. Strategic priorities are well embedded with good alignment through to AMP and Activity Plans.	Advancing asset management programme. Update AM Policy and Objectives.
Levels of Service	65	75	Activity levels of service and KPIs are defined and aligned to contract KPI reporting. Not many 'asset' related measures but not required for low value asset activities. Customer consultation over Waste Minimisation Plan (though not explicitly around 'service level options and costs'). Some service level options do get debated as part of proposed new or changed initiatives.	Will review Waste Minimisation Plan consultation feedback and determine whether further consideration and engagement over specific level of service changes are required.
Forecasting Demand	50	60	Demand management is a key part of the Waste Minimisation Plan. Historic demand information is available and analysed. Reluctance to develop demand forecasts and scenarios because of high level of uncertainty and low level of control over activities that will influence demand volumes (e.g. Govt policy).	
Asset Register Data	40	60	Assets held at 'facility' level in SAP. Asset register spreadsheets for transfer stations completed in 2012, though no process for updating since then. Closed landfill register in spreadsheet.	Update asset information and capture in SAP for ongoing asset information management. Add a requirement to maintain/update asset information in contracts.
Asset Performance/ Condition	40	60	Condition and performance assessment of transfer stations last done in 2012. There is asset performance information for some plant, e.g. quality of output from composter. Monthly reporting from contractor	As above.
Decision Making	60	60	Most CAPEX and asset-related OPEX is relatively small and does not require major options analysis and business case - this is done on an as-required basis.	See capital planning.
Managing Risk	60	65	High risks and critical assets are identified in AMP and responses identified (though not all responses seem to be included in financial forecasts).	Check alignment of documented AMP risk and resilience responses with financial forecasts and explain implications of any funding shortfall.
Operational Planning	50	60	Specific to asset operations there are different O&M planning approaches each contract, e.g. organic plant has specific requirements to maintenance to a certain standard, transfer station maintenance/renewals identified in the 2012 assessment when the contract was last renewed. There is asset condition and maintenance reporting from the contractor, albeit not captured into the asset register.	Document approach in AMP with reference to relevant detailed documentation and identify any update requirements for those documents.
Capital Works Planning	40	60	There is no asset information-based renewal programme (last done in 2012). CAPEX projects are in CPMS, but not fully scoped and awaiting outcome from Waste Minimisation Plan consultation before progressing. Most CAPEX is relatively small and does not require major options analysis and business case - this is done on an as-required basis.	Update asset condition/performance assessment and renewal programme. A service delivery review has been initiated to inform Delivery Contracts beyond 2024.

Section	Current/ Target		Reason for scores 2020	Improvement actions planned or underway
			Justification for CAPEX spend could be better articulated in AMP.	
Financial Planning	40	60	OPEX forecasting is based pm increasing current costs in line with population growth and allowing for inflation. Assets are not revalued to Depreciated Replacement Cost.	Include asset financial information and documentation of assumptions underlying forecasts in AMP.
AM Leadership and Teams	40	65	There is good AM coordination arrangements within Council but within Resource Recovery the AM roles are not well defined within Resource Recovery team or in PDPs. However recognised that this is not an asset-intensive activity. AMU has developed an AM competence framework, but this has not been applied to individual roles or job descriptions.	Review allocation of specific AM functions to team members (e.g. maintaining asset information), and time available to delivery.
AM Plans	40	60	AMP not complete, but some of this information is in the Activity Plan and Waste Minimisation Plan. The process for AMP updating was collaborative with involvement from key support areas such as risk/resilience and strategic planning. Need clarity on AMP scope, is it meant to include just the physical asset management or the whole activity.	Complete AMP. AMP lifecycle and improvement plan section needs to be updated and completed. Other sections can be more streamlined to recognise Waste Minimisation Plan and Activity Plan content but should still be included with a focus on summarising implications for assets.
Management Systems	50	60	Some key processes are mapped including closed landfill monitoring and customer service request management. Processes are well established and documented for many corporate processes such as capital delivery and risk. Since the last review, AMU has reviewed/improved some critical AM processes including asset handover and disposals.	Review and confirm all critical AM Processes and incorporate missing processes in Promapp.
AM Information Systems	80	95	Appropriate information systems are available to support AM, they just haven't been used much yet for this activity.	Once asset information in SAP, establish asset BI dashboards to support oversight of assets. BI dashboards to support financial monitoring.
Service Delivery Mechanisms	80	90	All physical work is undertaken under competitively tendered contract. New, more rigorous, corporate procurement rules have been established since last review. AMP service delivery sections provide documented bases for service delivery / procurement approach.	As all contracts get renewed under new procurement rules, this will take it to 'target' level. A service delivery review has been initiated to inform Delivery Contracts beyond 2024.
Audit and Improvement	30	60	Improvement plan hasn't been developed in recent years, but improvement actions are broadly understood and there is an intention to take action if resources permit.	Develop and monitor AM improvement plan.

Table x-x: Resource Recovery Current and Target 2020 maturity assessment scores

Appendix III - Capital Investment Programme 2025-34

PMO to provide this