Solid Waste

Activity Management Plan 2018

Selwyn DISTRICT COUNCIL

Quality Assurance & Plan Status

1. Plan Version and Control		
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2015	Version 2.0	Draft only
2018	Version 3.0	Andrew Boyd

2. Overall Responsibility for the Co-ordination of all Matters in this Plan		
Date	**Name**	**Designation**
2018	Andrew Boyd	Solid Waste Manager

3. Prepared By		
Date	**Name**	**Designation**
2018	Andrew Boyd	Solid Waste Manager
2018	Jess Court	Solid Waste Support Officer

4. Input From			
Date	**Name**	**Designation**	**Input**
2018	Grant Holland	Snr. Consultant – Waugh Infrastructure	Input and review
2018	Murray Washington	Asset Manager	Review

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8. Peer Review Record		
Date	**Reviewer**	**Designation**
2018	Grant Holland	Snr Consultant – Waugh Infrastructure
2018	Murray Washington	Asset Manager

Selwyn District Council
Solid Waste Activity Management Plan

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Executive Summary

Overview
The Council provides a variety of services related to the management of waste in the District, covering more than 19,000 households. Essentially, household waste is mostly collected through the residual waste, recycling and organic kerbside collection system. The remainder take the bins, bags or crates to the nearest kerbside drop off collection point, to Pines RRP, or in some cases, dispose of waste into farm pits or burn waste on site. Residents pay for the household service through a mix of targeted and compulsory rates. Users of Pines RRP pay on a per tonne basis.

It is a requirement of the Waste Minimisation Act 2008 for all local authorities to complete a Waste Assessment and conduct a review of their Waste Management and Minimisation Plan's (WMMP) every 6 years. The Council adopted its WMMP in August 2011. A Waste Assessment was completed in 2017. Subsequently the WMMP was reviewed and a recommendation is to be put to Council that the 2011 WMMP is retained until a new WMMP is written, consulted upon, and adopted. This AMP and the WMMP are companion documents as they are required by different legislation, but contain similar content.

Improving the efficiency of resource use will reduce the amount of residual waste that has to be collected and disposed of. In Selwyn's case, the disposal of residual waste is to the Kate Valley Regional Landfill. The Act also requires local authorities to reduce waste at source, but this is more difficult, as it relates to the way products are manufactured, marketed and sold, all areas over which the Council has limited influence.

Why is the Council involved?
The management of solid waste is deemed a 'significant activity' under the terms of the Local Government Act 2002. The Council has a statutory obligation to promote effective and efficient waste management and to achieve this it takes a leadership role in managing waste activities. By managing the activity, the Council is in the best position to serve the needs of the community, provide a sustainable service and keep costs down.

It is important to manage solid waste well, given the health implications which could arise if the service was unsatisfactory and waste was not promptly collected, handled, and disposed of. Harm to the environment and community could easily occur if waste accumulated and was left to rot and become a source of food for vermin and increase risk of disease. There is also a danger that pollution of groundwater could occur, with the potential to affect drinking water supplies, where wells are shallow. The activity must be managed in a sustainable manner for today's communities and for future generations.

The Council therefore takes responsibility for fulfilling legal and statutory obligations, waste minimisation, policy, strategic direction, educational programmes, providing clean fill sites and the Pines Resource Recovery Park (a waste transfer facility, organic composting operation, as well as hazardous waste and recycling drop-off location).

Council manages all aspects of the solid waste activity including the managing of private providers/contractors, who carry out the following, under contract to the Council.

Waste collection services
The Council provides kerbside residual waste collections in urban, rural-residential and some rural areas. An optional garden and food (organic) waste collection is also available in the larger townships.

Residual waste disposal facilities
Residual waste is sent to the Kate Valley Regional Landfill, which currently has resource consent until 2039.

The Council provided services could be challenged by private providers of these services but customer feedback reveals a very high level of satisfaction with the current services and associated costs. Ratepayers do have the choice of using private providers but the number doing so is relatively small because the Council provides a reliable and cost effective service.

Activity goal
To promote effective and efficient waste management within the District. Maximise the avoidance, recovery or recycling of waste whilst having regard to the environmental, social and economic costs and benefits to the District and ensuring that the management of waste does not cause a nuisance or be injurious to health.

Council contribution to community outcomes
This activity contributes the following outcomes:

- A clean environment
- A healthy community

Negative effects on the wellbeing of the community

There are risks from providing a solid waste service and these have been assessed in the light of the four aspects of community wellbeing per s10 of the Local Government Act 2002. The Council's response to the possible impact of the activity on the community is set out in table below.

Well-being	Possible negative effect	The Council's response is to
Social	With regard to compulsory recycling and Uniform Annual charges, the interests of the individual may, sometimes, have to take a secondary position to the wider needs of the community.	Provide pricing incentives and options that encourage waste reduction behaviours in order to meet waste management and minimisation goals and to keep the community healthy.
Economic	Charges have to be levied to cover the cost of providing a service that meets the Council's goals and its statutory obligations while remaining sustainable.	Justify the costs by providing efficient and highly rated services. Provide a range of user pays services (where practical) so people can make a cost-effective choice which best suits their household needs. Ensure that disposal fees are reasonably consistent with those of surrounding Districts.
Environmental	The kerbside collection relies on bins, bags and some crates being left out in the street awaiting collection. Strong winds can lift lids and topple bins, contributing to litter. Animals can tear open bags, causing litter and attracting vermin.	Provide high quality bins and crates. Collection takes place at a regular time (as much as is practical). Investigate lid clips for high wind areas. Disincentivise bags, and incentivise 80L refuse bins through pricing. Extend kerbside service to additional properties wherever practical and cost effective. This allows for better uptake of wheelie bins instead bags and crates.
	There is the potential for nuisance from litter, dust and odours at the Pines Resource Recovery Park.	Provide well sealed bins and practice good housekeeping at the Pines Resource Recovery Park. Utilise fencing and planting to capture litter or to reduce wind speed in operational areas. Operate regular litter collections across the site and along approaching road side. Adhere to Resource Consent conditions. Do not turn compost during high wind events.
Cultural	The pollution of groundwater is an important cultural concern for our community.	Dispose of cleanfill only at consented cleanfill sites and monitor groundwater regularly. Monitor cleanfill closely to ensure compliance. Dispose of residual waste at Kate Valley Regional Landfill where stringent Resource Consent conditions are met. Help facilitate alternatives to burning or burying of waste in rural areas. Work collaboratively with other Councils to manage illegal waste related activity.
Safety	Bag collections increase risks to collection contractors through manual handling injuries, cuts, needle stick injuries, slips, trips and falls.	Disincentivise bags, and incentivise 80L refuse bin through pricing. Extend kerbside service to additional properties wherever practical and cost effective. This allows for better uptake of wheelie bins instead bags and crates.

Major projects for the 2019/20 financial year

Several significant projects are planned to commence in the 2019/20 year. Depending on the outcome of the composting trial underway at the time of writing, there may be a requirement to invest capital funds in a replacement compost system ($1.5M). It is hoped that the trial will prove successful and that this will not be required. Repair/Renewal of the residual waste concrete pad needs to be undertaken ($500k budgeted). Installation of a basic sorting line for Construction waste, and moving of the waste compactor ($300k budgeted). Commencement of "Reconnect" project at Pines RRP – Stage 1 ($3.3M). Stage 1 is the relocation and replacement of the Recycling Drop-off area, the construction of a car parking area. Finally, a program of retrofitting RFID tags to wheelie bins is planned to commence in July 2019 (when Contractor resources become available post CCC RFID tag project).

1 : Introduction

1.0 Introduction

This section sets out the purpose of this Asset Management Plan (AMP), shows an overview of the district, describes the solid waste service, and provides background to the AMP.

1.1 Purpose of the Plan

The purpose of this Activity Management Plan (AMP) is to outline and to summarise in a coordinated manner the Council's long-term management approach (Asset Management) for the provision and maintenance of Solid Waste services throughout the District.

This AMP demonstrates how Council will:

- Detail the extent and quality of services desired (or required) by the community and legislation now and in the future.
- Have clear linkage to community agreed outcomes and the agreed Levels of Service.
- Prudently manage the solid waste services in ways that optimise the value and improve the services delivered to the community.
- Assess the risks of failing to deliver levels of service for its activities and provide appropriate means of mitigating those risks.
- Justify short, medium and long term funding requirements.
- Provide adequate funding to manage the assets according to assessed priorities.
- Proactively improve knowledge of its assets and services.

This AMP is intended to be read in conjunction with the Selwyn District Council Long Term Plan 2018 - 2028 (LTP) and fulfils requirements of the Local Government Act 2002 (and amendments), Schedule 10.

Asset Management
The overall objective of Asset Management is to:

Deliver the required level of service to existing and future customers in the most cost effective manner

For the purpose of this Plan the definition of waste has been taken from the Waste Minimisation Act 2008:
Waste -

a) means anything disposed of or discarded: and
b) includes a type of waste that is defined by its composition or source(for example organic waste, electronic waste, or construction and demolition waste) and
c) to avoid doubt, includes any component or element of diverted material, if the component or element is disposed of or discarded.

1.2 Background to AMP

The Local Government Act requires the Council to prepare a LTP to cover a period of ten years. Significant activities are described in the Plan and linked in with outcomes and associated costs. This is to ensure that robust, transparent decision-making for managing, operating, maintaining, renewing and extending assets does not happen in isolation from the direction the community wants to take or from prudent financial management.

Key assumptions listed in the LTP also underpin the Solid Waste Management Activity Plan. These include population change, inflation, borrowing costs, timing and level of capital expenditure, funding of capital expenditure, return on investment, asset values, asset lives and depreciation

The Solid Waste Activity Management Plan is being completed for the 2018 - 2028 Long Term Plan (LTP) for the following reasons:

- Managing solid waste is a significant activity under the Local Government Act 2002. There are synergies with the LTP, in particular with the special consultative procedure used to facilitate dialogue with the public and gain their feedback on levels of service and acceptable costs
- Outcomes for the management of solid waste tie in with Community Outcomes in the LTP.
- Council's awareness of the asset component of managing solid waste and the need to ensure that physical assets are matched to agreed service delivery goals
- Council adequately understands the risk factors in managing solid waste and is informed of how these are being managed
- Council has confidence it can adequately finance capital and operational costs pertaining to provision of this service

- Council responds appropriately to demand factors, including growth in population, customer requirements and government legislation.
- Council has recently completed the Waste Assessment and may concurrently consult on the Waste Minimisation and Management Plan with the LTP (requirements under the WMA 2008).

1.1.1 District

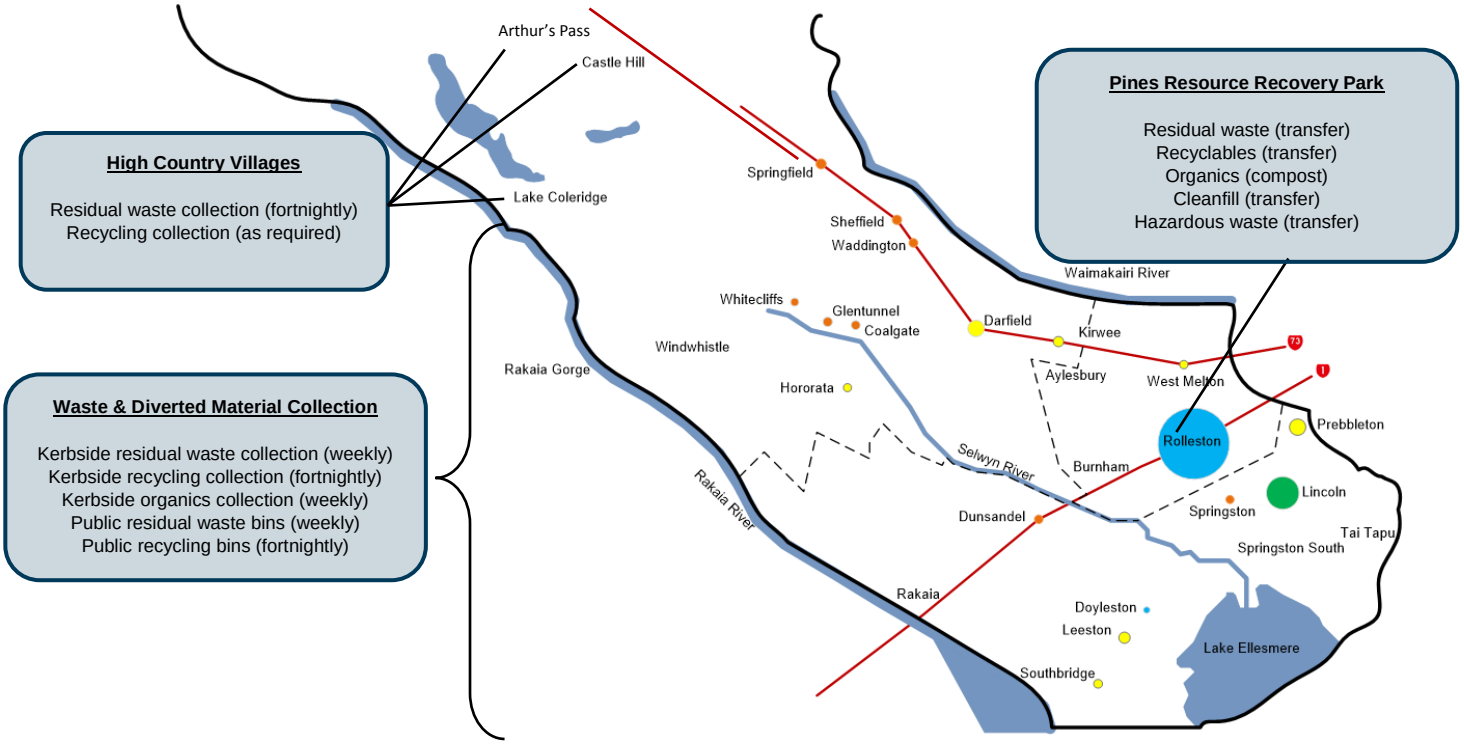
Selwyn District covers an area of 6,492 square kilometres and stretches across the Canterbury Plains from the mountains (Arthur's Pass) eastwards to the sea (Lake Ellesmere). It is largely a rural district with the main towns, in order of population, being Rolleston, Lincoln, Darfield, Prebbleton, Leeston, Southbridge and Kirwee.

According to the provisional estimates of Statistics New Zealand for the period 1996-2016, Selwyn District was New Zealand's second-fastest growing district, after the Queenstown-Lakes District. The 2013 Census showed a 32.6% increase in population since the 2006 Census.

Selwyn District now in 2017, has an estimated population of 58,117.

1.3 Service Description

Figure 1-1: Solid Waste Services in Selwyn



The Solid Waste Service provided by Selwyn District Council can be split into the following main groups: Collection Services, Disposal and Diversion Infrastructure, and Other Initiatives. For consistency, these groupings are utilised throughout this report.

Collection services are mostly in the form of a kerbside bin service for recycling, residual waste and an organics service offered in the larger townships. The Pines Resource Recovery Park (RRP) near Rolleston provides the bulk of disposal and diversion infrastructure. Pines RRP receives the majority of the District's residual waste, as well as organics material from kerbside and drop-off.

For the purpose of solid waste management, there is no separation of rural and urban except for the high country villages of Arthur's Pass, Lake Coleridge and Castle Hill and the basic user charge is the same across the District. Some less populous, rural areas of the District do not receive a full kerbside collection service. Farmers rely on their own pits or take refuse and recycling to the Pines RRP.

1.4 Key Issues

The following key issues are currently associated with the Solid Waste service:

- Organics – processing capacity and compost sale
- Increased growth and demand on all services and the Pines Resource Recovery Park facility
- Increased Level of Service expectations upon facilities (e.g. Reuse shop at Pines RRP)
- Waste minimisation goals and objectives

2: Strategies, Policies and Legislation

2 Strategies, Policies and Legislation

The operation and maintenance of the Solid Waste service is performed within the strategic environment as described below.

2.1 Vision, Goals & Objectives

Vision
The Vision of the District in relation to waste management and minimisation, outlined as a key community outcome in the WMMP, is:

Selwyn District embraces the philosophy behind the Waste Hierarchy in every way that is economically and practically achievable, in order to maintain or improve the condition of air, land, water and the general environment for current and future generations.

Goals
The New Zealand Waste Strategy (NZWS) 2010 sets the following two goals:

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

The aim of these two goals is to "provide direction to local government, businesses (including the waste industry), and communities on where to focus their efforts in order to deliver environmental, social and economic benefits to all New Zealanders".

Through the process of writing the Solid Waste Activity Management Plan, the Council will describe and assess the current operation and management of the service, predict the likely future demands, assess risk factors and possible negative outcomes, suggest improvements to the service and describe the funding implications.

Objectives
The following objectives have been established in order to achieve our goals:

- Achieve agreed **levels of service** for customers.
- Ensure the operational, financial, social, and environmental **sustainability** of the service.
- Reduce Council's **exposure to risk**, should there be a failure of the assets.
- **Comply with all legislation**.
- Safeguard human, animal and environmental health by promoting and encouraging safe and hygienic storage, handling, collection and disposal for all waste streams.
- Provide a cost effective, convenient, and comprehensive range of services to the community.
- Promote and engage in activities aligned with the upper tiers of the Waste Hierarchy in order to reduce waste generation and waste volumes sent to landfill.
- Encourage and facilitate the development and uptake of services for rural areas in order to reduce waste to farm pits, or the burning of waste.
- Arrange local initiatives, or support and participate in community, regional, national, or industry led initiatives that reduce the harmful effects of waste, or minimise waste.
- Assist with enforcement action associated with illegal waste activity.
- To embrace changes in technology that improves any meaningful aspect of waste related activity.
- Improve Council and Community's level of knowledge and understanding of waste streams in the district, and their associated key issues. Provide guidance for waste related issues.
- Facilitate increased community engagement and ownership of waste generated. Foster innovation around the way that waste can be better managed. Leverage waste recovery activities to achieve positive social and environmental outcomes.

2.2 Solid Waste Planning

Section 5 of the WMA 2008 required Council to conduct a Waste Assessment and review its Waste Minimisation and Management Plan (WMMP) every six years. The Waste Assessment has been completed and is awaiting feedback from the Medical Officer of Health. The WMMP has been reviewed and a recommendation is to be put forward to Council that a new WMMP is written and consulted upon.

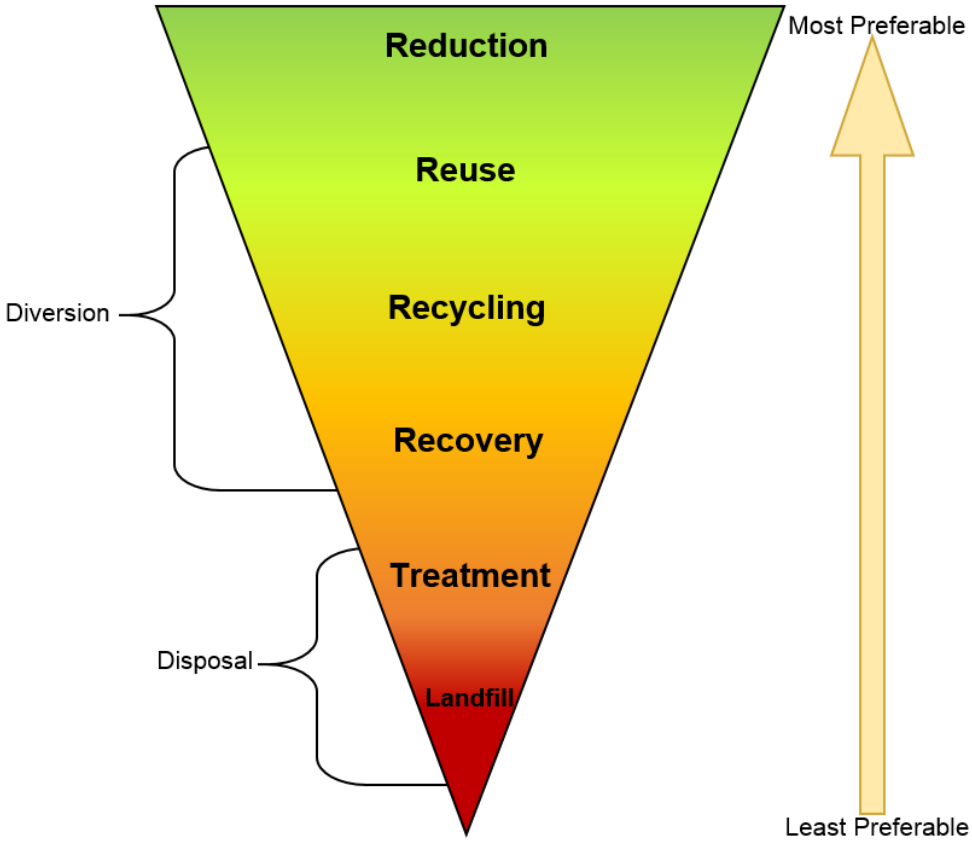
The WMMP provides the Council with a blueprint for achieving its waste management and minimisation aims in a structured way for the next 20 years.

The Solid Waste Activity Management Plan (this document) will summarise in one place the Council's strategic and long-term management approach for the provision of solid waste services to the District and ensure that appropriate resources are made available through financial forecasts, over the next ten years (2018-2028).

Although the ten year timeframe is a significant time for a Solid Waste activity management plan, the Council believes that there will be no significant changes to the collection or disposal methodology of residual waste. There will however be some intervention methods proposed to increase the focus on the upper tiers of the Waste Hierarchy.

When preparing, amending or revoking a waste management plan, a Territorial Authority must consider Waste Hierarchy (Figure 2-1). The Waste Hierarchy is a set of priorities for the efficient use of resources. This is used worldwide to guide waste related legislation and strategies, including the Waste Minimisation Act (2008) and the New Zealand Solid Waste Strategy (2010).

Figure 2-1: The Waste Hierarchy



2.3 Asset Management Policy

The objective of the Selwyn District Council's Asset Management Policy for the Solid Waste Activity is to ensure that Council's service delivery is optimised to deliver agreed community outcomes and levels of service, manage related risks, and optimise expenditure over the entire life cycle of the service delivery, using appropriate assets as required.

The Asset Management Policy requires that the management of assets be a systematic process to guide planning, acquisition, operation and maintenance, renewal and disposal of the required assets.

Delivery of service is required to be sustainable, in the long term, and deliver on Council's social, economic, environmental and cultural objectives.

The Asset Management Policy sets the appropriate level of asset management practice for Council's Solid Waste Activity.

In August 2017 the Council updated the Asset Management Policy, which sets out a rationale for the level of the organisation's asset management plans. This was to ensure that resources were allocated appropriately i.e. that Activity Management Plans were written to reflect the size, condition and complexity of assets, together with legislative requirements, local factors and influences, risk levels, customer expectations and the population of the district. The report also discusses the concept of Asset Management Maturity; which is the extent the maturity of the organisation's asset management practices are able to meet the current and future needs of the organisation and is a lead indicator of future performance.

On analysis of these criteria, the SWAMP was ranked as Core.

Land Transport	Intermediate
Five Waters Utilities	Intermediate
Community Facilities	Core
Solid Waste	Core

For the purposes of the Policy, ''Core" asset management practice is basic technical asset management planning undertaken at a level designed to meet minimum legislative and organisational requirements for financial planning and reporting. 'Core' practice provides technical management outputs for current levels of service, demand management, asset lifecycles, asset forward replacement programmes, new capital expenditure and associated cash flow projections.

2.4 Reasons for Council Involvement

The management of solid waste is a 'significant activity' in the terms of the Local Government Act 2002. The Council has a statutory obligation to manage solid waste activities and to contribute to the community outcomes listed in the LTP. Maintaining a proactive leadership role protects the community's interests and fulfils the Council's legal responsibilities. Currently, the private sector has little to gain by commitment to reducing waste but they can be helpful partners in achieving it, with leadership from the Council.

By partnering with private operators, the Council also achieves efficiencies of scale, as these operators serve other near-by districts, in addition to Selwyn. The competitive rates they provide keep costs down to a reasonable level. The payment of the basic targeted rate and the recycling rate are at present the only compulsory charges levied on residents for this activity. Any services beyond those covered by these charges can be provided by a private company, if the resident so chooses.

Reasons why the Council should remain in charge of the activity and partner with private contractors for the operational aspects include:

- There are efficiencies to be gained by using contractors, especially those who operate beyond Selwyn District borders.
- The Council shares the investment needed to provide assets, with the contractor financing trucks, bins etc.
- The Council remains flexible by not committing to too many expensive assets which, if not needed, may not be readily converted for a different purpose.
- If there are changes in the way the Council needs to provide the service or changes in legislation, there is flexibility in this current model.
- The Council has to meet legal and statutory obligations. Not being tied up with operational matters assists in focusing on the strategic aspects of solid waste management and a proactive response to changing demands.
- Private companies do not profit greatly from waste reduction initiatives and so are not generally viewed as committed to achieving these as the Council is.
- There may be synergies to be gained in the future, as the Resource Recovery Park is adjacent to the Pines Wastewater Treatment Plant and advanced technology may identify ways the two plants can work together e.g. sludge treatment and disposal and / or energy recovery.
- The Council can carry out educational initiatives that compliment infrastructure or services.

2.5 Legislative Framework

Waste Management and Minimisation legislation is provided primarily by the following three Acts:

- the Waste Minimisation Act 2008
- the Local Government Act 2002
- the Resource Management Act 1991

Other legislation, strategies or reports with relevance to Waste Management activities include:

- the Health Act 1956
- the Litter Act 1979
- the Climate Change Response Act 2002
- Health and Safety at Work Act 2015 (shortly to incorporate Hazardous Substances and New Organisms Act 1996)
- Freedom Camping Act 2011
- The New Zealand Waste Strategy 2002
- Industry generated guidelines and reports (referenced individually)

2.5.1 Waste Minimisation Act 2008

The purpose of the Waste Minimisation Act (WMA) is:

- to encourage a reduction in the amount of waste generated and disposed of within New Zealand.
- to reduce the environmental harm of waste and to provide economic, social and cultural benefits for New Zealand.

The Act attempts to achieve this by:

- imposing a levy on all waste disposed of in municipal landfills to generate funding to help local government, communities and businesses minimise waste
- establishing a process for government accreditation of product stewardship schemes which recognises those businesses and organisations that take responsibility for managing the environmental impacts of their products
- requiring product stewardship schemes to be developed for certain 'priority products' where there is a high risk of environmental harm from the waste or significant benefits from recovering the product
- allowing for regulations to be made to control the disposal of products, materials or waste, require take-back services, deposit fees or labelling of products
- allowing for regulations to be made that make it mandatory for certain groups (e.g., landfill facility operators) to report on waste to improve information on waste minimisation
- clarifying the roles and responsibilities of territorial authorities with respect to waste minimisation
- establishing the Waste Advisory Board to give independent advice to the Minister for the Environment on waste minimisation issues.

The WMA states that each TA must:

- have completed a review of its waste management and minimisation plan (WMMP) by 1 July 2012 – Section 50 (1), and that it be reviewed after each six year period thereafter.
- conduct a waste assessment before conducting the review – Section 50 (2);
- complete a review of its waste bylaw within 10 years of the last review – Section 58 (2); and
- either prepare a new or modified WMMP or, if it is decided to continue with an existing WMMP, notify the results of the review using the Special Consultative Procedure (SCP).

2.5.2 Waste Levy and Waste Minimisation Fund

The WMA provides for a waste disposal levy. At the time of writing the levy is set at $10 per tonne of waste to landfill. The purpose of the levy is to:

- encourage New Zealanders to take responsibility for the waste they produce and to find more effective and efficient ways to reduce, recycle or reprocess waste
- create opportunities for funding waste minimisation initiatives

The fund is administered by the Ministry for the Environment (MfE). Half of the fund is distributed to each TA for local waste minimisation initiatives. The remainder is allocated to administration costs and a nationally contestable fund, the Waste Minimisation Fund (WMF) for which applications are sought twice per year.

The Minister is required by the WMA to review the effectiveness of the levy at least every three years, with the next review to be completed by mid-2017. During previous reviews, discussion has been around considering increasing the levy amount, and increasing the range of waste types and facilities that the levy is applied to. It would be prudent to expect some increase in the amount of levy charged, possibly from the $10 per tonne currently to $15 per tonne in coming years.

2.5.3 Product Stewardship

Product stewardship is the responsible management of the environmental impact of a product. It aims to reduce the impact of manufactured products at all stages of the product life cycle.

Under a product stewardship scheme, any party involved in the life of a product (e.g., a producer, brand owner, importer, retailer or consumer) may accept responsibility for reducing the product's environmental impacts. For producers, this may mean designing products so they can be broken down into recyclable or reusable components. For retailers and consumers it may mean taking an active role in the responsible disposal or recycling of a product.

Under the Waste Minimisation Act 2008, the Minister for the Environment can declare a product to be a priority product. When this happens a product stewardship scheme must be developed and accredited. Currently no priority products exist. However a number of accredited voluntary product stewardship schemes exist for materials such as agricultural chemical containers, farm plastic recycling, photocopiers, paint, glass and public place recycling. Council is involved with some of these schemes, where appropriate.

2.5.4 The Local Government Act 2002

The Local Government Act empowers councils to promote the well-being of communities.

The purpose of local government is to:

- enable democratic local decision-making and action by, and on behalf of, communities
- promote the social, economic, environmental, and cultural well-being of communities in the present and for the future.

Solid waste collection and disposal is identified as a core service to be considered by a local authority.

The Local Government Act (LGA) 2002 contains several provisions relevant to TAs when preparing AMPs and WMMPs. These include consultation and the creation and review of waste bylaw provisions, as well as the introduction of section 17a in 2014. Section 17a requires that local authorities review *"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. …
A review under subsection (1) must consider options for the governance, funding, and delivery of infrastructure, services, and regulatory functions"*

Reviews must be carried out if any significant changes to the service are proposed, before a contract for service delivery expires or at such times as the local authority considers desirable. Reviews must be carried out at least every 6 years. The Act also includes legislative requirements for TA decision making, including consideration of the benefits and costs of different options in terms of the present and future social, economic, environmental and cultural well-being of the district. Furthermore, the Act also includes requirements for information to be included in a Long Term Plan (LTP), including summary information about the WMMP.

2.5.4.1 Bylaws

The Council's Waste Minimisation and Management Bylaw was last reviewed and altered in 2012 (a copy is provided in Appendix A).

This bylaw provides rules that apply to the Council's Waste and Diverted Material services, and certain other activities, which without regulation have the potential to threaten public health and safety and create a nuisance.

The bylaw is due to be reviewed again in 2022, unless there is sufficient reason to conduct and earlier review. There is work currently being considered by the Waste Management Institute of New Zealand to produce a "best practice" bylaw template. When this is completed, Council will consider whether the existing bylaw should undergo review earlier.

2.5.5 The Resource Management Act 1991

The Resource Management Act (RMA) is New Zealand's key environmental legislation and provides a framework for managing the effects of activities on the environment. With regard to waste related activities, the RMA controls the environmental impacts of waste facilities such as disposal facilities, recycling plants and cleanfills.

Under the RMA, regional councils are responsible for controlling the discharge of contaminants into or onto land, air or water. These responsibilities are managed through regional plans and the requirements of discharge consents issued. Requirements. Regional Council responsibilities also encompass the management of the adverse effects of storing, using, disposing of and transporting hazardous wastes.

TA responsibilities under the RMA include controlling the effects of land-use activities that have the potential to create adverse effects on the natural and physical resources of their district. Facilities associated with the disposal, treatment or use of waste or recoverable materials have the potential for adverse effects in this regard. Waste related facilities are subject to controls under District planning documents in terms of permitted, controlled, discretionary, non-complying and prohibited activities.

2.5.6 Other legislation

2.5.6.1 Health Act 1956

The Health Act 1956 places obligations on TAs (if required by the Minister of Health) to provide sanitary works for the collection and disposal of refuse, for the purpose of public health protection (Part 2 – Powers and duties of local authorities, s25). It specifically identifies certain waste management practices as nuisances (s29) and offensive trades (Third Schedule).

The Health Act enables TAs to raise loans for certain sanitary works and/or to receive government grants and subsidies, where available.

See also WMA 2008 (above) requirement to consult with Medical Officer of Health.

2.5.6.2 The Litter Act 1979

The Litter Act was established to make better provision for the abatement and control of litter. The Act is a mechanism for local government to address littering.

The functions of the Act include:

- establishing enforcement officers and litter wardens who may issue fines and abatement notices for litter offences
- allowing territorial authorities to force the removal of litter
- allowing public authorities to make by-laws pursuant to the provisions of the Act.

Enforcement officers may liaise with the Waste related Council officers with regard to litter issues such as fly tipping or the need for or placement of litter bin equipment.

2.5.6.3 The Climate Change Response Act 2002

The Climate Change Response Act 2002 put in place a legal framework to allow New Zealand to ratify the Kyoto Protocol and to meet its obligations under the United Nations Framework Convention on Climate Change.

This Act also enables the New Zealand Emissions Trading Scheme (NZ ETS). Operators of disposal facilities have specific obligations under the NZ ETS. The effect of the act on waste activities currently takes the form of an increase in landfill disposal cost. Recent increases in the purchase cost of carbon units combined with the phased removal of concessions from 1 January 2017 of subsidies, is expected to result in an increased cost (albeit small) of disposal to landfill.

The regional landfill at Kate Valley is a modern highly engineered facility with an efficient gas capture system. This results in a reduction in the potential financial impact of the NZ ETS on the District, when compared with regions with lower grade landfills.

2.5.6.4 Health and Safety at Work Act 2015

The HSWA and associated regulations are the primary legislation governing health and safety in New Zealand. The guidelines sit beneath health and safety legislation in a hierarchy of compliance, which also includes codes of practice and standards.

The main purpose of this Act is to provide for a balanced framework to secure the health and safety of workers and workplaces by:

- protecting workers and other persons against harm to their health, safety, and welfare by eliminating or minimising risks arising from work or from prescribed high-risk plant; and
- providing for fair and effective workplace representation, consultation, co-operation, and resolution of issues in relation to work health and safety; and
- encouraging unions and employer organisations to take a constructive role in promoting improvements in work health and safety practices, and assisting PCBUs and workers to achieve a healthier and safer working environment; and
- promoting the provision of advice, information, education, and training in relation to work health and safety; and
- securing compliance with this Act through effective and appropriate compliance and enforcement measures; and
- ensuring appropriate scrutiny and review of actions taken by persons

The Act refers to a 'PCBU'. A PCBU is a 'person conducting a business or undertaking'. While a PCBU may be an individual person or an organisation, in most cases the PCBU will be an organisation (for example, a business entity such as a company).

A PCBU must ensure, so far as is reasonably practicable, the health and safety of workers (e.g. employees or contractors, including their subcontractors or workers).

That other persons are not put at risk by the work of the business or undertaking (e.g. a visitor to the workplace, or members of the public who could be affected by a work activity).

HSWA requires workers to take reasonable steps to ensure the safety of workers at work.

The primary duty of care requires a PCBU to ensure health and safety 'so far as is reasonably practicable'.[1]

The implications in terms of resources – for example staffing, knowledge and equipment, as well as the financial effects of compliance with the relatively recent introduction of the HSWA are still being worked through. Cost is no longer accepted as a major consideration in determining the safest course of action.

2.5.6.5 The Hazardous Substances and New Organisms Act 1996 (HSNO)

It is expected that the Hazardous Substances and New Organisms Act 1996 (HSNO) will be incorporated into the Health and Safety at Work Act in the near future. HSNO and its regulations control the import, manufacture, use and disposal of manufactured chemicals that have hazardous properties.

The HSNO Act prohibits the import or manufacture of a hazardous substance unless it is done under an approval. An approval sets controls (rules) for the substance throughout its lifecycle such as requirements for storage, identification, emergency management and disposal. The approval covers the lifecycle of the substance until it is disposed of according to the controls on the approval (e.g. treating it so that it is no longer a hazardous substance or exporting it from New Zealand as a waste).

2.5.6.6 Freedom Camping Act 2011

The Freedom Camping Act (2011) came into force on 30 August 2011. This statute provides local authorities with access to stronger regulatory measures to better manage the nuisance created by errant freedom campers.

Local authorities are able to issue infringement notices for the offence of depositing waste under Section 20(1)(b)(ii) and 20(1)(d).

[1] WasteMINZ, (2014) *Health and Safety Guidelines: for the Solid Waste and Resource Recovery Sector – parts one, two, three, four and five*

2.6 Strategies and Industry Guidelines

2.6.1 New Zealand Waste Strategy 2010

The current New Zealand Waste Strategy was released by the Minister in October 2010. It provides a *"high level direction to guide the use of the tool available to manage and minimise waste in New Zealand"*[2]. The Strategy's flexible approach also aims to ensure that waste management and minimisation activities are appropriate for different local situations.

To achieve these aims the Strategy sets the following two goals:

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

The aims of these two goals are to *"provide direction to local government, businesses (including the waste industry), and communities on where to focus their efforts in order to deliver environmental, social and economic benefits to all New Zealanders"*.

The Strategy places a responsibility on regional councils to regulate the environmental effects of waste facilities through the implementation of the RMA and also in facilitating a collaborative approach amongst TAs towards waste planning.
The waste industry has a role under the Strategy to increase the range of services available and implement good practices and codes of practice. Businesses and communities also have a responsibility to improve resources efficiency in the production and consumption of goods and services and by changing behaviours at home and work through education programmes.

2.6.2 Industry Guidelines and Standards

In addition to legislative requirements, the following guidelines / standards also influence waste management practices:

- Ministry for the Environment, (2015) *Waste Assessments and Waste Management and Minimisation Planning: A Guide for Territorial Authorities*
- Ministry for the Environment, (2002 & 2004) *Guidelines for the Management of Hazardous Waste (Module 1 & 2)*
- Ministry for the Environment (2010) *The New Zealand Waste Strategy*
- WasteMINZ, (2016) *Technical Guidelines for Disposal to Land*
- WasteMINZ, (2014) *Health and Safety Guidelines: for the Solid Waste and Resource Recovery Sector*
- WasteMINZ, (2008) *The New Zealand Resource Recovery Park Design Guide*

[2] Ministry for the Environment (2010), *The New Zealand Waste Strategy*

3: Description of the Activity and Assets

3 Description of the Activity and Assets

The Council provides the majority of the waste and diverted material services in the District. This section provides an overview of the waste services provided and the funding sources for these. This section is structured under the following headings:

- **Collection Services**
  - Kerbside Residual Waste, Recycling & Organics Collections
  - High Country Village Residual Waste & Recycling Collection
  - Fly Tipping and Public Litter Bins
- **Disposal and Diversion Infrastructure**
  - Pines Resource Recovery Park
  - Waste Disposal Capital Projects
  - Satellite RRP Service
  - Cleanfills and Old Closed Landfills
- **Other Items & Council Supported Initiatives**
  - Education
  - Other Initiatives
- **Non-Council Provided Services**
- **Resource Consents**

3.1 Collection Services

3.1.1 Kerbside Residual Waste, Recycling and Organics Collections

The Council currently provides a kerbside collection service under Contract No. 1144 to Waste Management NZ Ltd (formally Transpacific Industries Group NZ Ltd). The contract completion date is June 2024.

Residents have access to a flexible service with a number of options and can select the combination of bins or bags that best suit their household and property. Approximately 92% of the District has direct access to a kerbside service outside their property. The remainder take the bins, bags or crates to the nearest kerbside drop off collection point, to Pines RRP, or in some cases, dispose of waste into farm pits or burn it.

Requests to extend the kerbside service into rural areas outside of the current collection routes are considered on a case by case basis following the consideration of number of households per kilometre, distance from the current route, demand and the viability of the proposed route extension in terms of safe and suitable access and turning for large refuse tucks.

Kerbside residual waste is collected weekly and is transported by the collection contractor to the Pines RRP (refer Section 3.2) for compaction, transfer and disposal at Kate Valley Regional Landfill.

Kerbside recycling is collected fortnightly and is taken by the collection contractor directly to EcoCentral Ltd in Christchurch for sorting, processing and sale.

Kerbside organic waste is collected weekly and is transported by the collection contractor to the Pines RRP (refer Section 3.2) where it is composted.

Ownership of the bins in service currently lies with the contractor. This is noted as an option (and a risk) to be addressed in Sections 0 and 10 to investigate whether this is the most appropriate ownership structure, or whether it unfairly disadvantages other contractors during the future tendering of services.

At June 2017 there are approximately 43,000 bins in place throughout the District. This is made up of 16,000 residual waste bins, 7,000 organics bins and over 19,000 recycling bins.

The age of the wheelie bins in service varies greatly, with some as old as 20 years. With the growth experienced in the District over the last 5 years, as well as the growth in the number of organics bins, the age profile of the bins is believed to be improving, however no detailed analysis has been completed.

Kerbside organic collection is currently available in the townships of Darfield, Kirwee, Leeston, Doyleston, Lincoln, Prebbleton, Rolleston, Springston, Southbridge and West Melton. This allows approximately 65% of the households in the District to access the organic service.

Funding
To achieve a cost-neutral position, in the face of increased costs of disposal at the Kate Valley Regional Landfill and escalating fuel costs, from time to time adjustments will have to be made to user charges. These are subject to formal Council approval.

Table 3-1: Description and Rateable Charges for Kerbside Collection Options at July 2017

Refuse Uniform Charge	Uniform annual charge	$24.50 p/a	Compulsory charge for households on collection route.
Recycling (fortnightly service)	240 litre yellow lid wheelie bin	$63.00 p/a	Compulsory charge for households on collection route.
	2x 60 litre black crates	$63.00 p/a	Optional service – off route collection only. No uniform annual charge.
Organics (weekly service)	240 litre lime green lid wheelie bin	$210.00 p/a	Optional service – on collection route only.
Residual Waste (weekly service)	80 litre red lid wheelie bin	$121.00 p/a	Optional service – on collection route only.
	240 litre red lid wheelie bin	$395.00 p/a	
	60 litre official Council bags	RRP $2.00 per bag	Optional service – on and off collection route available. Bags are sold in packs of 5 and can be purchased from Council Service Centres and selected supermarkets.

3.1.2 High Country Village Residual Waste & Recycling Collection

Approximately 280 household properties exist in High Country Villages such as Arthur's Pass, Castle Hill and Lake Coleridge.

Each separately used or inhabited portion of a property in these areas pays a compulsory targeted rate for the residual waste and recycling disposal service. In addition, some income is generated from commercial customers on the Arthur's Pass collection.

Residents, holiday home users and visitors to Arthur's Pass and Castle Hill take their residual waste to large (4.5 m^3) frontload bins with lids located within the townships. These bins are emptied fortnightly by a front loading compactor truck.

Lake Coleridge residents and visitors take their refuse to a community refuse trailer with a covered bin. This is emptied on a fortnightly basis.

Residual waste from these collections is transported to Pines Resource Recovery Park and the weight data is reported under the Kerbside Collection weighbridge category.

A recycling station has been installed in Arthur's Pass and a temporary recycling station exists at Castle Hill. These are emptied on an as needs basis. A second recycling station in Arthur's Pass is planned for installation in late 2017, as well as a permanent one for Castle Hill. Recycling from the stations is taken to EcoCentral Ltd in Christchurch for processing. Recycling wheelie bins are located at the community refuse trailer area at Lake Coleridge. These are taken by the contractor into Pines RRP for recycling.

3.1.3 Fly Tipping and Public Litter Bins

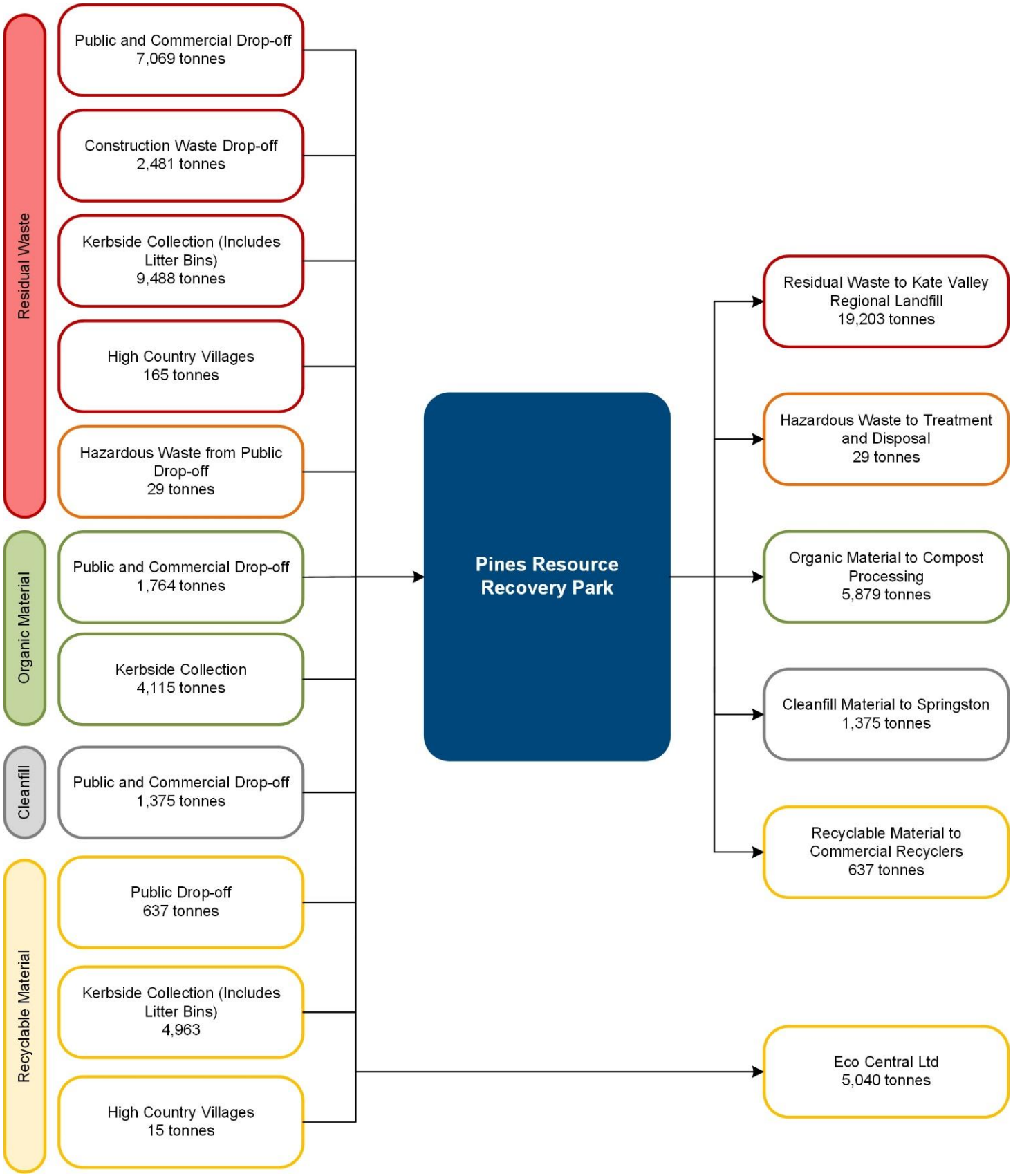
The management of fly tipping is currently managed by the Council's Roading Department. Collection of fly tipped material is undertaken by the roading contractor.

The provision and management of public litter bins falls between the Council's Solid Waste, and Parks and Reserves Departments. Parks and Reserves manages the majority of public litter bins, with the Solid Waste Department providing approximately 45 large 240 litre residual waste litter bins, and 16 large 240 litre recycling bins, mostly housed within steel enclosures to the high street areas of townships. These are emptied under the Kerbside Collections Contract no. 1144. Smaller capacity litter bins at parks and reserves are emptied by the reserves maintenance contractor Sicon Ltd. The litter bin service is funded from the Council's general rate via township budgets.

3.2 Disposal and Diversion Infrastructure

Figure 3-1 displays the waste and diverted material streams managed by Council, processed through the Council's Pines RRP or processed under contract to Council.

Figure 3-1: Flow of Waste and Diverted Material in Selwyn District for Financial Year 2016/17



3.2.1 Pines Resource Recovery Park

The Pines Resource Recovery Park is the Council's only permanent waste handling facility. It is located on Burnham School Road closest to the District's most populous township – Rolleston. This facility receives residual waste, organic material, cleanfill, household volumes of hazardous waste and most recyclable materials.

The Pines RRP opened in March 2006 and is located on a 16 hectare site with a land designation for resource recovery activities as well as discharge consents for activities on site. The facility consists of a waste receiving area and related structure, a waste compactor, composting area, in-vessel compost plant, shredder, a weighbridge kiosk with two weighbridges, an area for accepting public recycling materials, an office / meeting room for the on-site Contract Supervisor, an E-Waste shipping container, a container for empty agricultural chemical containers), two specialised hazardous waste storage containers, as well as various storage areas. The site is fully fenced, with the border lined with trees. A mixture of sealed roads, asphalt and concrete form the hard surface. All signage throughout the site was increased in type and size during an upgrade in 2017.

The Pines RRP is listed in the Council's LTP as a Strategic Asset. Section 97 of the Local Government Act 2002 requires that certain decision about strategic assets can only be taken if the decision is explicitly provided for by a statement of proposal in the Community Plan. The Pines RRP is central to minimising the quantities of residual waste sent to landfill. Council's intention is to retain the Pines RRP and to modify it only where necessary to cope with growth in the District, to meet new requirements or to expand the range of recovery related activities. Preliminary work towards a redesign and redevelopment of the facility has commenced. This is to improve the management and functionality of the public recycling drop-off area, to better meet public expectations and to broaden the range of materials accepted for recovery, as well as to include a reuse shop, salvage yard, an education room, options for microenterprise (waste related), landscape supplies yard, community garden, a farm waste processing hub, and possibly a pyrolysis operation.

Pines RRP is operated by Sicon Ltd under Contract no. 1245, with this contract managed by the Council's Solid Waste Manager. Sicon Ltd is a Council controlled organisation.

The District's residual waste is transferred into large hookload containers and dispatched for disposal at the Kate Valley Regional Landfill. The types and quantities of wastes received at Pines RRP are detailed in Section 5.8.

Recyclable materials are accepted free of charge and are transported to, or collected by commercial processors. Household recyclable materials are stored and transported to EcoCentral Ltd for processing. Other recyclables for example scrap metal, polystyrene and oil are collected by commercial service providers and taken for processing and recycling.

Figure 3-2 below shows an aerial view of the Pines RRP site and the range of waste and recyclable materials accepted at the facility.

Figure 3-2: Types of Materials Accepted at Pines RRP

Funding

Pines RRP is operated on a user pays basis and is open 7 days per week. Charges (Table 3-2) for disposal of residual waste, organic waste and cleanfill are set to cover operating and life cycle costs.

Kate Valley Landfill disposal costs will continue to increase as a result of capital and operational cost increases, price index adjustments, fuel price increases. As such, adjustments are made to targeted rates and user charges from time to time in order to achieve a cost-neutral position.

Table 3-2: Charges at the Pines Resource Recovery Park as at July 2017

Material	Charge GST Inclusive
Minimum waste or organic fee	$5.00
Residual waste	$224.00 per tonne
Garden and food waste (organic)	$107.00 per tonne
Cleanfill	$52.00 per tonne
TVs	$4.50 - $10.00 per item (range depending on type)
Tyres	$3.00 - $51.00 per item (range depending on type)
Child car seat recycling	$5.00 per item
Recycling (glass, plastic containers, metals, tins, paper, cardboard)	No charge
Hazardous waste	No charge

The total depreciated value of the Pines RRP facility and equipment at June 2017 was $2,465,924. Table 3-3 below shows the current Pines RRP related assets.

Table 3-3: The Pines RRP Asset List

Asset	Purchase Date	Expected Life	Initial Cost	Current Depreciated Value	Depreciation p.a.
RRP Foundations	2007	50 years	$1,071,908	$814,704	$21,438
RRP Stormwater & Sewer	2007	50 years	$63,340	$48,142	$1,267
RRP Electrical	2007	50 years	$121,617	$92,434	$2,432
RRP Water Supply	2007	50 years	$53,401	$40,588	$1,068
RRP Fire Hydrant	2007	50 years	$85,611	$65,069	$1,712
RRP Weatherwise Build	2007	50 years	$214,724	$163,201	$4,294
RRP Portacom Kiosk	2007	25 years	$129,465	$44,863	$897
RRP Site Manager's Office Portacom	2017	25 years	$33,757	$33,757	$1,350
RRP Roads	2007	50 years	$292,083	$221,998	$5,842
RRP Frame/Structure	2008	50 years	$386,000	$381,220	$7,720
RRP Building Fitout	2008	50 years	$21,000	$17,100	$1,900
RRP Building Services	2008	50 years	$66,000	$59,520	$2,480
RRP Shredder	2014	10 years	$350,413	$246,578	$35,202
RRP Compactor	2007	17 years	$216,907	-	-
RRP Weighbridge	2007	17 years	$121,262	-	-
RRP Water main	2007	50 years	$71,211	-	-
RRP Fencing	2007	30 years	$50,804	$28,176	$5,080
RRP Signage	2016	10 years	$36,624	$32,961	$3,662
Compost Plant	2011	10 years	$436,887	$175,613	$43,689
			$3,823,014	**$2,465,924**	**$140,033**

3.2.2 Satellite RRP Service

In addition to the Pines RRP facility, Council also provide periodic community garden and scrap metal drop off days at locations in Ellesmere and Malvern. These are provided with the purpose of improving accessibility and proximity to properties located at a more considerable distance from the Pines RRP. Plans and consents are in place to broaden the scope of materials accepted at these events, and to effectively have 'pop-up' temporary Resource Recovery Parks in future.

Funding
Funding is on a per vehicle basis with proceeds returned to the community organisation assisting with the event management.

Figure 3-3: Photos from a Community Recycling Drop-off

3.2.3 Cleanfills and Old Closed Landfills

The Council's Springston Pit near Lincoln is consented for the disposal of cleanfill and hardfill material. The pit is closed to the public and access is managed by Council's contractor Sicon Ltd. Cleanfill/hardfill received at Pines RRP is consolidated and taken to Springston Pit for disposal. Carefully managing access to Springston Pit ensures Council's ability to comply with consent conditions.

The District contains a number of old landfills that were in operation prior to the opening of the Kate Valley Regional Landfill in 2005. The known closed landfills include Arthur's Pass, Springfield (Cox's pit), Hawkins Pit (Darfield), Hororata, Killinchy, Bankside and Springston / Luggs Pit. Groundwater monitoring occurs at several of these in accordance with consents. Council is aware that other old historic closed town landfills are also present across the District but the knowledge of where they are located is limited. From time to time these are identified during development of subdivisions or building activity that disturbs the soil surface.

An assessment of work required to finalise the capping of the known landfills is underway in late 2017. This assessment will provide recommended steps to remediate the sites, including the amount and type of final capping material required, the capping design in accordance with Ministry for the Environment and/or consent requirements. In addition it will also form part of a post closure landfill management plan covering all of the old known landfills listed above.

This has been noted as a risk and an issue in Sections 0 and 10, in that we need to further our understanding of the status of the currently known closed landfills, as well as to better understand where older historic 'town dumps' may have been located. Gaining a better understanding of these and any liability, environmental contamination, or clean-up costs that could potentially be present is an important area requiring further investigation.

Funding
Funding for Springston pit cleanfill disposal is provided by charges at the weighbridge at Pines RRP, on a per tonne basis.

Table 3-4: List and Description of Cleanfills and Old Closed Landfills

Site	Location	Activity	Monitoring
Arthur's Pass	Halpins Creek, Arthur's Pass, State Highway 73	Closed (November 1997) 'landfill' located on Kiwi Rail land.	-
Springfield	Corner of Coxs and Junction Roads	Closed for residual waste on 30 June 2001 and for green waste on 30 June 2008. Managed in accordance with the post closure landfill management plan.	Fences and litter
Hawkins	Cullens Road, Darfield	Closed for residual waste on 30 Junes 2003 and for green waste on 30 June 2008. Managed in accordance with the post closure landfill management plan. Currently used 2x per annum for the Malvern Community Pop-up RRP. Refer to Section 3.5 for the resource Consent associated with that activity.	Fences and litter
Hororata	Hawkins Road	Closed on 30 June 1998. Managed in accordance with the post closure landfill management plan.	Fence and litter
Killinchy	Corner of Heslerton and Kings Roads	Closed for residual waste on 30 June 2003 and for green waste on 30 June 2008. Requires final capping.	Fences, litter, ground water etc
Springston (incl. Luggs Pit)	Weedons Road	Considerable capacity for cleanfill disposal remains.	Fences, litter, ground water etc

Killinchy and Springston are consented for cleanfill until June 2034 and as a result there are no consent renewals with regards to cleanfill required within the term of this Plan. Killinchy is at a stage where only final capping material will be accepted in accordance with the post closure landfill management plan.

3.3 Other Items & Council Supported Initiatives

3.3.1 Education

The Council continues to support a number of initiatives aimed at waste minimisation (waste reduction and diversion). These include education related initiatives as well as support for other initiatives such as product stewardship. Council partners with these organisations and supports these initiatives as an important method of fulfilling key components of its responsibilities under the WMA 2008 and the NZWS 2010. Waste levy funding returned to the Council from MfE is used to fund these waste minimisation related activities.

Waste related education is tackled in three broad groups: Schools and preschools, Businesses and the Public. Council partners with a number of organisations to achieve results in these areas:

- **Schools and preschools:**
  - Enviroschools – Council contributes funding (via the Solid Waste Budget) towards the Enviroschools program in the District. Other partners include Department of Conservation, Environment Canterbury, and the Toimata Foundation (funded by Ministry for the Environment). Enviroschools takes a holistic approach to teaching and connecting students with their environment. They employ a "train the trainer" type approach whereby the Enviroschool Facilitator runs cluster meetings training teachers from participating schools to deliver sessions to students. In addition, the Enviroschools Facilitator runs sessions directly with students.
  - Wastebusters Canterbury Trust are engaged to provide the school education programme. This takes the form of direct classroom sessions with students focussed on waste reduction, recycling and waste related issues. These practical sessions complement the more holistic Enviroschools approach.
  - Schools are directly assisted by Council with equipment for waste minimisation, such as internal recycling bins.
  - Solid Waste staff talk to students at schools within the District from time to time regarding waste related issues.

- **Businesses:**
  - Lincoln Envirotown are funded by Council's waste budget to assess the sustainability of businesses in the District. This is achieved through the Responsible Business Awards – a voluntary Environmental Assessment and rating process for businesses in the District.

- **Public:**
  - Council regularly communicates waste related messages to residents through a number of local newspapers, flyers, direct mail (addressing recycling or organics bin contamination), social media platforms such as Facebook and Neighbourly, and by SMS.
  - Council Solid Waste staff talk at community group meetings from time to time. For example, Time4Mums Rolleston, Rolleston Business Awards (Envirotown), Enviroschool cluster meetings.
  - Waste Free Parenting Workshops are held twice per annum in Rolleston and Lincoln.
  - Food Lovers Masterclass are held twice per annum in Rolleston and Lincoln. This class focuses on minimising food waste in the home.
  - Funding and equipment for waste minimisation is made available to organisers of events

Figure 3-4: Kate Meads "The Nappy Lady" presenting a Waste Free Parenting Workshop

3.3.2 Other Initiatives

- Child car seat recycling joint promotion with Council's Road Safety team, with a 50% fee subsidy by Council.
- 50% subsidy for TV recycling drop off at Pines RRP, and fully subsidised E-waste drop off.
- Haz waste / DDT collections in the District. With support from both Environment Canterbury and Council.
- AgRecovery: This is a product stewardship scheme for the collection of farm plastics, such as agrichemical containers. A container is provided at the Pines RRP for this purpose and is managed by the RRP Contractor.
- Regional waste minimisation initiatives: The Canterbury Waste Joint Committee operates a fund for local region waste minimisation projects. This fund is contributed to by Selwyn District Council and other territorial authorities in the region.
- Local joint Council staff initiatives including the development of an environmental e-book and Love Food Hate Waste regional resources
- Support and promote initiatives such as Keep New Zealand Beautiful Clean-up Week.

3.4 Non-Council Provided Services

Collection Services
A significant proportion of waste and recyclable material in the District is collected by private commercial companies, a summary of these companies is outlined in Table 3-5.

Table 3-5: Main Private Collection Services Providers in the District

Company name	Size of Company	Services Provided within the District
EnviroWaste Services Ltd	Very Large	Commercial wheelie bins, frontload bins and skips (construction waste) Residential skips Commercial recycling collection Hazardous waste collection
Waste Management NZ Ltd	Very Large	Commercial wheelie bins, frontload bins, skips (construction waste) and hookload bins Residential skips Commercial recycling collection Hazardous waste collection
Container Waste Ltd	Medium	Commercial and residential skips, hookload bins
Quick Skips	Medium	Commercial and residential skips
Malvern Waste Solutions	Small	Commercial and residential skips, drums and wheelie bins
Ellesmere Bins	Small	Commercial and residential drums and wheelie bins
Oji Fibre Solutions (formally Fullcircle)	Large	Commercial cardboard and paper recycling collections
Reclaim	Large	Commercial cardboard and paper recycling collections
Scrap metal (numerous providers)	Variable	Scrap metal collections

Two local providers Ellesmere Bins and Malvern Waste Solutions provide household refuse drum and wheelie bin services to some of the households not on kerbside collection routes.

Waste weight data is collected from private sector waste and recycling management service providers that use the Pines RRP for waste disposal. Council's knowledge of data of waste or recyclables that are collected from within the District but taken to Christchurch for processing or disposal is limited and is noted as risk in Section 0 and an issue to be addressed in Section 10.

Disposal and Diversion Infrastructure
The bulk of waste is received at Council's Pines RRP facility or is taken directly into Christchurch for processing or disposal.

Three privately run composting operations exist in the District. Canterbury Greenwaste Processors Ltd in Greenpark, Frews Ltd in Hororata, and Southern Horticultural Products Ltd (Intelligro) in Weedons. In addition there are several privately run cleanfills.

3.5 Resource Consents

The solid waste activity provides a service that protects the general health of the community while minimising contamination of the environment. Resource consents are held for various activities relating to the solid waste activity. The Selwyn District is located within the boundaries of the Canterbury Regional Council (Environment Canterbury).

The following table lists the resource consents associated with the Solid Waste Activity.

Table 3-6: Schedule of Resource Consents

Consent Number	Activity	Location	Expires
CRC041489	Discharge contaminants to air	Pines RRP, Burnham School Road	27 April 2039
CRC060964	Discharge contaminants to ground	Pines RRP, Burnham School Road	-
CRC054637	Discharge stormwater to land	Pines RRP, Burnham School Road	30 September 2040
CRC064399.1	Discharge contaminants to land	Closed landfill, Southbridge Leeston Road, Leeston	19 April 2042
CRC970036.1	Discharge contaminants to land	Closed landfill, Arthurs Pass, SH 73	5 June 2033
CRC970038	Discharge contaminants to land	Hawkins Cleanfill, Cullens Road, Darfield	5 June 2033
CRC970040	Discharge contaminants to land	Hororata landfill, Hawkins Road, Hororata	5 June 2033
CRC970042	Discharge contaminants to land	Killinchy Cleanfill, Kings Road, Killinchy	5 June 2033
CRC970046	Discharge contaminants to land	Springston Cleanfill, Weedons Road, Springston	5 June 2033
CRC970044	Discharge contaminants to land	Springfield Cleanfill, Coxs Road, Springfield	5 June 2033
175147	Ellesmere satellite RRP	Cemetery Pit, Southbridge Leeston Road, Leeston	13 April 2022
175146	Malvern satellite RRP	Hawkins Pit, Cullens Road, Darfield	13 April 2022

The only consents requiring renewal during the term of this plan are those issued by Selwyn District Council for the operation of the Community Waste Days (“pop-up” RRPs or satellite resource recovery parks) in Ellesmere and Malvern wards.

4: Levels of Service

4 Levels of Service

This section discusses current levels of service (LOS) for solid waste that are required to meet customers' expectations. It also sets out the performance targets identified for each LOS to enable achievement to be measured. Future LOS expectations are discussed as an influencer of demand in Section 5.

Expectations around the level of service in New Zealand have increased and continue to increase. This is driven by larger influences in society around the ability to purchase items on credit, the rise of internet shopping, and the ability to have most goods or services instantly or within a very short timeframe, even from the other side of the world. There is a growing intolerance to wait for goods or service. Social media provides the ability to compliment or complain about anything and to have an audience to listen and share their own experiences. There is a growing awareness of environment related issues, but, at the same time, society is increasingly detached from the environment.

Customers and Stakeholders with an interest in LOS, excluding the Council include:

- Selwyn District residents
- Environmental organisations
- Environment Canterbury and other District Councils
- The Crown
- Contractors
- Recycling businesses
- Crown Public Health
- Canterbury Waste Joint Committee
- Schools

4.1 Community Outcomes

The table below shows the most relevant community outcome and how the solid waste activity contributes to achieving it.

Community Outcome	Statement	The Waste Management Activity contributes to the community outcome by
A clean environment	*Air, land, water and general environment to be kept in a healthy condition.*	*Providing a service to collect and dispose of solid waste, in a manner that minimises any potential harm to people and to the environment, and maximises the efficient use of resources.*
		Ensuring services are available for the effective and affordable collection, processing and marketing to beneficial use of diverted materials.
A healthy community	*Access to an effective and efficient refuse service.*	*Providing a service to collect and dispose of refuse in a manner that minimises any potential harm to public health.*

4.2 Service Drivers

The key service drivers for managing solid waste primarily respond to meeting customer expectations and compliance with statutory requirements (discussed in Section 2.5).

The Waste Minimisation Act's purpose is to:

- protect the environment from harm; and
- provide environmental, social, economic and cultural benefits

These together, translate into Selwyn's service specific to solid waste, including the following:

- Protect the health and safety of the community
- Protect the environment and community from illegal dumping
- Ensure the Council's investment in assets meets service needs, without over or under investment
- Ensure the solid waste operations comply with all legal and statutory requirements, Selwyn District policies and bylaws
- Provide for the long-term sustainable management of solid waste assets and facilities
- Provide services and facilities that meet the residents' LOS expectations
- Provide a Resource Recovery Park in Rolleston, the District's largest township
- Provide a refuse collection service to all dwellings as is reasonably practical to do so
- Provide a three-stream approach to solid waste (residual, recyclable and organics) to work towards waste reduction commitments
- Promote activities and services that improve performance in the upper tiers of the waste hierarchy

4.3 Customer Research and Expectations

Selwyn District Council determines customer expectations through formal and informal consultation with the community.

4.3.1 Customer Expectations & Consultation

The main mechanisms by which the Council monitors customer satisfaction are the following:

- Results from the Annual Residents' Survey (refer Section 4.3.2).
- Public complaints through the service request system.
- Public enquiries and direct feedback.
- Feedback directly from elected members, community boards, township committees.
- Regular contact and reporting from the contractors.
- Submissions received on the Long Term Plan (refer Section 4.3.3).
- Consultation on the Waste Management and Minimisation Plan.

Feedback received from the public over recent years includes:

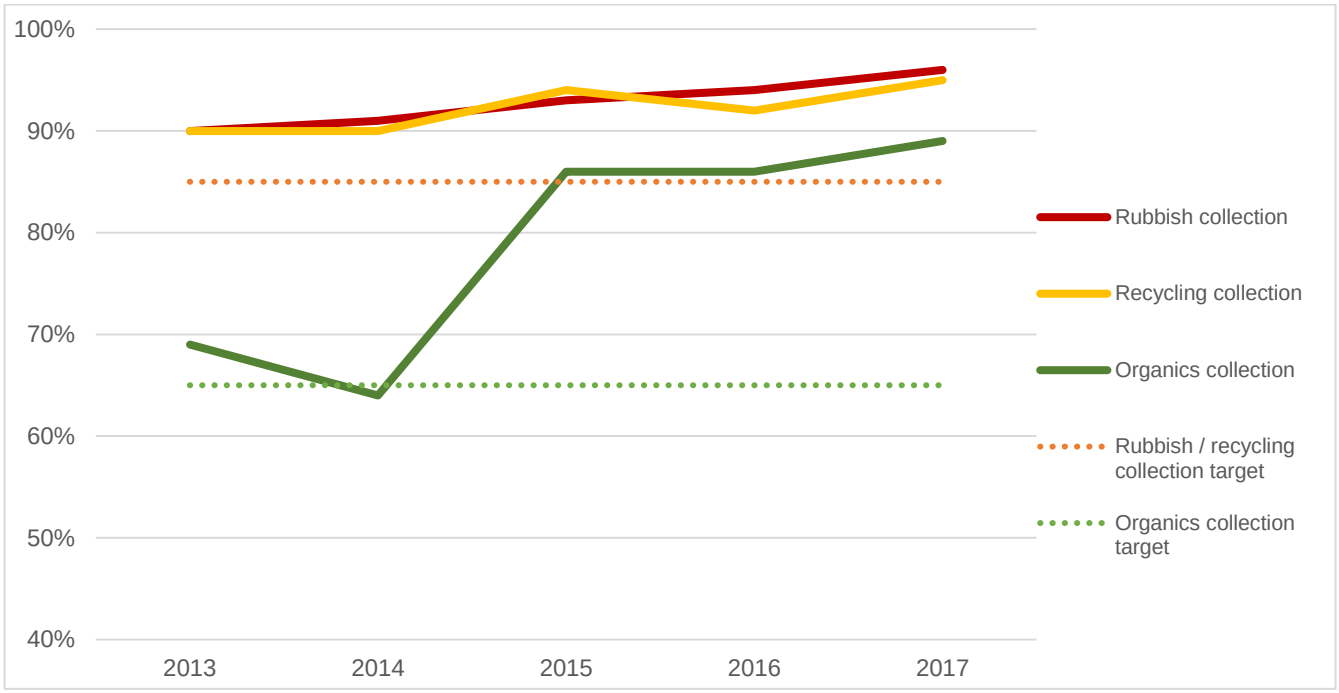
- Comment that the travel distances to the Council's only RRP are too great and more RRPs or transfer stations are needed.
- Requests for a reuse store at the RRP.
- The need for better waste minimisation information.
- Expectation of an urban level of kerbside bin service in rural and remote areas.
- A dissatisfaction at the fees charged by private waste collectors for household refuse bins.
- Requests for farm waste and recycling services.

4.3.2 Residents' Survey

Collection Services

Figure 4-1 shows the kerbside collection performance rating from resident surveys. Waste services are very highly rated by the community. In particular, rubbish collection and recycling had the two highest ratings of any of the council services and activities. The sharp increase in satisfaction of the organic service between 2014 and 2015 is attributable in part to a change in the way the survey targeted this question (i.e. from 2015 it only asked those who had the organic service how they rated it, rather than also asking those who did not have the service to comment on it).

Figure 4-1: Resident Satisfaction Rating by Collection Service



The 2017 Resident Satisfaction Survey showed 93% user satisfaction with the kerbside collection service overall in Selwyn in comparison to Ashburton District Council with 77% user satisfaction (2017), Waimakariri District Council with 85% user satisfaction (2016) and Christchurch City Council with 91% user satisfaction (2017).

Disposal and Diversion Infrastructure

Resident use and satisfaction of the Pines RRP facility is also surveyed annually. Trends and results for these are shown in Figure 4-2 and Figure 4-3, respectively.

Figure 4-2: Proportion of Residents Using the Resource Recovery Park

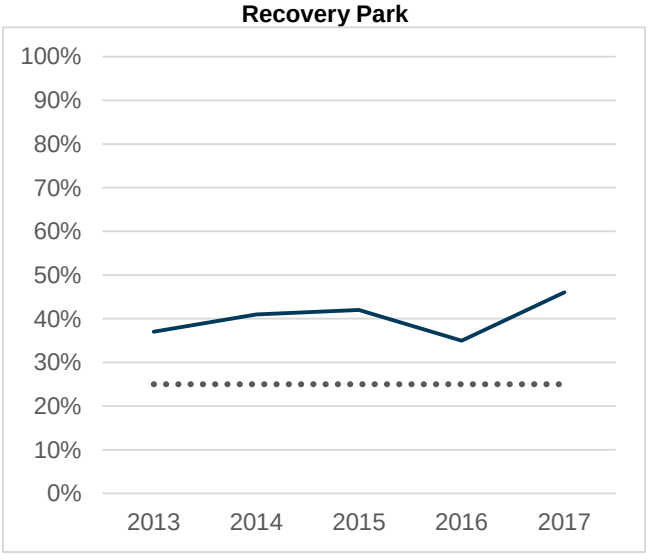
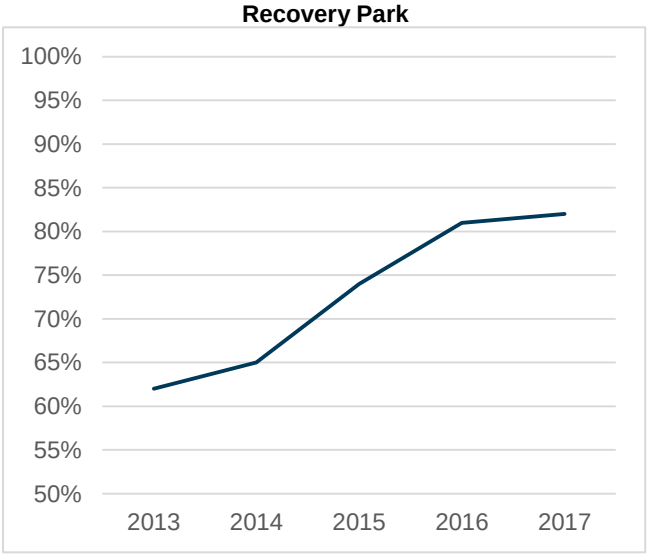


Figure 4-3: User Satisfaction with the Resource Recovery Park



The 2017 Resident Satisfaction Survey showed 82% user satisfaction with the Pines RRP in comparison to Ashburton District Council with 95% user satisfaction with the provision of RRPs and recycling drop-off facilities (2014). The higher satisfaction rating for Ashburton it is believed to primarily come as a result of the ability to drop off reusable items free of charge, and the provision of a reuse shop.

4.3.3 Long Term Plan

During each three year cycle of the Long Term Plan (LTP) Council provides a summary of the draft Long Term Plan (the next 10 years) for consultation. The summary contains information on all the major matters and changes to policies and services in the draft LTP.

The following change to the Service Targets for Solid Waste Management are proposed to make the measurement of performance more meaningful and relevant:

- The resident satisfaction rating is worded to reflect the **user** satisfaction rating
- The target satisfaction rating for the organic waste collection (**user** satisfaction) be increased from ≥65% to ≥85%
- The target satisfaction rating for both the rubbish and recycling collection (**user** satisfaction) be increased from ≥85% to ≥90% **(update in LTP too)**
- The inclusion of a performance measure for user satisfaction rating of the Pines Resource Recovery Park (not included in previous LTPs) with a target satisfaction rating of ≥75%
- The target proportion of households using the Pines RRP be increased from ≥25% to ≥40%
- The removal of the "Number of customers changing to private providers" performance measure due to the fact that it has been an irrelevant measure for some time
- A change to the performance measure regarding amount of waste to landfill per capita, from a 5% decrease per annum to a ≤2% increase per annum for the 2018/19 and 2019/20 periods and then "No increase in kg per capita compared with the previous year" for the 2020/21 and 2021-28 periods. **(update in LTP too)** A 5% reduction is not feasible due to the ongoing growth in commercial and construction activity in the District.
- The addition of a performance measure of **kerbside household** residual waste to landfill per capita. Kerbside collected materials are a key area that Council has influence over. For this reason, a performance measure relating to this is believed to be worthwhile.

The levels of service proposed in the 2018-28 Long Term Plan are shown in Table 4-1 below.

Table 4-1: 2018-28 Proposed LTP Service Targets for Solid Waste Management

Objective	Current Service	Planned Service 2018-21	Indicative Service 2021-28	Performance Measure	Current Performance	2018/19	2019/20	2020/21	2021-28
The Council provides a quality service for the community where charges cover costs.	The quality of solid waste facilities and operations meets the expected levels of use / demand.	The quality of solid waste service standards meets residents' service expectations.		User satisfaction rating good or very good in the residents' satisfaction survey.					
				Rubbish collection	96%	≥90%	≥90%	≥90%	≥90%
				Recycling collection	95%	≥90%	≥90%	≥90%	≥90%
				Organic waste collection	89%	≥85%	≥85%	≥85%	≥85%
				Pines Resource Recovery Park	82%	≥75%	≥75%	≥75%	≥75%
The Council protects the environment from illegal dumping.	District residents have access to the Pines Resource Recovery Park during reasonable hours.			The proportion of households using the Pines Resource Recovery Park	46%	≥40%	≥40%	≥40%	≥40%
The solid waste service is effective and efficient.	The solid waste service is effective and efficient.			Number of substantiated formal complaints received per annum related to the solid waste service	2	≤15	≤15	≤15	≤15
Waste to landfill is minimised	Total residual waste to landfill in the District equates to 348kg per capita.	Total kilograms of residual waste per capita remains static or increases at no greater than 2% per annum.		The total annual amount of residual waste to landfill per capita does not increase more than 2% per annum	2% increase in kg per capita on last year	≤ 2% increase in kg per capita compared with the previous year	≤ 2% increase in kg per capita compared with the previous year	No increase in kg per capita compared with the previous year	No increase in kg per capita compared with the previous year
	Total household kerbside residual waste to landfill in the District equates to 175kg per capita.	Kilograms of household kerbside residual waste per capita remains static or decreases year on year.		The annual amount of kerbside residual waste to landfill per capita does not increase over 2016/17 levels (175kg / capita)	7% increase in kg per capita on last year	No increase in kg per capita compared with the previous year	No increase in kg per capita compared with the previous year	2% decrease in kg per capita compared with the previous year	2% decrease in kg per capita compared with the previous year

4.4 Contract Performance

To ensure achievement of Levels of Service Council monitors the Contractor's performance through Key Performance Indicators for both Contracts relating to the Solid Waste activity. The performance of the contract is determined through principal conducted spot checks completed no less frequently than once per month as well as self-checks by the contractor. This is reported on at the beginning of each month on a "balanced scorecard" basis in order to monitor the overall picture. All KPIs are aligned to an appropriate LTP measure.

All KPI measures are re-evaluated as necessary, in discussion with the relevant Contactor, to ensure that they are fair and achievable.

KPIs are assessed and grouped into three main categories:

High Level / Corporate Risks include Health, Safety and Regulatory compliance as well as Level of Service achievement.

Service Delivery includes checking number of complaints and service faults. For example, the number of missed collections with regards to the Kerbside Collection contract or the amount of material exceeding visual guidelines with regards to the Pines RRP Operation contract.

Managerial includes checking that reports and financial claims are accurate and submitted on time. It also measures the number of efficiencies introduced or improvements and that any applicable staff training is undertaken in accordance with provided training plans.

5: Growth and Demand

5 Growth and Demand

5.1 Overview

The future demand for services will change over time in response to a wide range of influences, including:

- Local population and demographic trends
- Accuracy of predicted future populations
- Local economic trends
- Land use change
- Changing technologies
- Changing legislative requirements
- Changing regional and district planning requirements
- Water resource issues
- Climate and climate change

Increasing demand for services over time generates a requirement for an increase in the scope of services and for the development of additional infrastructure. Expenditure programmes need to be planned to fund the capital works and associated on-going operational expenditure. Alternately, it may be possible to manage demand within the existing system capacity or through the use of non-asset solutions.

Funding of all these developments is recognised in the 10 year plan and the 30 year infrastructure strategy.

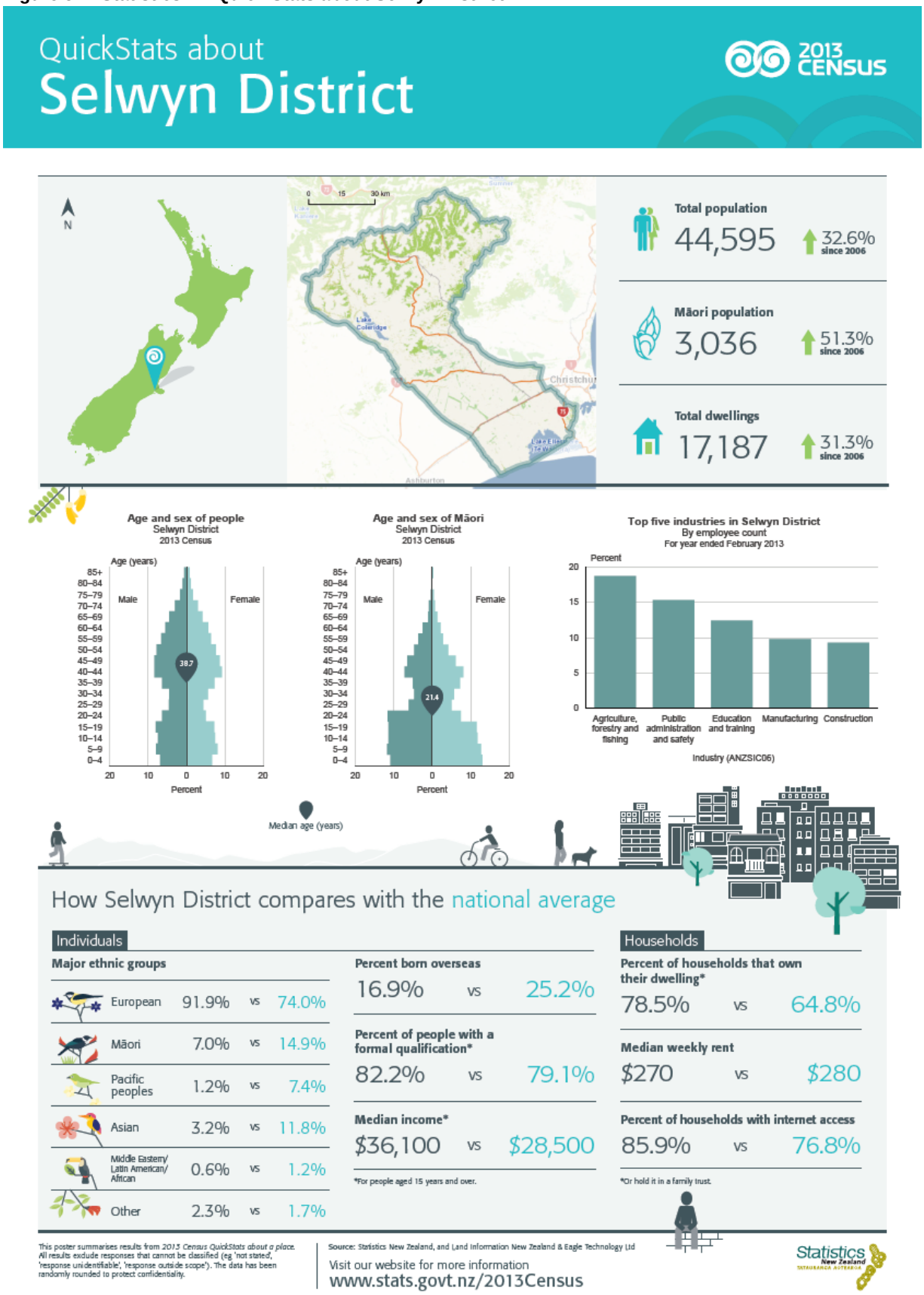
Where a reduced demand is forecast, it may be appropriate to renew assets with a lesser capacity as operation expenses may decrease or an asset may become surplus to requirements. This situation is not predicted for any communities in Selwyn District within the next thirty years, although some of the smaller communities may change very little.

Much of the information in this section has been sourced from work undertaken by Dr Natalie Jackson (Natalie Jackson Demographics Ltd), commissioned by Selwyn District Council in 2016.

Picture: teara.govt.nz

A summary of the Selwyn District produced by Statistics NZ from the 2013 census provided a useful snapshot at that time (follows).

Figure 5-1: Statistics NZ Quick Stats about Selwyn District[3]



[3] http://www.stats.govt.nz/Census/2013-census/profile-and-summary-reports/qstats-place-posters.aspx#canterbury

5.2 Population Projections (District and Community)

5.2.1 Background

The population of the Selwyn District has grown rapidly over the past thirty years, from 20,520 in 1986 to approximately 56,200 in 2016, an overall increase of 174%. The rate of growth has also increased each decade. This is a substantially greater rate of growth than experienced by either the Canterbury Region (+37%) or total New Zealand (+42%).

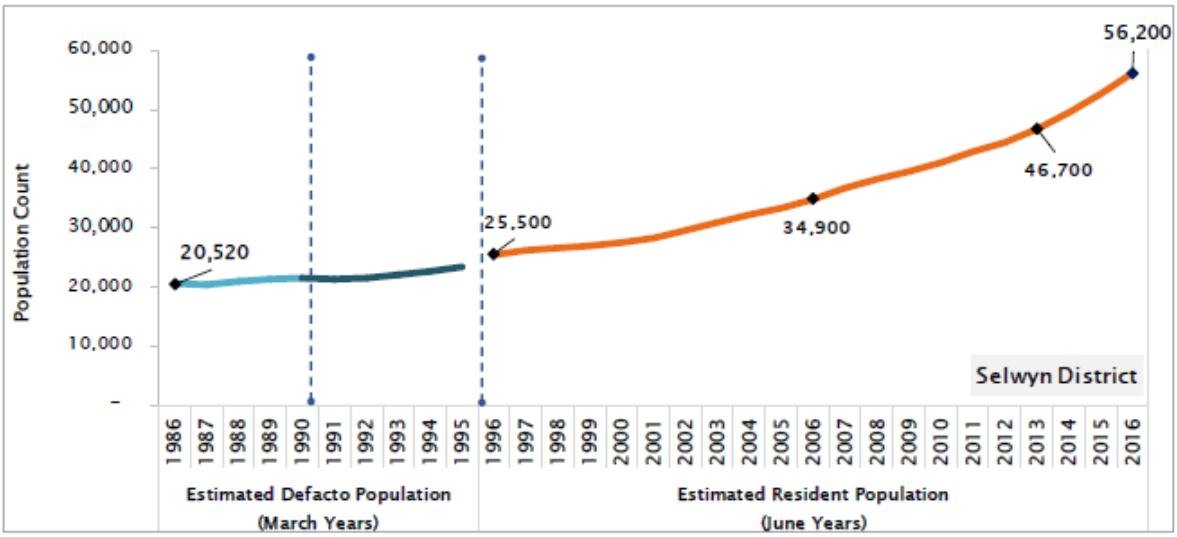
According to the provisional estimates of Statistics New Zealand for the period 1996-2016, Selwyn District was New Zealand's second-fastest growing district, after the Queenstown-Lakes District. The 2013 Census showed a 32.6% increase in population since the 2006 Census.

Across the projected period 2016-2043 Selwyn has the greatest projected growth of any TA. Selwyn's current average of 2.8 people per household will fall to 2.7 in 2027, and a further drop to 2.6 in 2038. While this appears to be a small reduction, when extrapolated over the district results in a significant increase in the number of houses for the total population. For example, this .01 to .02 change has an overall impact of 3,000 additional households by 2043. The increase in the number of houses required directly affects the number of kerbside bins required, as well as flow on effects to collection vehicle numbers.

There are a high proportion of commuters, especially to Christchurch City. This trend is expected to continue as transportation links between Christchurch and Rolleston improve.

Inter-census periods 2001-2006 and 2008-2013 both show 71% of migration into Selwyn District was from Christchurch City. Migration from an urban environment to a fringe urban-rural environment can sometimes be reflected in expectations around Level of Service (Section 5.7.2)

Figure 5-2: Population Size and Growth, 1986-2016, Selwyn District[4]



Notably Selwyn's growth was occurring prior to the 2010-2011 Christchurch earthquakes, although it has since escalated. Between 1996 and 2010 the population grew by an average 4.3% per year, whilst between 2010 and 2016 it grew by 6.2% per year, the growth rate increasing each year between 2012 and 2016.

[4] Natalie Jackson Demographics (2017) Selwyn – Review of Demographics (Part A)

5.2.2 SDC Model for Selwyn District Growth

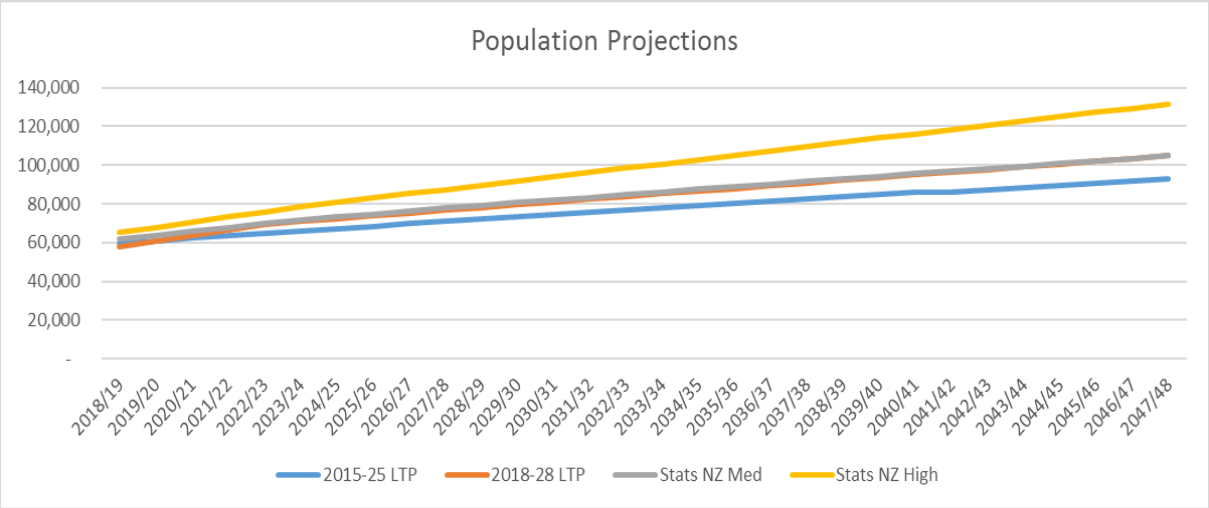
Prior to the 2013 census SDC worked with Business and Economic Research Limited (BERL) to develop growth scenarios for the purposes of activity management and long term planning. Following the census, Council has developed and refined a medial projection.

In 2017 Council engaged Natalie Jackson Demographics to review the projections model and advise on its use for long term planning in the future. This rigorous review confirmed the suitability of the model and highlighted challenges with the underpinning assumptions and source data for migration. While a cohort-migration projection would be more robust, the overall and township projections for both population and household numbers were sufficient.

One key finding of the review was the impact of numbers of inhabitants per household. This currently differs across the district, and will continue to reduce as the population ages.

Applying the review and resetting township populations in 2017 using rates and services data, the model has been improved for long term planning purposes.

Figure 5-3: District Population Projections 2018 to 2048[5]



These projections indicate very little difference between the SDC model and the statistics NZ medium variant. The SDC model is calibrated annually and has been shown to be close to the figures projected.

Considering the potential growth scenarios, the variants suggest two considerations.

1. Growth is less than expected, the low variant indicates a 2043 population some 10,000 resident less than the SDC model and Statistics NZ medium variant.
2. Growth is greater than projected, the high variant indicates a 2043 population of 15,000 more residents.

These scenarios should be considered in the decision-making around provisions of infrastructure.

5.2.3 Individual Community Projections

The growth projections indicate that Rolleston will continue to grow in numbers while the rate will slow a little. At 35,000 residents in 2047 Rolleston will be one of the larger centres in Canterbury, and is expected to surpass Timaru's 27,000 in around 2028. Currently 30% of the district's population lives in Rolleston, and this will climb to 33% by 2043.

Lincoln's rate of growth is expected to remain high, doubling to 14,000 by 2035. The development of the university and research centres will effect this, with potential for more rapid growth if the Lincoln Hub proposal is implemented.

Prebbleton is also expected to grow rapidly, projecting growth to over 6,000 in 2047; however limitations on infrastructure and development boundaries may mean this growth is more constrained.

[5] Selwyn District Council, (April 2017) *Growth Projections LTP 2018-28 Draft Population Numbers*

Even with lower levels of the growth, all towns in Selwyn district are expected to see some increase over the thirty-year planning period. The increase in Darfield is expected to be affected by, and effect the introduction of a centralised wastewater scheme.

The Selwyn growth model apportions the projected growth across the district, this is still applicable if the rate of growth changes (e.g. Statistics NZ low variant).

Figure 5-4 shows the relative size and rate of growth for the townships in the District, the township "spread" is not spatially representative.[6]

Figure 5-4: Population Growth Projections for the Periods: 2018 – 2021 and 2021 – 2028

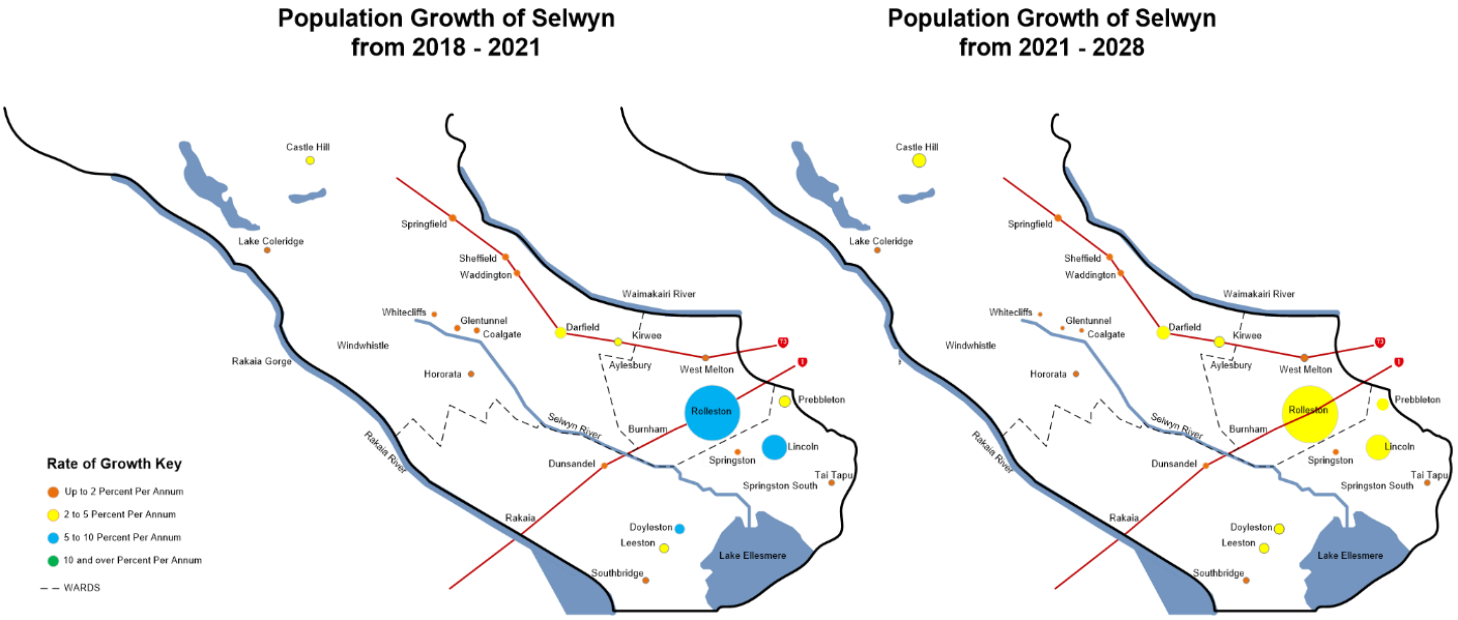


Table 5-1: Township Population Growth Projection 2018-2046[7]

	2018	2022	2026	2030	2034	2038	2042	2046
Rolleston	17,348	23,652	25,543	27,383	29,207	31,013	32,769	34,525
Lincoln	6,946	9,806	11,140	12,437	13,722	14,995	16,231	17,466
Prebbleton	3,918	4,286	4,655	5,013	5,368	5,719	6,060	6,401
West Melton	1,778	1,870	1,962	2,052	2,140	2,228	2,314	2,399
Tai Tapu	513	525	536	547	558	569	580	591
Springston	513	525	536	547	558	569	580	591
Darfield	2,828	3,132	3,436	3,731	4,022	4,311	4,590	4,870
Leeston	2,453	2,762	3,070	3,369	3,665	3,959	4,243	4,528
Castle Hill	335	403	471	536	601	666	728	791
Coalgate / Glentunnel / Whitecliffs	1,144	1,218	1,292	1,364	1,435	1,505	1,573	1,642
Doyleston	307	378	450	520	589	657	723	789
Dunsandel	480	498	515	533	550	567	583	600
Hororata	556	576	596	615	634	653	672	690
Kirwee	980	1,129	1,278	1,423	1,566	1,708	1,846	1,984
Lake Coleridge	164	174	184	194	203	213	222	231
Rakaia Huts	316	326	335	345	355	364	373	382
Sheffield / Waddington	442	462	482	501	520	539	557	576
Southbridge	963	1,000	1,038	1,075	1,111	1,147	1,182	1,217
Springfield	479	505	531	556	581	606	630	654
Rural*	15,653	16,668	17,684	18,672	19,650	20,619	21,559	22,500
Selwyn Total Population	**58,117**	**69,894**	**75,734**	**81,413**	**87,037**	**92,608**	**98,018**	**103,428**

*Including Burnham Military Camp

[6] Waugh Infrastructure Management Ltd
[7] Natalie Jackson Demographics Ltd, (2017) *Selwyn Growth Model*

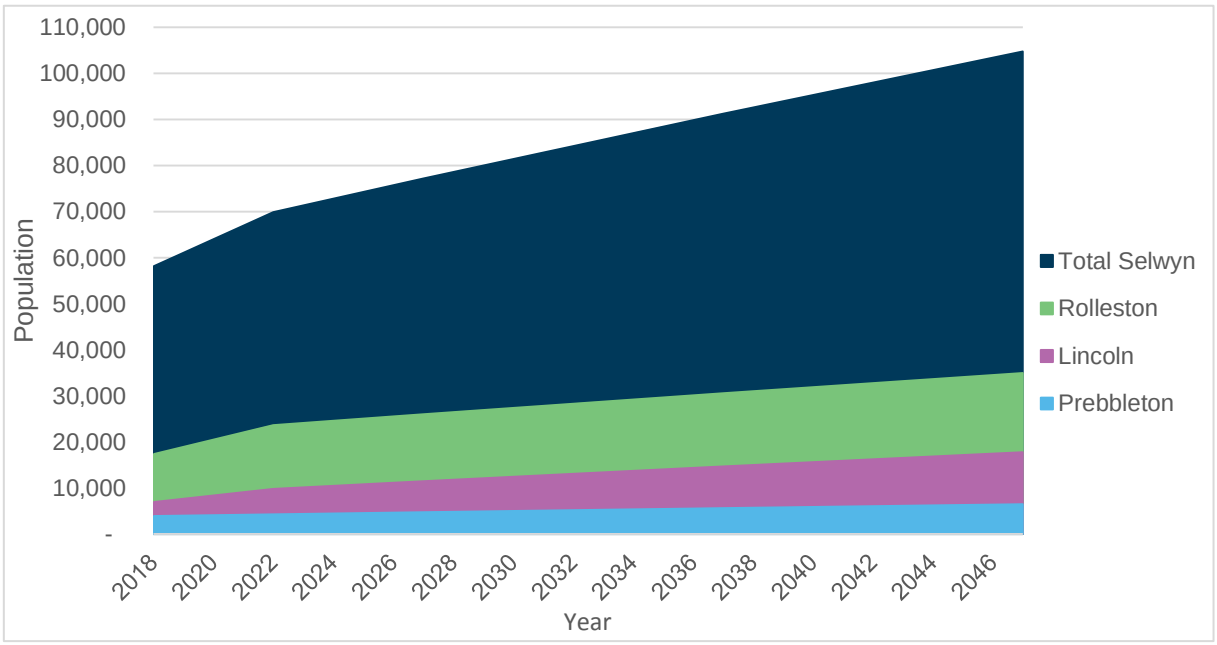
Table 5-2: Township Household Number Growth Projection 2018-2046[8]

	2018	2022	2026	2030	2034	2038	2042	2046
Rolleston	6,196	8,447	9,260	10,073	10,875	11,667	12,458	13,250
Lincoln	2,573	3,632	4,191	4,751	5,308	5,863	6,417	6,972
Prebbleton	1,451	1,588	1,751	1,915	2,076	2,236	2,395	2,555
West Melton	659	693	738	783	828	871	914	957
Tai Tapu	190	194	202	209	216	223	229	236
Springston	190	194	202	209	216	223	229	236
Darfield	1,131	1,253	1,398	1,543	1,686	1,828	1,970	2,112
Leeston	944	1,062	1,200	1,338	1,475	1,611	1,746	1,882
Castle Hill	124	149	177	205	233	260	288	316
Coalgate/Glentunnel/Whitecliffs	424	451	486	521	555	588	622	655
Doyleston	114	140	169	199	228	257	286	315
Dunsandel	178	184	194	203	213	222	230	239
Hororata	206	213	224	235	245	255	265	275
Kirwee	363	418	481	543	606	668	730	792
Lake Coleridge	61	65	69	74	79	83	88	92
Rakaia Huts	117	121	126	132	137	142	147	153
Sheffield/Waddington	164	171	181	191	201	211	220	230
Southbridge	356	370	390	410	430	448	467	486
Springfield	177	187	200	212	225	237	249	261
Rural*	5,797	6,173	6,652	7,130	7,599	8,059	8,519	8,979
Selwyn Total Households	**21,414**	**25,706**	**28,291**	**30,877**	**33,430**	**35,951**	**38,472**	**40,992**

*Including Burnham Military Camp

The number of persons per household represents a change from the previous model where the number of persons per household was uniform at 2.8. This change reflects 2013 census data and the normal pattern of aging populations. This has an overall impact of some 3,000 additional households at 2043.

Figure 5-5: Population Growth Projections Showing Townships with Greatest Projected Growth 2018-2046

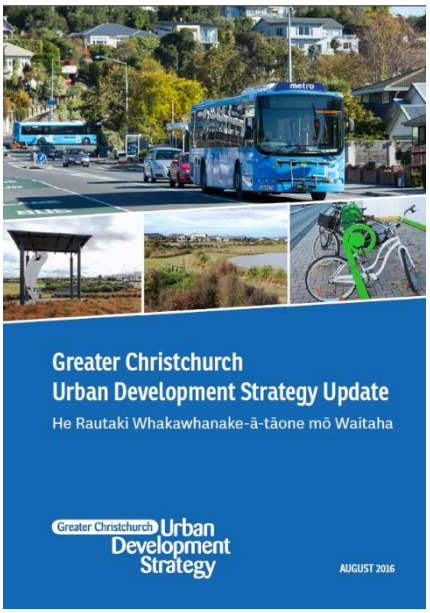


[8] Natalie Jackson Demographics Ltd, (2017) *Selwyn Growth Model*

5.3 Greater Christchurch Growth

5.3.1 Greater Christchurch Urban Development Strategy

The Greater Christchurch Urban Development Strategy (UDS) has a significant influence on Selwyn District Council's planning and actions. The UDS area includes the Springs and Selwyn Central Wards of the District.



The Greater Christchurch Urban Development Strategy (the Strategy) is a bold and ambitious plan for managing urban development that protects water, enhances open spaces, improves transport links, creates more liveable centres and manages population growth in a sustainable way.

The Strategy vision is for a greater Christchurch for the residents of the area (living south of the Ashley River and north of the Selwyn River) and the Strategy partners, Environment Canterbury, the Christchurch City Council, Selwyn and Waimakariri District Councils and the New Zealand Transport Agency (formerly Transit New Zealand).

The Strategy provides the primary strategic direction for the Greater Christchurch area, including the location of future housing, development of social and retail activity centres, areas for new employment and integration with transport networks. It also establishes a basis for all organisations, not just the Strategy partners, and the community to work collaboratively to manage growth.

The Strategy was created through a three-year long consultation and development process initiated in 2004 due to rising concerns over the lack of collaborative planning and leadership to manage growth in the area in a sustainable way. Community consultation undertaken by the Strategy partners resulted in over 3,250 submissions on growth management options for the area

In 2016 the strategy was revised to align with post-earthquake priorities and legislation. The key changes were the establishment of new guiding principles and strategic goals. This led to new implementation methods and the support of the "Resilient Greater Christchurch Plan". The actions have been updated, with SDC having a role as UDS partner.

The primary interest in the UDS with regard to waste related activity relates to the location of future housing and retail areas. Selwyn's proximity to Christchurch, the associated employment opportunities in Christchurch, the improvements in the motorway network, combined with other lifestyle and amenity factors means that the District will continue to be an attractive option for future population growth.

Greater Christchurch Urban Development Strategy

Strategic goals

Healthy communities

- The distinct identities and sense of place of the towns, suburbs and city areas are recognised and enhanced.
- Ngāi Tahu is able to reinforce and re-establish connections with ancestral land, waterways and other taonga, and enhance the Ngāi Tahu sense of identity and belonging in the region.
- People and communities have equitable access to a range of integrated community infrastructure, facilities and services, including education, health, sport, recreation and core council services.
- Individuals, whānau and communities are empowered to participate and engage with strategy partners.
- The increasing diversity of the population and communities is recognised, and reflected in strategies, plans, programmes and projects.
- With good urban design, neighbourhoods and their centres include communal spaces, are liveable, walkable, safe and attractive, and have good connectivity and accessibility.
- Buildings and homes incorporate sustainable building principles and innovative design so that they are warm, safe and accessible.
- Housing offers a more diverse range of types and sizes. Affordable housing provides for the needs of different people and groups.
- Ngāi Tahu whānau are able to develop papakāinga/kāinga nohoanga, and use Māori reserve land to provide for their economic, social and cultural wellbeing.

Enhanced natural environments

- Groundwater quality and quantity are maintained or improved.
- Indigenous biodiversity, ecosystems and mahinga kai values are protected and enhanced.
- The many values of the coastline, estuaries, wetlands and waterways are recognised and restored, and their ecosystem services are recognised.
- Resource efficiency is supported by energy and water conservation, waste minimisation and local food production.
- Air quality is improved and maintained.

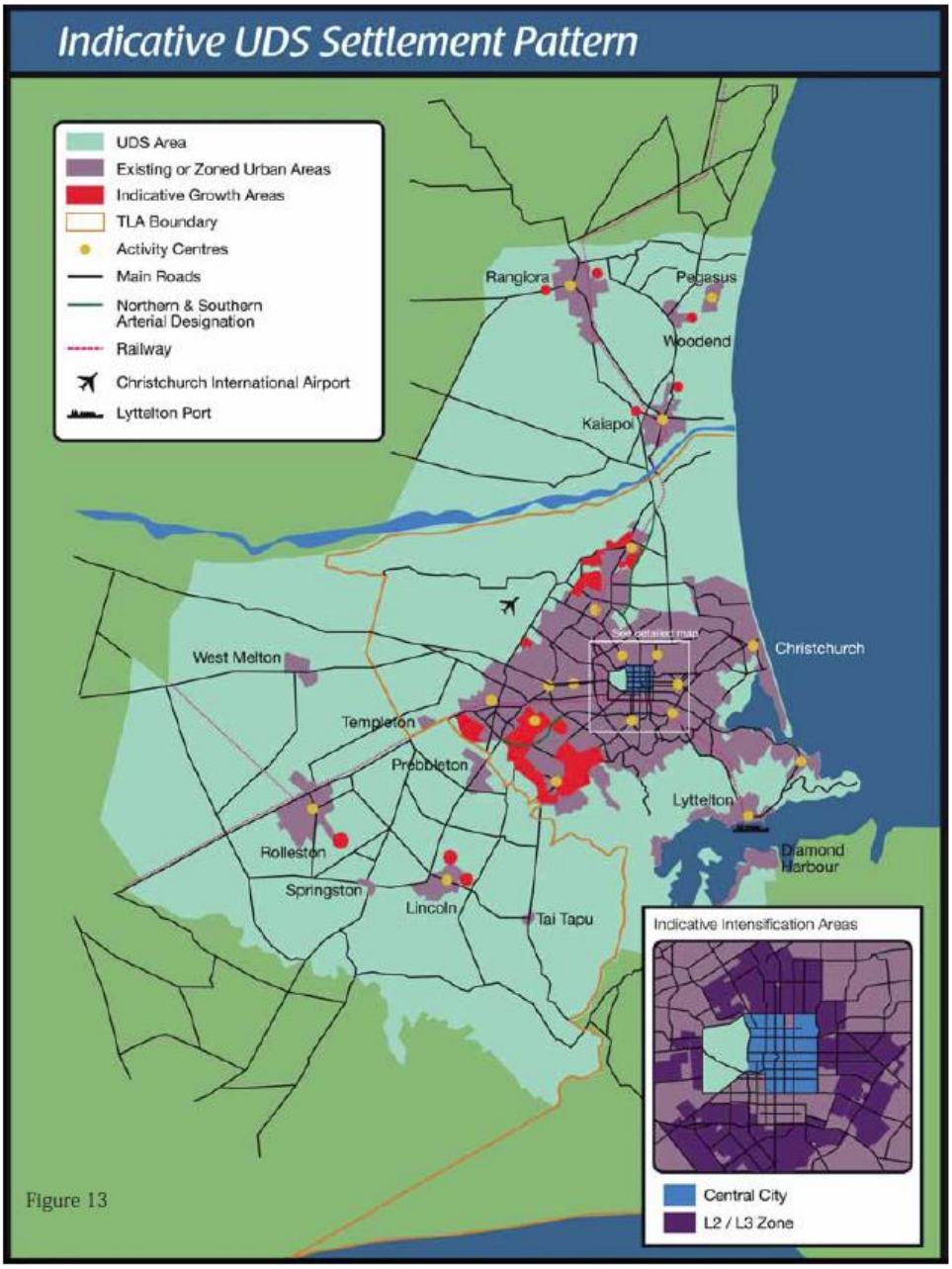
Prosperous economies

- Land, water and other valued resources are able to be used sustainably and within agreed limits.
- Adequate land for commercial and industrial uses is available in appropriate locations. The rebuilding and regeneration needs of businesses are well addressed.
- Economic development embraces innovation and technology, and is supported by effective and efficient transport and infrastructure.
- A collaborative and connected business environment supports workforce education and retention.

Integrated and managed urban development

- Clear boundaries for urban development are defined and maintained. The urban area is consolidated by redeveloping and intensifying existing urban areas.
- New urban development is well integrated with existing urban areas. Sufficient land is available to meet needs for regeneration and future land use.
- We understand and plan for risk from natural and other hazards, including flooding, seismic activity, sea level rise and climate change.
- A network of vibrant and diverse key activity and neighbourhood centres supports the Christchurch central city, incorporates mixed-use and transport-orientated development, supports increased density and diversity of housing, and provides access to community facilities.
- An efficient, reliable, safe and resilient transport system for people and businesses reduces dependency on private motor vehicles, promotes active and public transport, and improves accessibility for all people.
- Key public transport corridors and routes are identified and protected. The transport network can readily adapt to new technology and modes.
- Infrastructure, including transport, is resilient, timely and affordable, and comprehensively integrated with land use planning.
- Strategic regional and sub-regional infrastructure, including Lyttelton Port and Christchurch International Airport, service and utility hubs, and existing and future corridors, is protected.

Figure 5-6: Indicative UDS Settlement Pattern



Source: UDS

5.3.1.1 Regional Policy Statement Proposed Change 1 (Urban Development Strategy)

Proposed Change 1 was developed to address land use and urban growth management in Greater Christchurch until 2041. It introduced a new Chapter 12A (Development of Greater Christchurch) to the Regional Policy Statement which sets out the land use distribution, household densities for various areas, and other key components for consolidated and integrated urban development. It also sets out which land is to remain rural for natural resource protection or for other reasons.

The Minister for Canterbury Earthquake Recovery, Hon. Gerry Brownlee, decided to revoke Proposed Change 1 to the Canterbury Regional Policy Statement. The decision was ancillary to the decision to insert the new Chapter 6 – Recovery and Rebuilding of Greater Christchurch into the Regional Policy Statement as a result of the approval of the Land Use Recovery Plan.

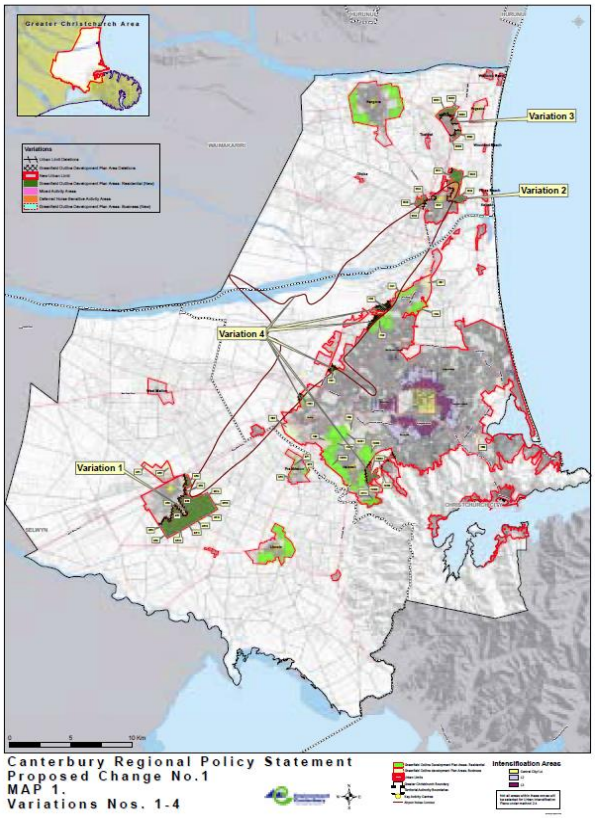


Figure 5-7: Canterbury Regional Policy Statement Proposed Change No.1

5.4 Land Use Recovery Plan (LURP)

The Land Use Recovery Plan took effect in December 2013. It is a statutory document, and directs the Christchurch City Council, Waimakariri and Selwyn District Councils and Canterbury Regional Council (Environment Canterbury) to make changes to district plans, the Canterbury Regional Policy Statement and other instruments. Some of these changes take effect immediately and others are to be developed by the relevant council within specified timeframes.

In particular, the Land Use Recovery Plan addresses:

- the location and mix of residential and business activities
- priority areas for residential and business land development
- ways to provide for a range of housing types, including social and affordable housing
- ways to support recovery and rebuilding of central city, suburban and town centres
- ways to support delivery of infrastructure and transport networks to serve the priority areas.

Action 18(i) to (vii) identifies seven greenfield priority areas for future residential development.
The Council has developed Outline Development Plans (ODPs) with associated text amendments through an extensive consultation process with landowners, affected parties and stakeholders.
The ODPs have been developed in accordance with best practice urban design and subdivision criteria and will facilitate the provision of up to 4,500 additional residential sections in the Selwyn District.
(Further detail follows).

Accordingly, the Land Use Recovery Plan has considerable influence on the scale and pattern of growth in Selwyn District in the immediate timeframe.

Of the increase in residents in Selwyn District, 85% will be in the urban area and, of those, 80% will be in the Land Use Recovery area with 55% in Rolleston, 35% in Lincoln and 8% in Prebbleton.

Rolleston is projected to have a population of over 30,000 by 2036. Expectations are that it will continue to have a younger than average demographic. Currently 30% of the District's total population live in Rolleston. This is expected to climb to 33% by 2043.

Lincoln's population is projected to double to 14,000 by 2035. The development of the University and research centres could potentially result in a more rapid growth.

Prebbleton is also expected to grow, with a projected population of over 6,000 by 2042, however limitations on infrastructure and development boundaries may mean this growth is more constrained.

Figure 5-8: UDS Greenfields Priority Areas

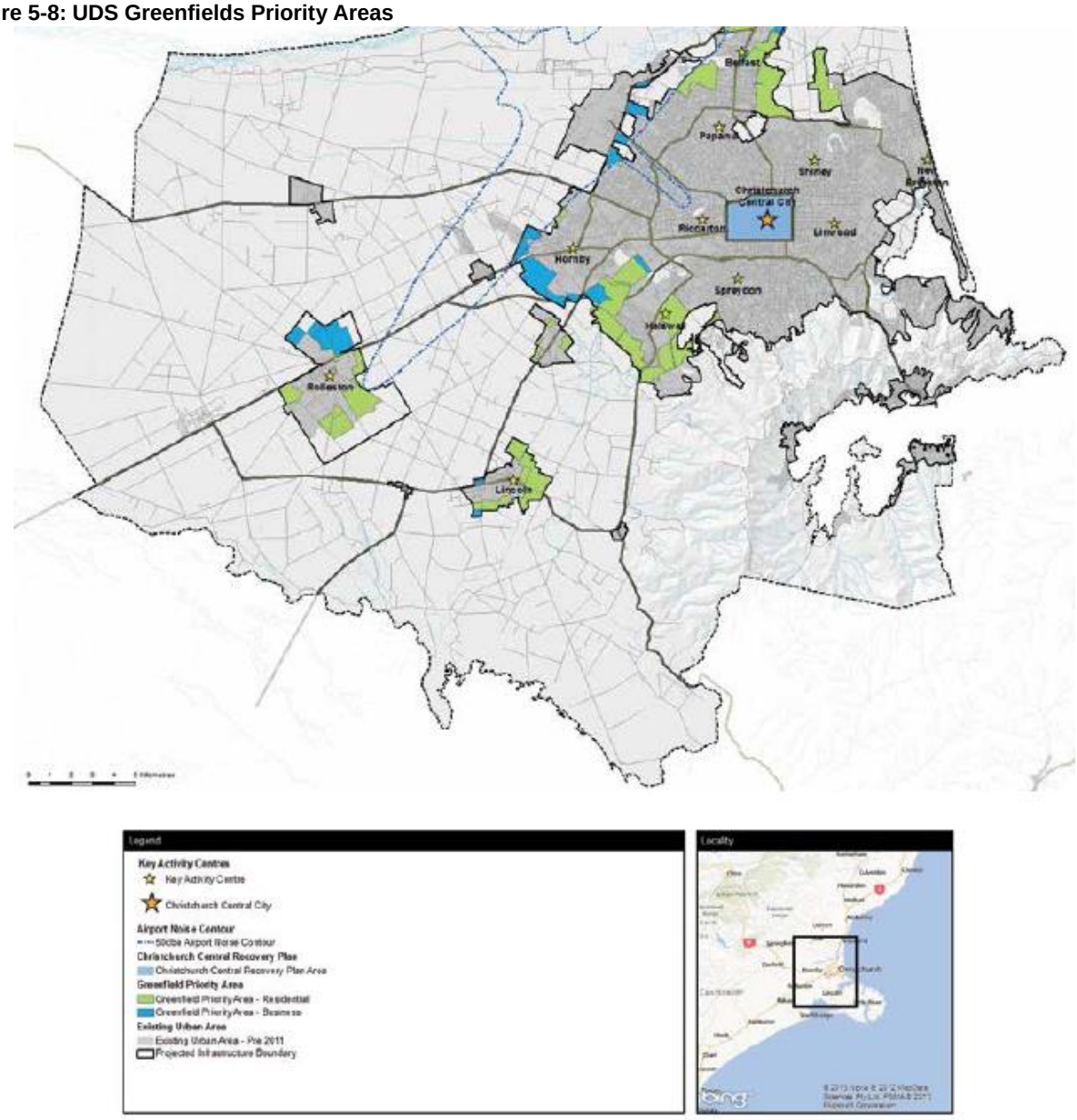


Figure 4: Map A Greenfield Priority Areas

There are specific actions required by SDC to support the implementation of the LURP.

Action 6: Selwyn District Plan
Selwyn District Council is directed, pursuant to section 24(1)(c) of the CER Act, to change or vary the objectives, policies and methods of its district plan to the extent necessary to identify appropriate sites, including brownfield sites, within the existing urban area for intensified residential and mixed-use development and enable comprehensive development of these sites.

Action 13: Selwyn District Plan
Selwyn District Council is directed, pursuant to section 24(1)(c) of the CER Act, to change or vary the objectives, policies and methods of its district plan to the extent necessary to enable a range of community facilities within key activity centres.

Action 17: Immediate amendments to the Selwyn District Plan
Selwyn District Council is directed, pursuant to section 24(1)(a) and (b) of the CER Act, to amend its district plan to include the zoning and outline development plan provisions set out in Appendix 4 (Amendment 1 and 4) for the following greenfield priority areas:
i. Living Z and Living 1A – Prebbleton
ii. Living Z – Rolleston
iii. Living Z – Lincoln

Action 18: Selwyn District Plan
Selwyn District Council is directed, pursuant to section 24(1)(c) of the CER Act, to amend its district plan to the extent necessary to include zoning and outline development plans in accordance with chapter 6 of the Regional Policy Statement for the following greenfield priority areas shown on map A, Appendix 1:

i. ODP Area 4 – Rolleston
ii. ODP Area 9 – Helpet Park
iii. ODP Area 10 – East Maddisons/Goulds Road
iv. ODP Area 11 – Branthwaite Drive
v. ODP Area 12 – Dunns Crossing Road (existing Living zone)
vi. ODP Area 13 – Springston Rolleston/Dynes Road (existing Living zone)
vii. ODP Area 3 – Prebbleton
viii. Implementation of SDC rural residential development strategy.

Action 27: Selwyn District Plan
Selwyn District Council is directed, pursuant to section 24(1)(c) of the CER Act, to change or vary the objectives, policies and methods of its district plan to the extent necessary to provide for:

Rebuilding of existing business areas
i. comprehensive developments in existing urban business areas, including brownfield sites
Rebuilding of centres
ii. zoning that defines the extent of each key activity centre
iii. implementation of the Rolleston Town Centre Masterplan
Greenfield priority areas for business
iv. greenfield priority areas for business at Lincoln and Rolleston shown on map A, appendix 1
v. rezoning of other greenfield priority areas for business shown on map A, appendix 1
vi. thresholds for commercial activities in greenfield priority areas where these are considered necessary to avoid reverse sensitivity effects or effects on the viability of key activity centres.

Action 29: Selwyn District Council Town Centre Development
Selwyn District Council to find ways to overcome barriers to implementing the Rolleston Town Centre Masterplan, *including the need to modify or cancel existing resource consents relating to land within the Rolleston Town Centre study area. A request by Selwyn District Council may be made to the Minister for Canterbury Earthquake Recovery to use interventions under the CER Act to overcome barriers to addressing recovery and rebuilding issues that cannot be resolved through usual processes.*

Figure 5-9: UDS Key Regional Infrastructure Requirements

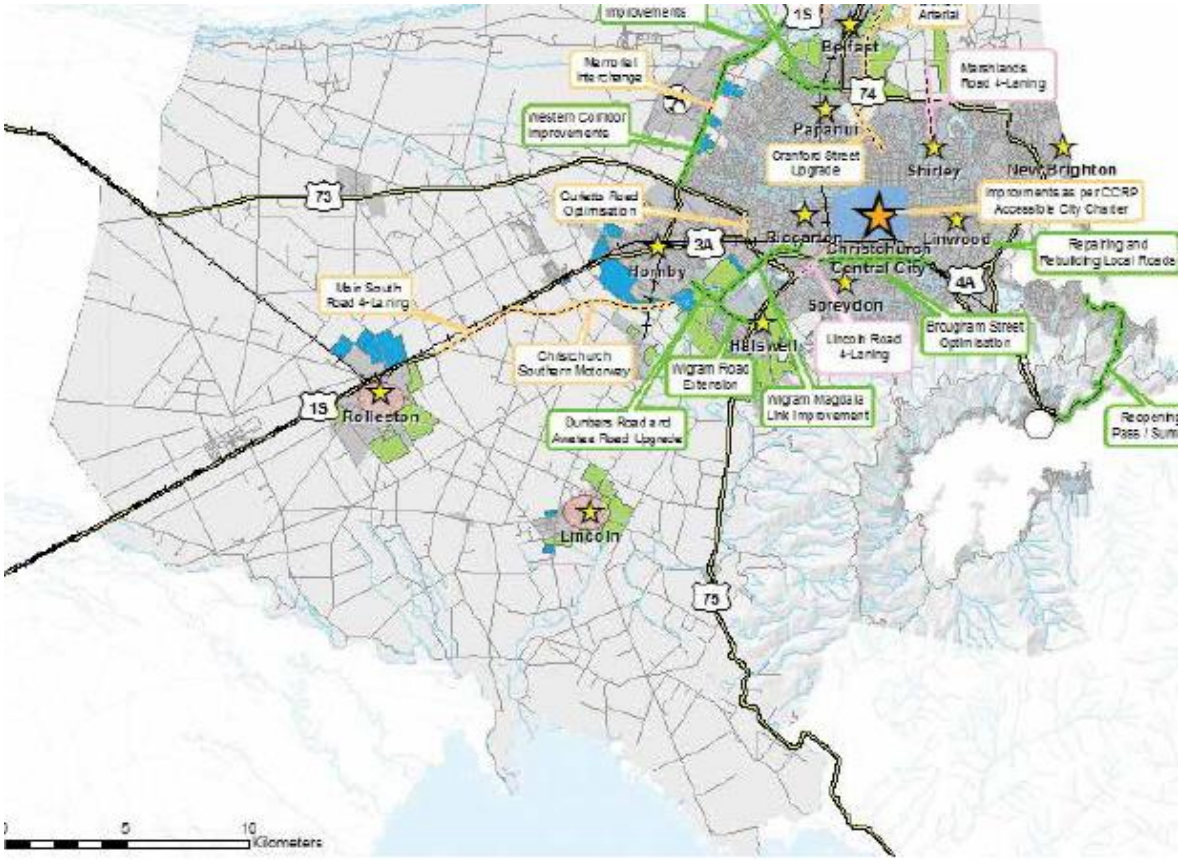


Figure 5: Key regional infrastructure requirements through to 2028

<u>Action 35: Selwyn District Council's prioritised infrastructure programmes</u>
Selwyn District Council, pursuant to section 26(4) of the CER Act, must amend Local Government Act instruments to the extent necessary to provide for prioritised infrastructure programmes that identify capacity requirements and optimise available resources and funding to support the development of greenfield priority residential and business areas, key activity centres, neighbourhood centres, and intensification and brownfield areas.

5.5 Selwyn Housing Accord / Special Housing Areas

The Housing Accord and Special Housing Areas Act was introduced in 2013. The purpose of the legislation is to enhance housing affordability by facilitating an increase in land and housing supply in certain regions or districts, that have been identified as having housing supply and affordability issues. Selwyn District was added to Schedule listing such areas 2015.

Once a Housing Accord is entered into, the next step is for special housing areas to be identified through an order in council. Application for complying development areas could be made and assessed against the Housing Accord's criteria.

The process:
1. Minister identifies district with significant housing affordability and Land supply issues
2. Order in Council adds district to Schedule 1 of the Act
3. Minister negotiates housing accord with council
4. Council proposes special housing areas
5. Minister assesses council's proposal
6. Order in Council declares special housing area
7. More permissive and fast-tracked consent processes can be used

Selwyn District Council signed a Housing Accord with Government in December of 2015.

Potential capacity has been supplemented by way of the Land Use Recovery Plan (LURP), which has created six more growth areas which have a theoretical capacity of 4500 dwellings. The Selwyn District Plan anticipates the development of all these areas in accordance with Outline Development Plans. There has been very limited development to date in these areas due to fragmented land ownership, high land values and high numbers of 'lifestyle' properties with some owners unwilling to aggregate or sell their land.

While in the fullness of time some of this land may be expected to be developed, it is unlikely in the foreseeable future. As such, in the next few years there is likely to be a land supply shortage in Rolleston. This could reduce the affordability of remaining sections in growth areas.

This Accord seeks to contribute to improved affordability by increasing the supply of land in Selwyn, with a focus on Rolleston in particular. It will also ensure that a proportion of new housing supply created is affordable.

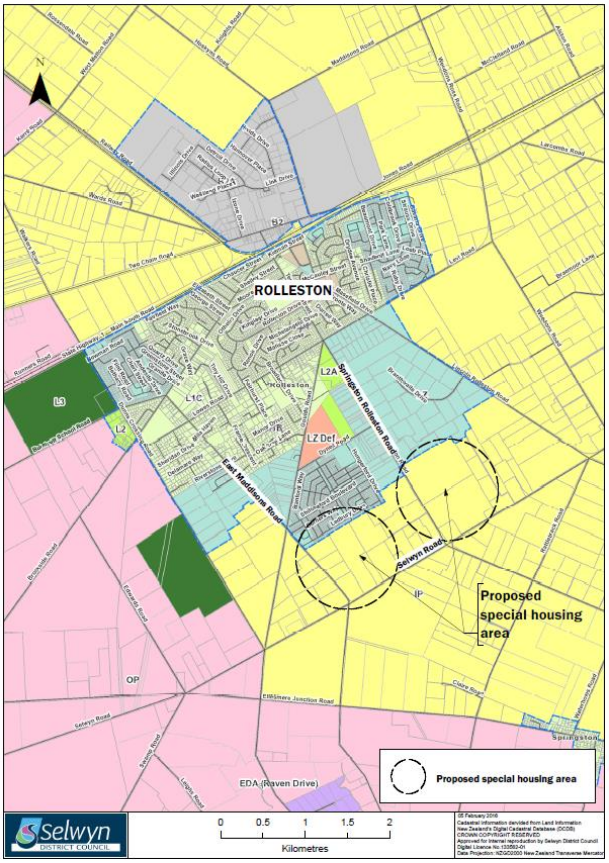


Figure 5-10: Rolleston Special Housing Areas

5.6 District Plan Review

The Resource Management Act 1991 (RMA) requires all operative provisions of a plan to be reviewed every 10 years.

The current Selwyn District Plan was notified in two volumes (Rural Volume in 2000 and Township Volume in 2001) and remains in this two-volume format. While the Plan has yet to be made fully operative, there are large parts of the Plan that have not changed since 2004 when decisions on submissions were released. It is therefore timely to undertake a holistic appraisal of how to improve the Plan, with the aim of the review to produce a 'second generation' District Plan.

At a broad level, it is recognised that the existing District Plan has become unwieldy, with a total of 1500 pages and an excessive number of zones and appendices, including zones within appendices. A number of plan changes have also lead to various approaches to different issues within the Plan, most notably being the way in which urban growth is managed within and outside the Greater Christchurch area. In addition, the resource consent team have identified a range of issues in administering specific parts of the Plan that could be improved through a District Plan Review.

The Council agreed to undertake a full review of the District Plan as a matter of priority at a Council meeting held on 27 May 2015. The District Plan review is expected to take three to four years, but this will be longer if there are complex submissions to work through.

Alignment of the District Plan Review and Long Term Plan processes has been pursued where possible. For 2018, the Long Term Plan will use 'Community Outcomes,' while the 2021 LTP may align more closely with the objectives in the District Plan to reflect the aspirations of the community for the district.

5.7 Influences on Growth and Demand (District and Community)

This section contains a forecast of future demands covering 20 years for waste and diverted material services, infrastructure and programmes. For this reason we have included 'future growth' within this section – growth directly affects demand.

Key factors influencing demand for solid waste services are:

- Population growth, spread and household numbers
- Legislative changes
- Level of service expectations
- Industrial and commercial growth
- Decisions by private waste collectors
- GDP
- Changes in consumption habits
- Changes in waste management approaches
- Tourism
- Higher Education and Research
- Employment

5.7.1 Legislative Changes

Of all existing legislation that could influence demand for waste services or infrastructure, the waste levy administered under the Waste Act 2008 has the greatest potential and most probability of any legislation to have an impact in the waste sector. The waste levy is under review at the time of writing. Possible changes could include increases in the levy charge per tonne of waste to landfill and, or a broadening of the scope of the levy application to include additional landfill classes. The effect of any changes to the waste levy are likely to drive increased affordability and uptake of products or services that minimise waste to landfill. We believe it would be prudent to expect some change to the waste levy within the coming review periods.

5.7.2 Level of Service Expectations

Level of Service is discussed in more detail in Section 4. Apart from society's general increased level of expectations, there are local drivers for increased expectations. This relates to residents who have moved to the area from an urban area such as Christchurch. In cases where residents have moved to a lifestyle block or rural area, there may not always be a kerbside collection service (as well as other services such as reticulated sewer or fibre internet connection). Or they may find the distance to the Pines RRP is further than they are used to. In addition, residents moving from other districts within Canterbury have come to expect an option to drop-off reusable items through a reuse shop at their local Resource Recovery Park. This doesn't exist in Selwyn currently but is addressed in this document and in the Waste Assessment.

5.7.3 Industrial and Commercial Growth

There are a number of commercial and industrial factors that influence demand for waste related services and on waste related infrastructure in the District.

Selwyn District's proximity to Christchurch as well as the railway links and major State Highway 1 improvements provides an attractive destination for commercial and industrial activity. Commercial and industrial activity is a driver of population growth in the District. This in turn drives local demand for goods and services, and subsequently waste generation.

Major employer sectors or industries in the District include:

- Agriculture
- Dairy processing – Fonterra, Synlait, Westland Milk all have large plants in Selwyn
- Commercial and Industrial (e.g. The Warehouse's distribution centre)
- Department of Corrections facilities
- Forestry
- Education and Local Government
- NZ Defence Force (Burnham Military Camp)
- Various small to medium industry e.g. Meadow Mushrooms
- Retail and service related businesses

Izone
Selwyn District Council has established the Rolleston Industrial Park (IZONE) on State Highway 1 and is one of New Zealand's larger industrial parks, covering 188 hectares and is currently home to more than 70 businesses including manufacturing, warehousing and logistics companies, such as Port of Tauranga's inland port. The wider Rolleston Industrial Zone has the potential to grow to over 459 hectares.

Iport
The Carter Group is in the process of developing the South Island Industrial Port, known as I PORT, a $500 million industrial and logistics park on 122 hectares (and 70 sites) of industrial-zoned land in Rolleston, with a rail linkage. Lyttelton Port Company has constructed an inland port at this location.

Rolleston Town Centre Master Plan
This Masterplan presents a future vision for Rolleston Town Centre and has been prepared in response to the growth projected for Rolleston over the next 20 years. It recognises that the evolution of the town centre is essential to providing a social and economic heart for the town and the District. This area will become Rolleston's town centre hub shopping area and the mix of shops would encourage people to visit for business and recreation. The community anchor / town square precinct and Rolleston Reserve nearby will also attract people to the retail area, creating a vibrant town centre. This precinct provides primarily for the establishment of retail stores, offices and ancillary offices, food and beverage shops, commercial / business services, trade suppliers, furniture equipment and lighting suppliers, education facilities and pre-schools, health care services, and public transport facilities / parking buildings.

5.7.4 Decisions by Private Waste Providers

As commercial and industrial activity grows in the District, particularly in Rolleston, private commercial waste collectors may increasingly find it is more beneficial to route their collection vehicles in a way that will enable them to dispose of waste in Christchurch as opposed to at Pines RRP. The reason for this is the ability to dispose of waste at a lower rate per tonne at a commercial only transfer station in Christchurch than what is offered at Pines RRP.

5.7.5 Gross Domestic Product (GDP)

In general, landfill waste quantities are linked to the economy (GDP). When GDP increases, there is a corresponding increase in waste produced. This correlates to increased manufacturing, importation of goods and provision of services. Waste volumes rise as a result of the increased activity. Significant improvements in reducing waste at source through design, and ability to reuse items and then recycle waste when the product is at the end of its useful life are the key methods in order to reduce the correlation between GDP and waste.

5.7.6 Changes in Consumption Habits

It is evident from kerbside residual waste and diverted material quantity data presented in Section **Error! Reference source not ound.** that recyclable tonnages are increasing, while kerbside residual tonnages are staying relatively static. This is anecdotally thought to be a result of the increasing packaging surrounding our goods.

Changes in technology (for example smart phones, social and news media platforms) are contributing to a global reduction in newsprint consumption. This has flow on effects to the composition of kerbside recyclables.

Other consumption trends are influenced by the marketing of consumer goods. For example, trends towards bottled beer, or towards tap beer can affect the volumes of glass in the general waste or in recycling collected. Marketing promotions may result in changes to packaging materials, affecting their ability to be recycled.

5.7.7 Changes in Waste Management Approaches

A number of different drivers are present that influence the approaches taken to manage waste, these could include:

- Technological advances in recyclability and waste minimisation techniques (such as sorting techniques or the pyrolysis of timber, plastics and tyres).
- Industry Product Stewardship (and similar) schemes.
- Regulation – WMA requirement upon TAs to promote the effective and efficient waste management. Local policies and bylaws.
- Increased landfill costs from landfill operators.
- Landfill levy reviews may result in some increase to, or broadening of, the levy of $10 per tonne currently.
- Recyclable commodity market fluctuations and global economic activity affect the viability of recycling collections.
- Political party in government.

5.7.8 Tourism

Tourism is a significant industry supported and encouraged by the Council. Tourist numbers have continued to grow nationally and within the Canterbury region. The growing trend to independent travellers has become more common in recent years.

A number of the small settlements such as Arthurs Pass, Rakaia, Castle Hill, and Lake Coleridge are popular places for holiday homes and recreational facilities. Arthurs Pass, Darfield and Springfield in particular support summer and winter-sports in the Craigieburn Basin, Arthurs Pass National Park, Lake Coleridge, the Rakaia Basin and Mt Hutt. These settlements also service long-distance traffic and provide tourist facilities on main tourist routes.

The Council plans to improve tourist facilities in these areas to encourage tourism. Route 72, the Inland Scenic Route provides an inter-district connection between tourism and recreational facilities in Selwyn and those in the adjoining Ashburton and Waimakariri Districts and beyond to the Mackenzie Basin / Mt Cook and Hanmer Springs / Kaikoura. It offers an increasingly attractive, and some times more direct, alternative to the utilitarian State Highway 1. These tourist facilities are supplemented by the major golf course and other recreational and visitor facilities at Terrace Downs.

5.7.9 Higher Education and Research

Lincoln University is located on the outskirts of Lincoln Township. Education and Research Institutes located around Lincoln provide significant employment, in the District and Lincoln is widely regarded as a centre of excellence in agricultural and related research industry.

The crown research institutes located at Lincoln include AgRearch, Landcare Research, and plant & food research.

The Council in joint venture with Lincoln University, Canesis (formerly the Wool Research Organisation of New Zealand (WRONZ), and the Crown Research Institutes aim to promote and develop the current research/ education base in Lincoln. This will be called the 'Lincoln Hub'.

The overarching goal of the Lincoln Hub is to accelerate the rate of economic development of the land-based sectors while improving their environmental performance. In doing so, the Hub will become a globally-significant centre for education, research, technology transfer and adoption, and practice change. By supporting industry innovation, the Hub will help build the capability needed for the primary sectors to achieve their potential. To achieve this, the Hub will be fully integrated into the strategies of the primary industries, and stimulate innovation and entrepreneurial endeavour by the private sector. It will also draw on and connect with other successful Hubs from across New Zealand and the world.[9]

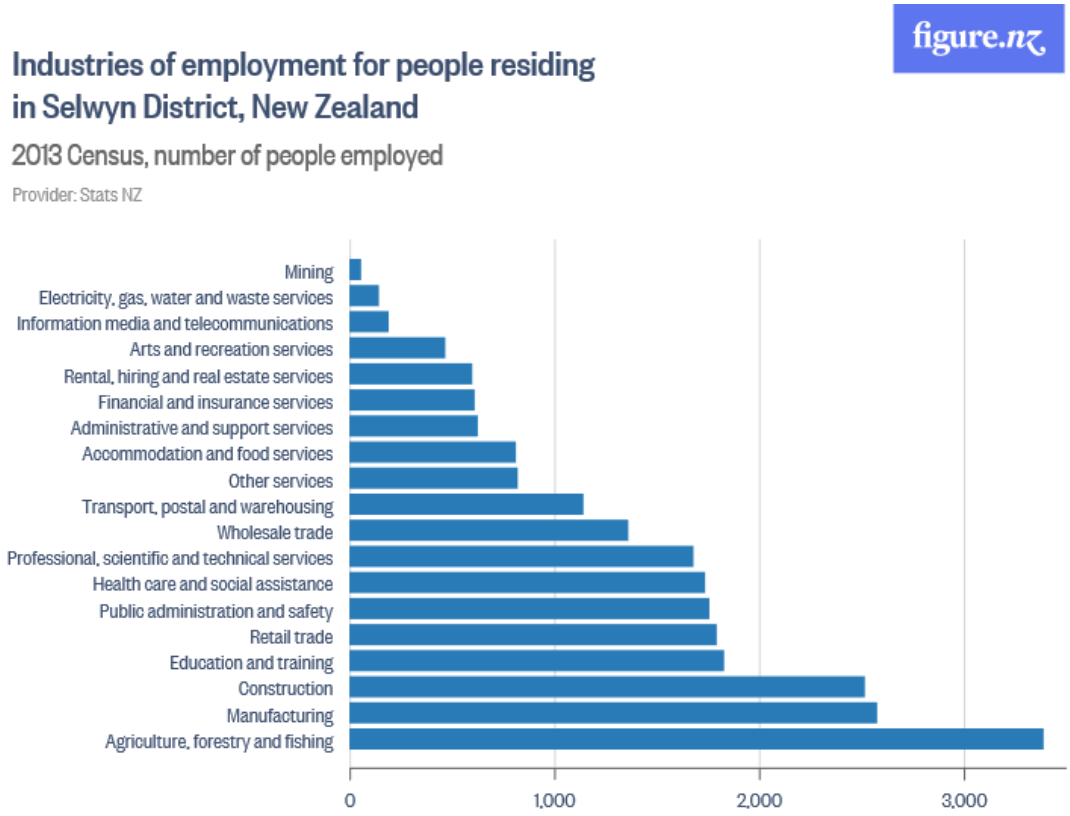
5.7.10 Employment

The rapid growth in Selwyn District is underpinned by strong employment opportunities. Originally these have been in the agricultural sector, Lincoln University and research centres, as well as commuting to Christchurch City. Through the Izone development and other initiatives have meant there are considerable opportunities within the district. Izone is the only industrial hub in New Zealand to have a dedicated staff recruitment website. Enterprise Recruitment is Izone's talent gateway. This free service allows Izone companies to advertise job vacancies and provides those looking to move to Selwyn with appropriate information about life in the district. Eventually Enterprise Recruitment will advertise jobs throughout the district and become the talent gateway to Selwyn.

The 2013 census shows employment in agriculture and forestry employ the largest number of workers, followed by manufacturing and construction.

[9] Source: http://www.lincoln.ac.nz/Lincoln-Home/Research/Lincoln-Hub/

Figure 5-11: Selwyn District Sources of Employment (2013 Census)



Business Demographics

Business demographic data for the year ended February 2013 showed that:

There were 5,524 business locations (geographic units) in Selwyn District compared with 507,908 for all of New Zealand. This is an increase of 9.3% from the year ended February 2006 for Selwyn District.

There were 14,800 paid employees in Selwyn District compared with 1,941,040 for all New Zealand. This is an increase of 28.2% from the year ended February 2006 for Selwyn District.

The unemployment rate in Selwyn District (total population aged 15 years and over) is 2.9% for people aged 15 years and over, compared with 7.1% for all of New Zealand.

Top 5 Industries in Selwyn District
By employee count for year ended February 2013

	Selwyn District		New Zealand	
Industry (ANZSIC06)[10]	**Employee Count**	**% of Total Employee Count**	**Employee Count**	**% of Total Employee Count**
Agriculture, Forestry and Fishing	2,770	18.7%	111,520	5.7%
Public Administration and Safety	2,260	15.3%	110,900	5.7%
Education and Training	1,840	12.4%	167,240	8.6%
Manufacturing	1,450	9.8%	211,710	10.9%
Construction	1,380	9.3%	124,870	6.4%

[10] Australian and New Zealand Standard Industrial Classification 2006 (ANZSIC06 V1.0)
Note: Some regions, territorial authorities, and local boards may have more than one industry with the same employee count but the table has been restricted to five industries.
Source: Statistics New Zealand

5.8 Planning for Demand Growth

Significant changes in waste management over the last number of years have produced higher environmental standards for landfills, made recycling a standard activity, changed the emphasis from waste disposal to waste management and highlighted waste minimisation as a key tool. However, due to the continual development of new technologies and the variability of market conditions, it is difficult to predict future growth trends with any degree of certainty.

5.8.1 Current Trend Analysis

The Council provides the majority of collection services to households in the District, which enables it to collate reliable data about quantities for household waste and diverted material streams. Residual waste and organics data is obtained from measurements at the Pines Resource Recovery Park weighbridges. The quantities of recyclables from kerbside recycling collection are provided monthly to the Council by EcoCentral Ltd who are responsible for sorting and sale of the material. Cleanfill data is captured within our weighbridge software package. It is understood that the bulk of waste from businesses is disposed of at Pines RRP.

Detailed data about the number of tonnes by source is contained in Table 5-3 below. Of note is the growing proportion of commercial, construction and public residual waste. These waste streams have increased from 40% of the total residual waste to landfill, up to 50%. The bulk of this increase is construction waste.

Council has also managed to increase the proportion of the total waste stream diverted from landfill from 24% in 2006/07 to 40% in 2016/17. Of kerbside material collected, 48% is diverted recycling or organics and 52$ is residual waste.

Of note in the second part of the table (diverted material) is the 2,971 tonne (51%) growth in organics between 2012/13 and 2016/17. The other item of interest is cleanfill. Tightening of controls around access to the cleanfill pit has ensured that material is properly recorded and charged for.

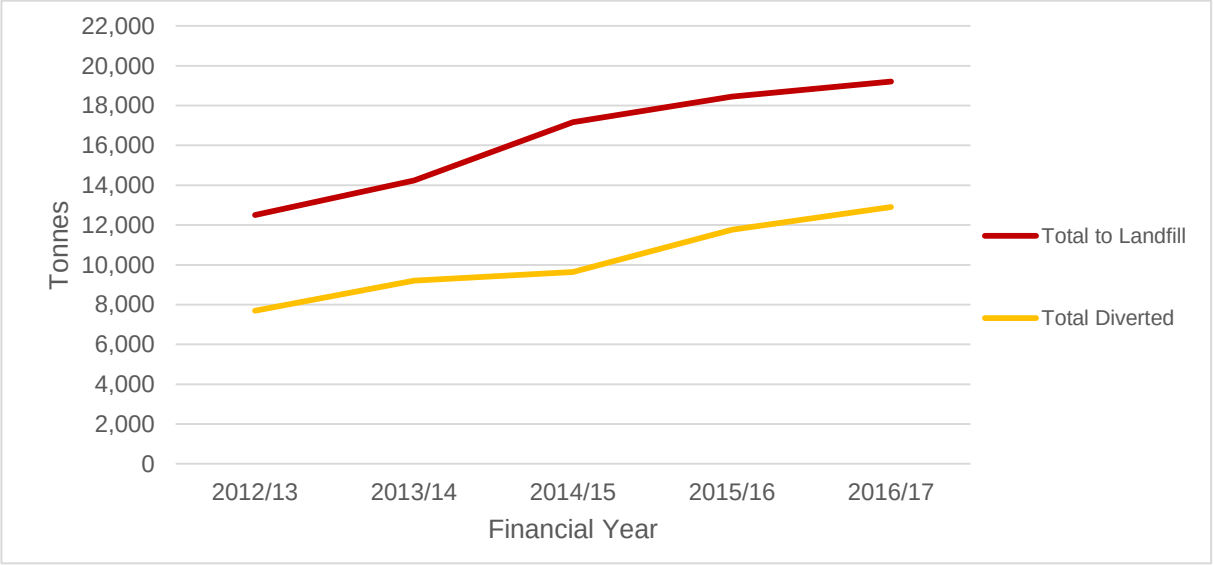
Table 5-3: Source of Residual Waste and Diverted Material

Residual Waste Stream	Waste Disposed to Landfill (tonnes / year)				
	2012/13	2013/14	2014/15	2015/16	2016/17
Kerbside residual waste collection (including public litter bins)	7,542	8,125	8,444	8,796	9,653
Commercial and public residual waste drop-off at Pines RRP	4,963	6,113	8,058	6,711	7,069
Construction related waste drop-off at Pines RRP (NB this was only measured separately from March 2014)	Incl. above	2	668	2,946	2,481
Total to landfill	**12,506**	**14,240**	**17,169**	**18,453**	**19,203**

Diverted Material Waste Stream	Waste Diverted (tonnes / year)				
	2012/13	2013/14	2014/15	2015/16	2016/17
Kerbside recycling collection (including public litter bins)	4,065	4,366	4,403	4,982	4,963
Public recycling drop-off at Pines RRP (plastics 1-7, glass, paper, cardboard, scrap metal)	319	411	493	566	611
Kerbside organics collection	1,861	2,450	2,621	3,183	4,115
Commercial and public organic drop-off at Pines RRP (includes community garden waste days)	1,048	1,419	1,400	1,679	1,764
Commercial and public cleanfill drop-off (to Pines RRP and direct to Springston Pit)	370	480	631	1,246	1,375
Hazardous waste drop-off at Pines RRP (including paints and waste oil)*	4	23	16*	27	29
Other diverted waste material (LPG cylinders, tyres, appliances, TVs)	9	25	38	36	26
Total diverted material	**7,677**	**9,174**	**9,602**	**11,720**	**12,883**
% of waste stream diverted from Kate Valley Landfill	**38%**	**39%**	**36%**	**39%**	**40%**

*Please note that previous weights provided for hazardous waste are reliant on historical reports from haz waste providers. All outgoing hazardous waste material only began being weighed at the Pines RRP from July 2016.

Figure 5-12: Total Quantities of Residual Waste and Diverted Material



The quantities of waste and diverted material have been expressed per capita for the purpose of forecasting future quantities and to compare with other districts. Residual waste quantities per capita form a performance measure in Council's LTP.

It is noted that population numbers for the District include Burnham Military Camp. Burnham Military Camp can accommodate over 1,000 staff (with significant future expansion plans), and waste quantities generated by Burnham Military Camp may be included in the District totals. Whether they are included is dependent upon the disposal facility used by the commercial contractor collecting Burnham's waste. Most loads are tipped at Pines RRP however some loads are tipped at facilities in Christchurch, dependent on collection vehicle routing and operational requirements.

Table 5-4 shows the annual waste and diverted material quantities per capita in Selwyn District. The 2016/17 annual average of residual waste to landfill was 348 kg per capita, in comparison to Ashburton District Council (366 kg/capita)[11], Waimakariri District Council (294 kg/capita)[12] and the Canterbury average (385 kg/capita)[13].

The waste quantities per capita are calculated as an average over the whole District for the purposes of the current LTP performance measure. A recommendation has been made to add an additional performance measure for 'kerbside waste per capita' only to the 2018-2028 LTP to provide an alternative measure of performance.

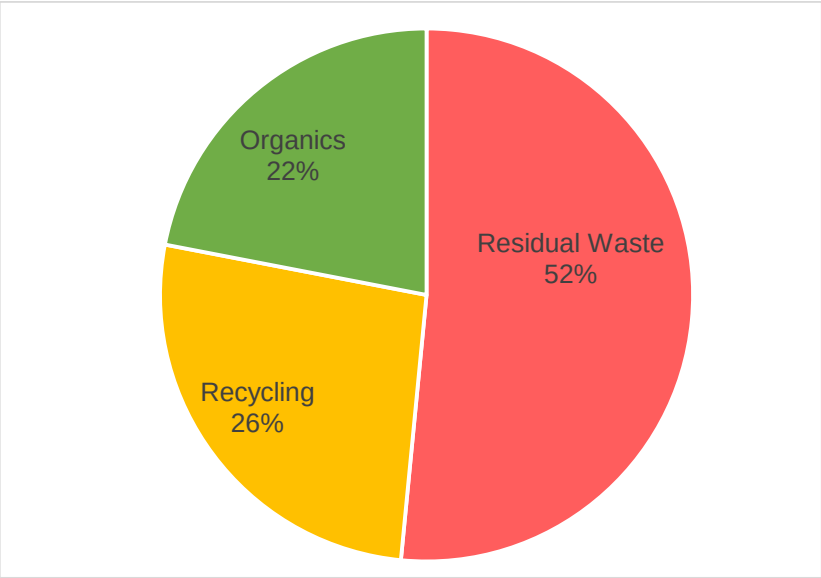
Table 5-4: Total Quantities per Capita

	2012/13	2013/14	2014/15	2015/16	2016/17
Residual Waste	268 kg	288 kg	326 kg	343 kg	348 kg
Diverted Material	164 kg	185 kg	182 kg	218 kg	234 kg
Estimated Resident Population[14]	46,700	49,500	52,700	53,830	55,172

The significant increase in quantities per capita from 2013/14 to 2014/15 relates to the post-earthquake housing and commercial construction in the District. Construction waste began being recorded as a separate weighbridge category from March 2015. In the 2015/16 year 2,946 tonnes of construction waste was received at Pines RRP. Note that the kerbside waste per capita in Table 5-5 below shows a small decrease in the same period.

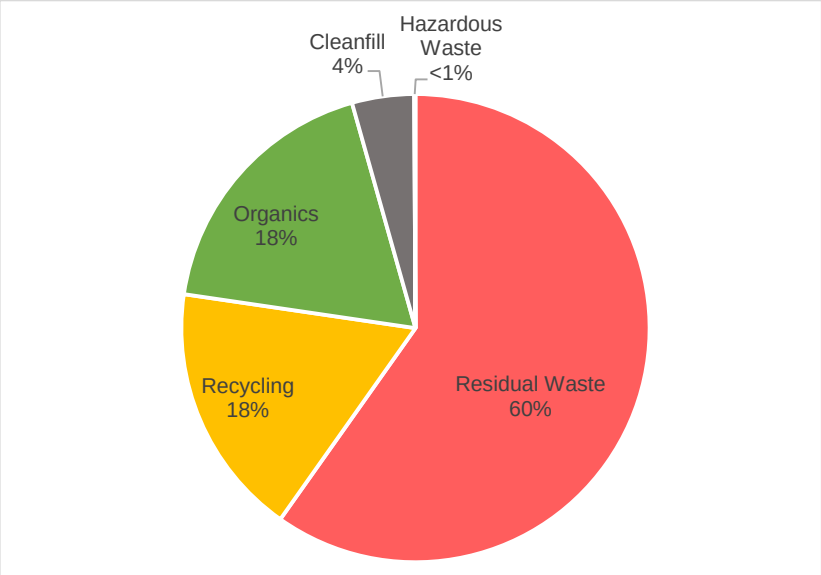
[11] Waste Not Consulting, (2015) *Ashburton District Council Waste Assessment*
[12] Morrison Low, (2017) *Waimakariri District Council Waste Assessment*
[13] Data Supplied by Territorial Local Authorities to Environment Canterbury (2014/15)
[14] Natalie Jackson Demographics, (2017) *Selwyn – Review of Demographics (Part A)*

Figure 5-13: Breakdown of Kerbside Materials Collected



Of the 18,731 tonnes of kerbside collected material in 2016/17, 9,653 tonnes was residual waste, 4,963 tonnes was recyclables and 4,115 tonnes was organics

Figure 5-14: Proportion of Total Waste Material as a Percentage of Total Weight



Of the 32,113 tonnes of all waste handled by SDC during 2016/17, 19,203 tonnes was residual waste, 5,879 tonnes was organics, 1,375 tonnes was cleanfill, 5,677 tonnes was recyclables and 29 tonnes was hazardous waste

The proportion of the different waste categories received via the kerbside collection and the materials received at the Resource Recovery Park are very different. It is important to note that the recyclables from the kerbside collection are taken directly to EcoCentral Ltd and are not handled through the Pines RRP. The largest proportion of the material received at the Pines RRP come from the refuse received from the kerbside refuse collection (59%).

Waste quantities vary considerably due to daily, weekly, seasonal, holiday and weather factors. This makes calculating plant capacity difficult, however, it is acknowledged that good management increases capacity. Owing to wind/litter and resource consent conditions, the Pines RRP cannot store rubbish on the pit floor as a way of handling peak flows.

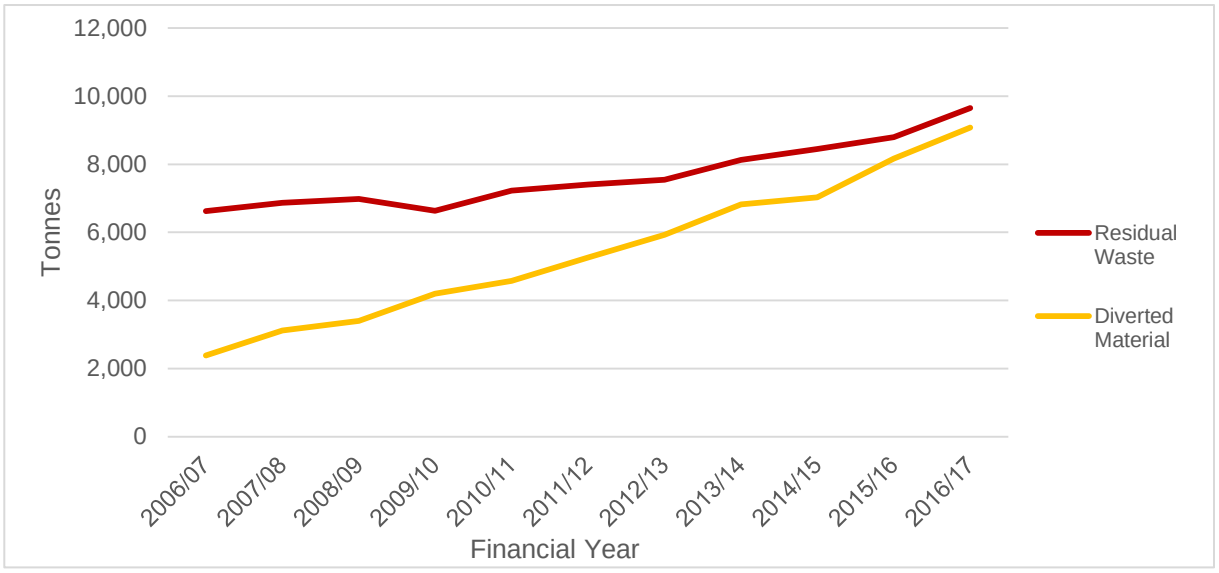
About 7,000 tonnes per annum were being handled by Selwyn's waste collection system when the RRP was being designed in 2004/05. In the 2007/08 financial year, the RRP handled 11,260 tonnes, with the busiest days handling in the vicinity of 100 tonnes. This figure has increased to 19,203 tonnes of residual waste handled by the RRP in the financial year 2016/17

The future capacity of the facility could be as much as 30,000 tonnes per annum using the existing waste compactor, having additional transport containers, and extending operational and opening hours.

5.8.1.1 Collection Services

Separating kerbside waste and diverted material quantities from total District waste quantities shows a clear improvement in diversion rates - from 26% in 2006/07 to 48% in 2016/17. This increase is mostly a result the roll out of 240 litre recycling wheelie bins to households, and a move away from crates, and the strong uptake of the organics bin service.

Figure 5-15: Kerbside Collection Quantities of Residual Waste and Diverted Material



In Table 5-5 and Figure 5-16 below the kerbside residual waste volumes per capita have remained reasonably steady. This demonstrates that the increase in total waste per capita is skewed by commercial and construction waste, as opposed to an increase in the amount of household residual waste generated by residents. In addition the increase in diverted material between 2014/15 and 2015/16 is believed to be related to encouragement by Council customer service staff towards smaller residual waste bins and strong uptake of the organic bin option, as well as pricing disincentives for the larger residual waste bin.

Table 5-5: Kerbside Quantities per Capita

	2012/13	2013/14	2014/15	2015/16	2016/17
Residual Waste	162 kg	164 kg	160 kg	163 kg	175 kg
Diverted Material	127 kg	138 kg	133 kg	152 kg	165 kg
Estimated Resident Population	46,700	49,500	52,700	53,830	55,172

Figure 5-16: Total Waste Vs Kerbside Waste Quantities per Capita

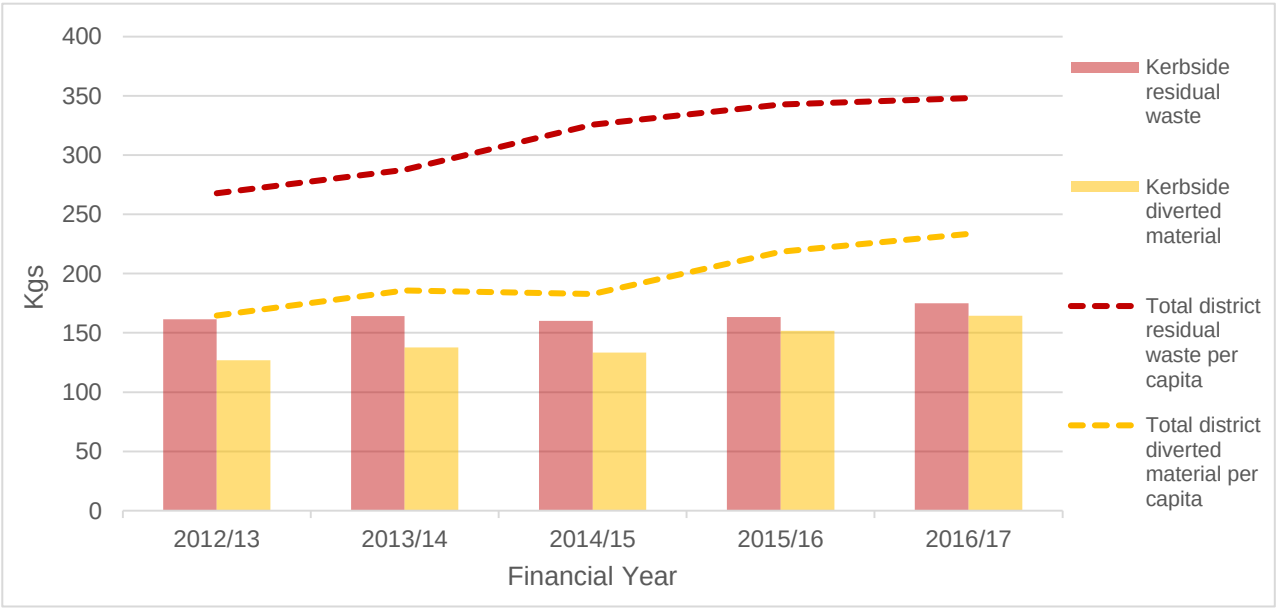
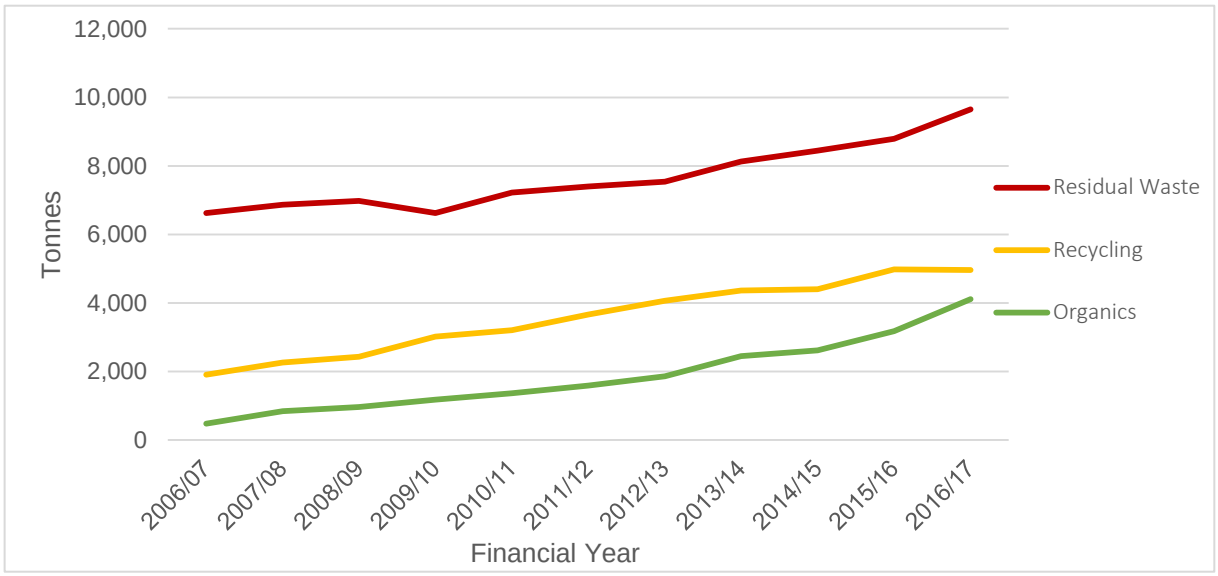


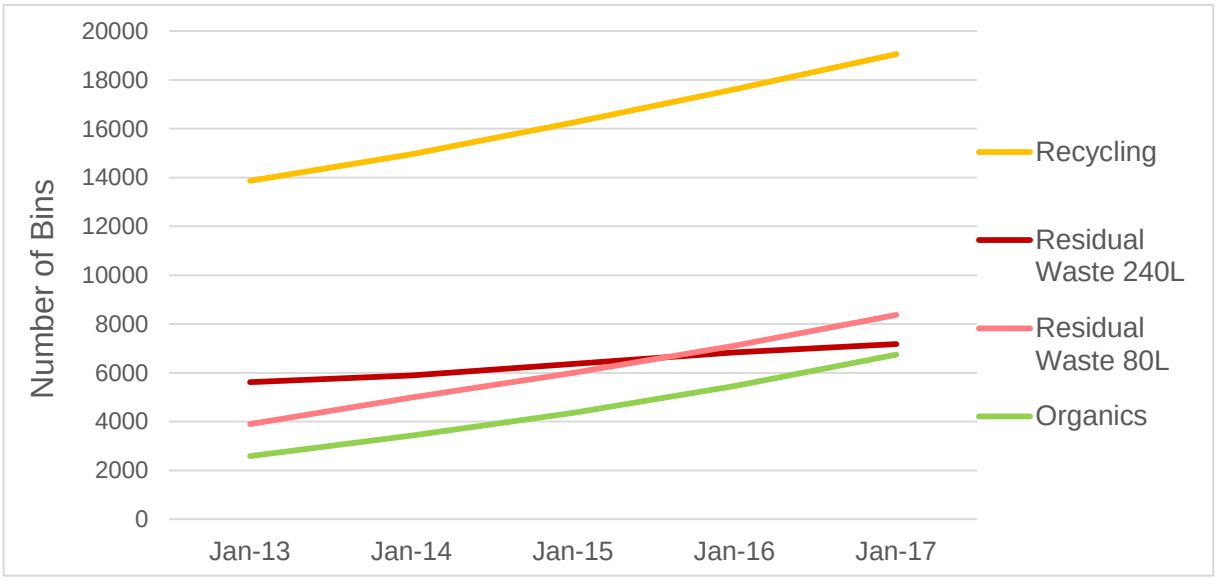
Figure 5-17 below shows the kerbside residual waste, recycling and organic tonnages split out from the aggregated numbers above.

Figure 5-17: Kerbside Collection Tonnes by Type



With regards to the number of bins in service, Figure 5-18 reflects the significant population growth that the District has experienced and continues to experience.

Figure 5-18: Kerbside Bin Numbers in Service



Strong growth is evident in recycling, organic and the 80 litre residual waste bin options. This demonstrates that the pricing incentives / disincentives that are in place for the services is producing the desired result: a reduction in the large 240 litre residual waste bins.

Residual Waste

Council has robust data for the composition of the kerbside residual waste stream as a result of a kerbside residual waste analysis in 2014 and an audit of food waste within the kerbside residual waste stream in 2015.

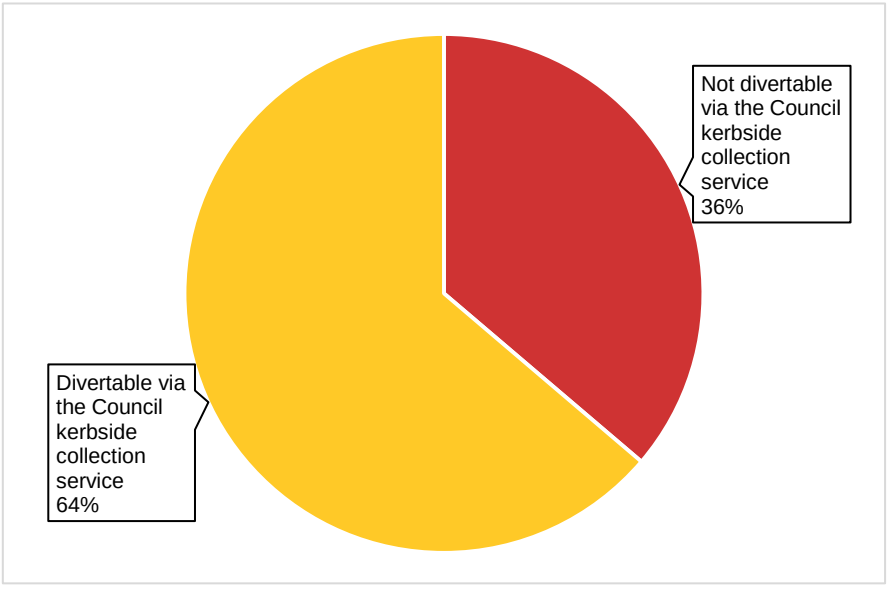
Council's kerbside residual waste SWAP analysis in 2014 provided the following composition breakdown.

Table 5-6: Composition of Kerbside Residual Waste in 2014[15]

Type of waste		% of Total	Tonnes / annum
Paper	Recyclable (e.g. newspapers, magazines, cardboard boxes)	8.0%	613
	Non-recyclable (e.g. food contaminated, laminated paper)	1.1%	86
Plastic	# 1- 7	1.8%	136
	Non rigid plastic bags and film	4.0%	309
	Plastic shopping bags	1.3%	102
	All other non-recyclable items made primarily of plastic	3.1%	237
Organics	Kitchen waste	28.9%	2,214
	Green waste (e.g. lawn clippings, plants, tree branches)	19.6%	1,497
	Other (e.g. cat tray litter, hair)	4.0%	303
Ferrous metals	Steel cans	1.0%	73
	Other non-packaging items made primarily of ferrous metal	1.4%	108
Non-ferrous metals	Aluminium cans	0.3%	20
	Other (e.g. frying pans, pots, electrical wire)	0.7%	54
Glass	Bottles / jars (emptied, with lids removed)	3.0%	231
	Other (e.g. light bulbs, drinking glasses, window glass)	1.4%	105
Textiles	Items made primarily of fabric (e.g. clothes, curtains)	1.9%	142
	Other (e.g. shoes, backpacks, handbags, rugs)	2.0%	151
Sanitary paper	Disposable nappies, paper towels, tissues	7.8%	597
Cleanfill	Rubble, concrete, soil	6.4%	491
Timber	All items made primarily of timber	1.2%	91
Rubber	All items made primarily of rubber (e.g. kitchen gloves)	0.3%	24
Potentially hazardous	Household (e.g. batteries, aerosol cans, medicines, cosmetics, cleaning agents)	0.7%	50
	Other (e.g. used oil, garden chemicals)	0.3%	25
	Total	**100%**	**7,662**

Figure 5-19 below shows that 64% of the materials within the residual waste stream are potentially recoverable / recyclable via the kerbside organics and kerbside recycling service. This equates to over 6,000 tonnes for the 2016/17 year and is predominantly organic waste such as food waste and garden waste.

Figure 5-19: Percentage of Kerbside Residual Waste that is potentially divertible through the Kerbside Organics or Recycling Service

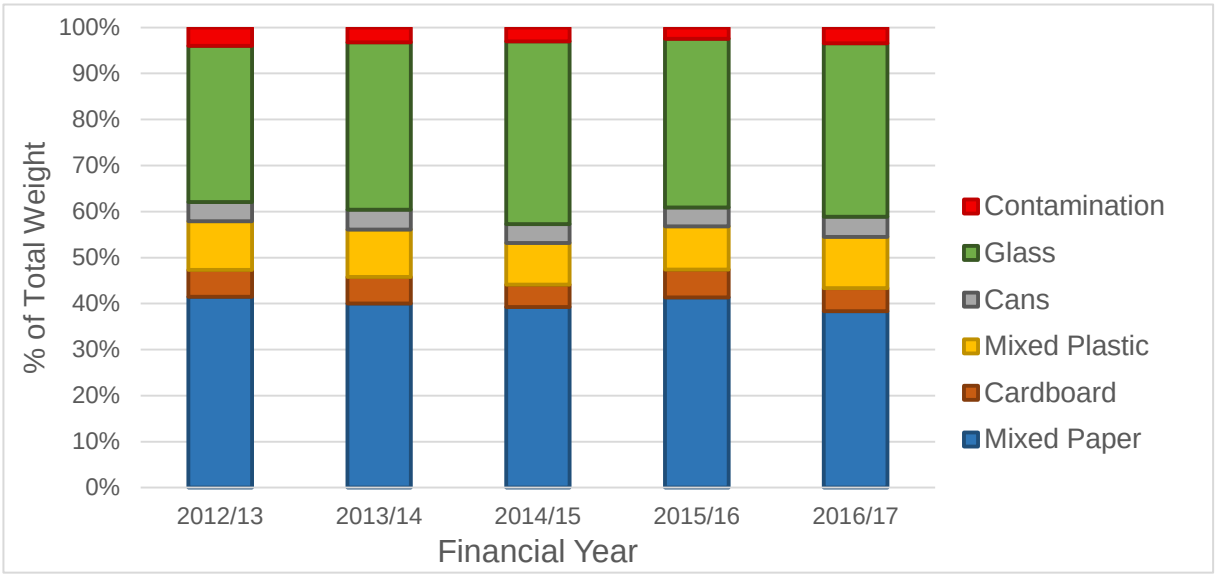


Recycling

The composition of material within Council's kerbside recycling collection has a fairly typical composition of any fully co-mingled kerbside recycling service in New Zealand. Figure 5-20 displays the breakdown of the contents by material type. The makeup of recyclables has remained relatively static over the past 5 years.

[15] WasteNot Consulting, (2014) *Composition of Kerbside Refuse in Selwyn District*

Figure 5-20: Composition of Selwyn's Kerbside Recycling



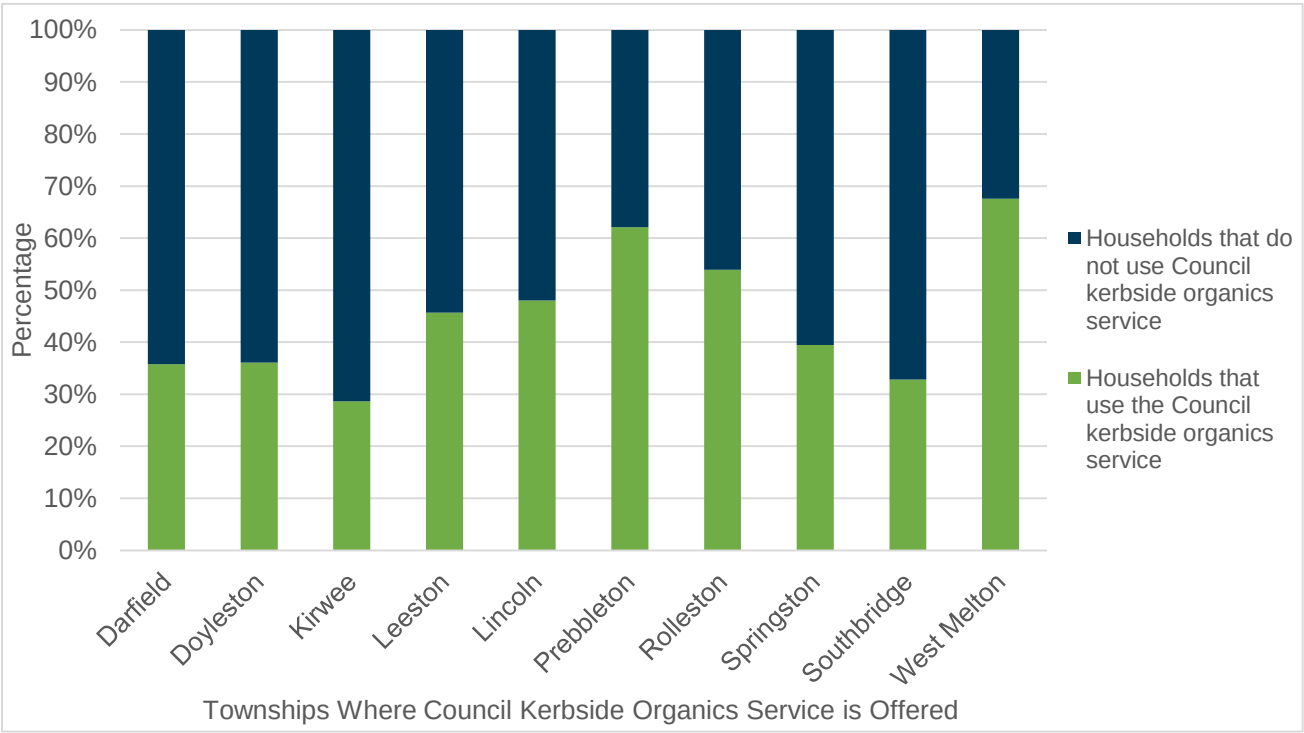
Organics

The composition of Council's kerbside organics collection is currently estimated (based on visual assessments) to be 97% garden waste and 2-3% food waste. This varies according to the time of year - e.g. more grass clippings in spring and summer.

There is capacity for additional properties within already serviced townships to utilise the kerbside organics collection service. Figure 5-21 shows the uptake of the kerbside organics service in the townships where it is offered.

In total, in the townships where the kerbside organics service is offered, 7,000 households utilise the service, however over 6,000 households have access to the service but do not currently choose to use it (noted as a potential improvement in Section 10).

Figure 5-21: Proportion of Households Using the Council Kerbside Organics Service



High Country Villages
Castle Hill presently has several subdivisions in varying stages of the resource process. The developable land in Castle Hill is finite, with capacity limited to approximately double the current number of houses there at present. Some small scale commercial (retail / café) development may also occur, as well as camping facilities across the other side of SH73 to the village. Arthurs Pass village is not currently expected to have any significant population increase or housing construction in the foreseeable future, however it will continue to experience significant increase in tourist numbers passing through.

5.8.1.2 Disposal and Diversion Infrastructure

Pines RRP receives the bulk of residual waste in the District. For the purposes of this AMP and the limited access to information from other disposal facilities outside of the District, this section will focus on those facilities within Council's control.

Four main streams of residual waste are received at Pines RRP: kerbside, commercial, construction and public (Figure 5-22). Three main streams of organic waste are received at Pines RRP: kerbside, commercial and public (Figure 5-23).

Figure 5-22: Residual Waste Weight (Tonnes) to Pines RRP by Source for FY 2015/16

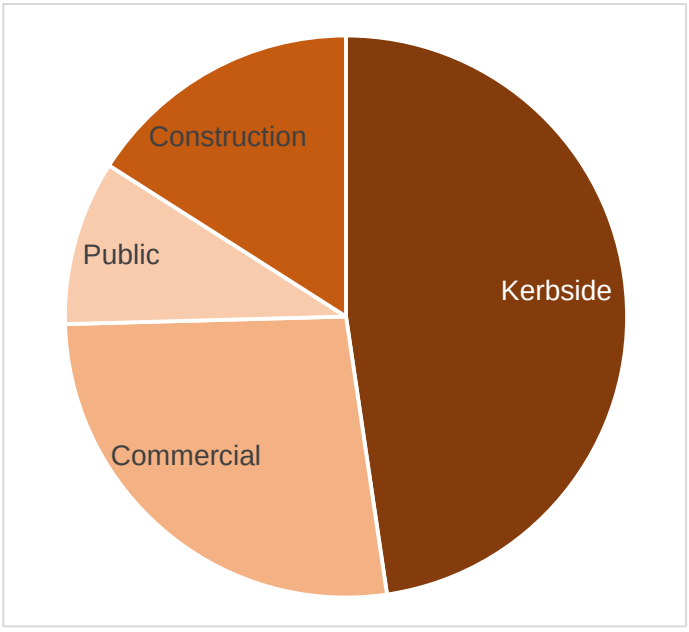
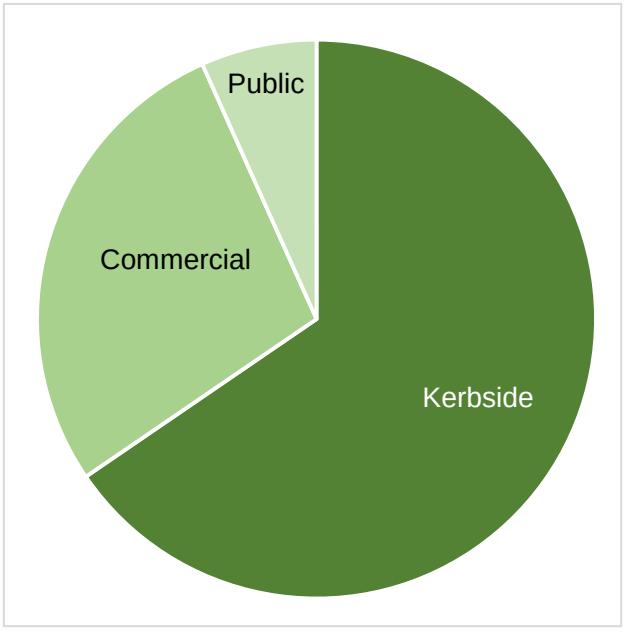


Figure 5-23: Organic Waste Weight (Tonnes) to Pines RRP by Source for FY 2015/16



Interestingly the 'composition' of the number of transactions at Pines RRP by waste stream (Figure 5-24 and Figure 5-25) shows a vastly different picture. It reflects the importance of the facility to the public, even if the tonnages involved are small.

Figure 5-24: Residual Waste Number of Transactions at Pines RRP by Source for FY 2015/16

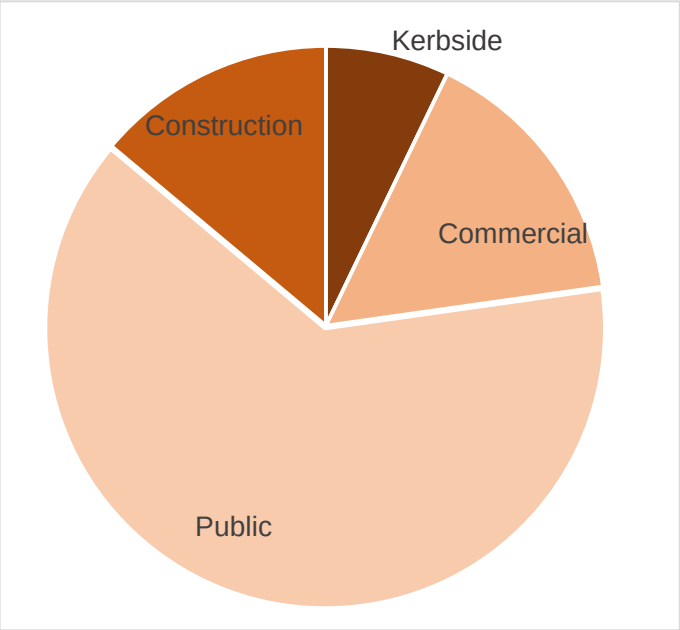
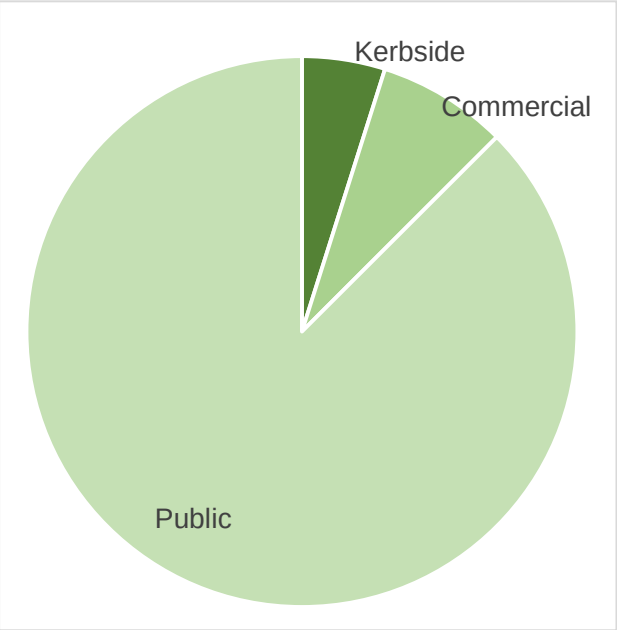


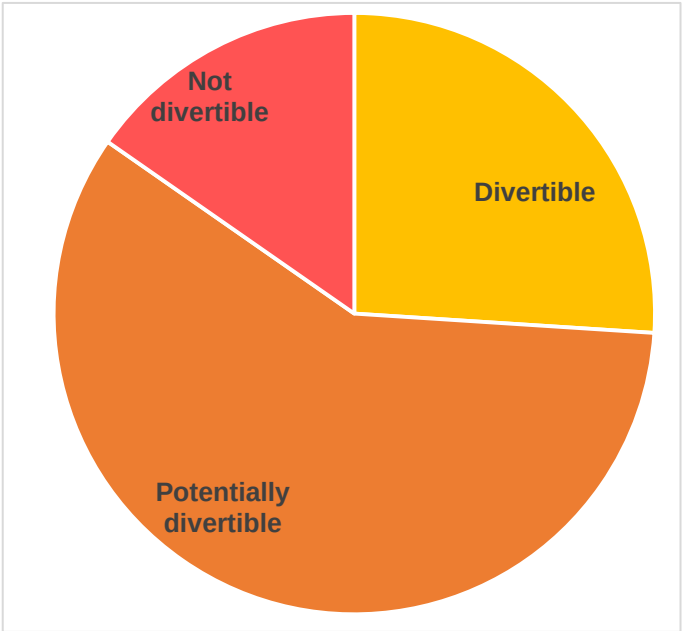
Figure 5-25: Organic Waste Number of Transactions at Pines RRP by Source for FY 2015/16



Construction Waste

Separate category coding at the Pines RRP weighbridge enables tonnage data for construction waste to be recorded, however Council relies on local industry data for the average composition of construction waste skips. The composition of the construction waste stream is expected to be identical to that of typical household construction waste skips in Christchurch. A breakdown of this is shown below in Figure 5-26 and shows there are opportunities for sorting and diverting construction materials[16].

Figure 5-26: Potentially Divertible Materials on Residential Construction Sites



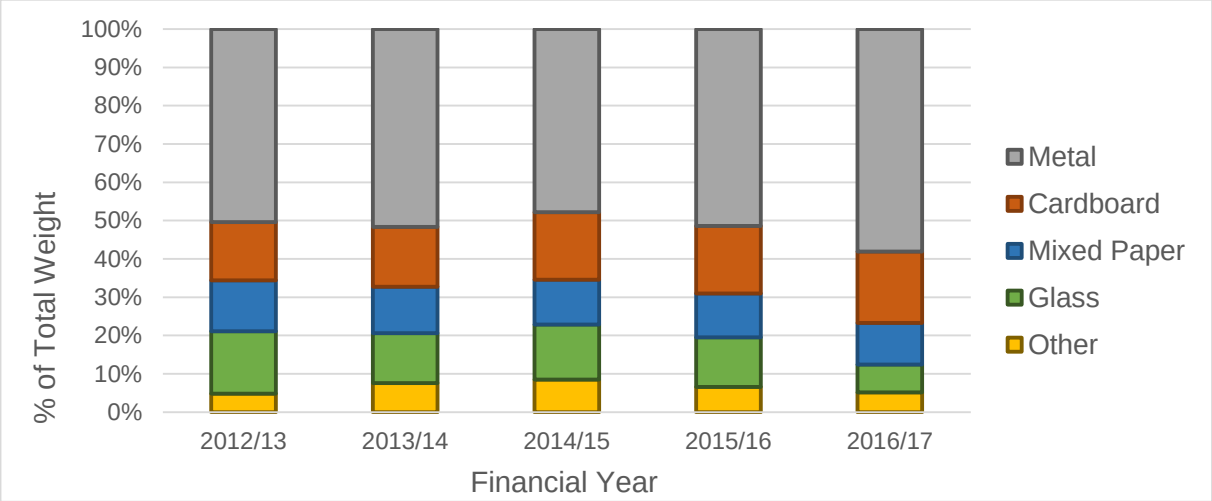
*Potentially divertible includes plasterboard, and treated and untreated timber. Divertible includes cardboard, plastics, metal, polystyrene, concrete, and bricks and tiles.

[16] Averaged figures sourced from Target Sustainability, (2009) *House Builders Project* using REBRI volume-to-weight conversion for construction materials

Public Drop-off Recyclables

Recyclables taken to the Pines RRP for recycling have a different composition to that of kerbside. This is primarily as a result of the cardboard and scrap metal received. The kerbside recycling service is limited in its ability to handle large volumes of cardboard and, with regards to metal, accepts only aluminium and steel cans. To recycle larger volumes of cardboard the public take this to Pines RRP. To recycle other scrap metal items the public take this to Pines RRP or make arrangements directly with private scrap metal providers.

Figure 5-27: Composition of Recycling From the Public Drop-off at Pines RRP



*Other includes mixed plastic 1-7, TVs, e-waste, tyres, LPG cylinders

5.8.2 Forecast Demand

Short to medium term growth in refuse volumes is affected by a combination of population and the prevailing economic environment. While population growth is a recognised tool used in many areas to forecast future growth, the prediction of future economic environments is less predictable and is not pursued for solid waste.

Population growth is catered for in the kerbside recycling and refuse collection contracts and allows contractors to account for future growth when tendering.

The following section outlines the forecast future demands on the Council's waste management services resulting from predicted population growth, commercial and industrial growth and level of service expectations.

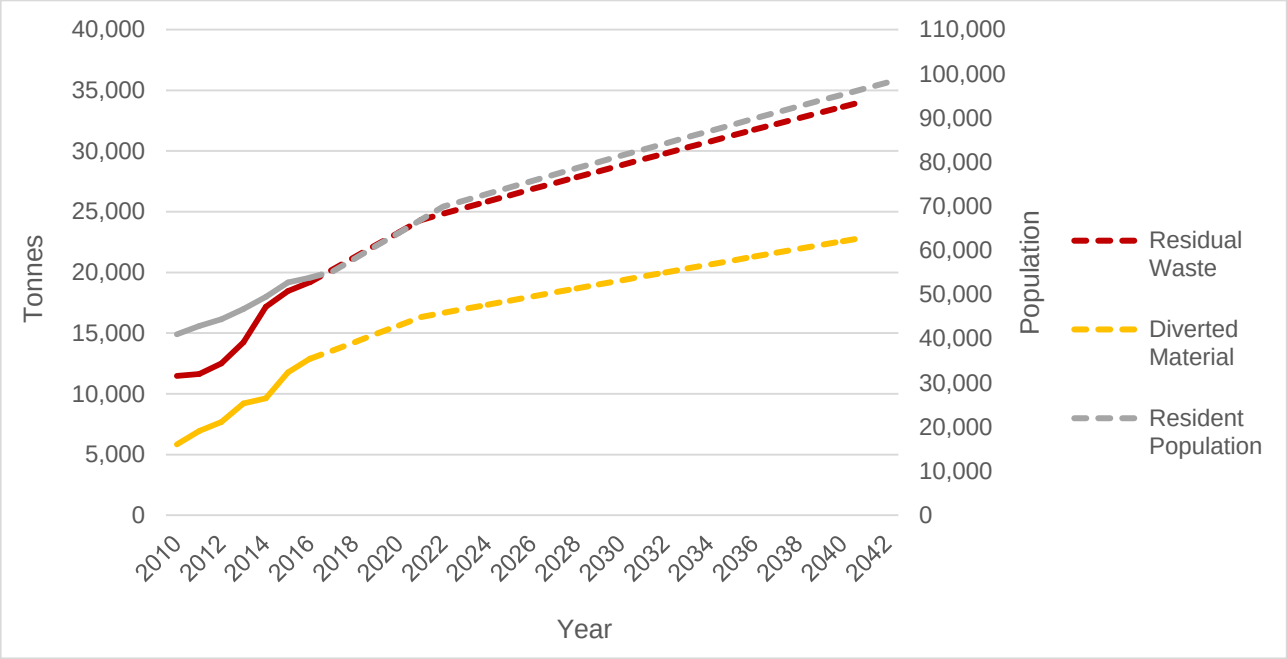
Figure 5-28 presents predicted waste and diverted material quantities in a status quo scenario, with the following assumptions:

- the quantity of total residual waste per capita continues to grow at current rates in line with population growth;
- kerbside collection services are accessible for 92% (or more) of the District's households;
- the kerbside organics collection service continues to grow at current rates;
- predicted quantities are based on population projections from the 2017 Selwyn Growth Model[17]; and
- commercial and construction waste volumes continue to grow at current rates.

Note the sharp increase in residual waste tonnes after 2014 due to the housing construction and commercial / industrial growth in the District.

[17] Natalie Jackson Demographics Ltd, (2017) *Selwyn Growth Model*

Figure 5-28: Predicted Residual Waste and Diverted Material Quantities (Status Quo Scenario)



Status Quo and the Effect of Waste Minimisation Activities

The status quo shown in Figure 5-28 is a 'worst case' scenario because it does not take into account the waste minimisation effects of:

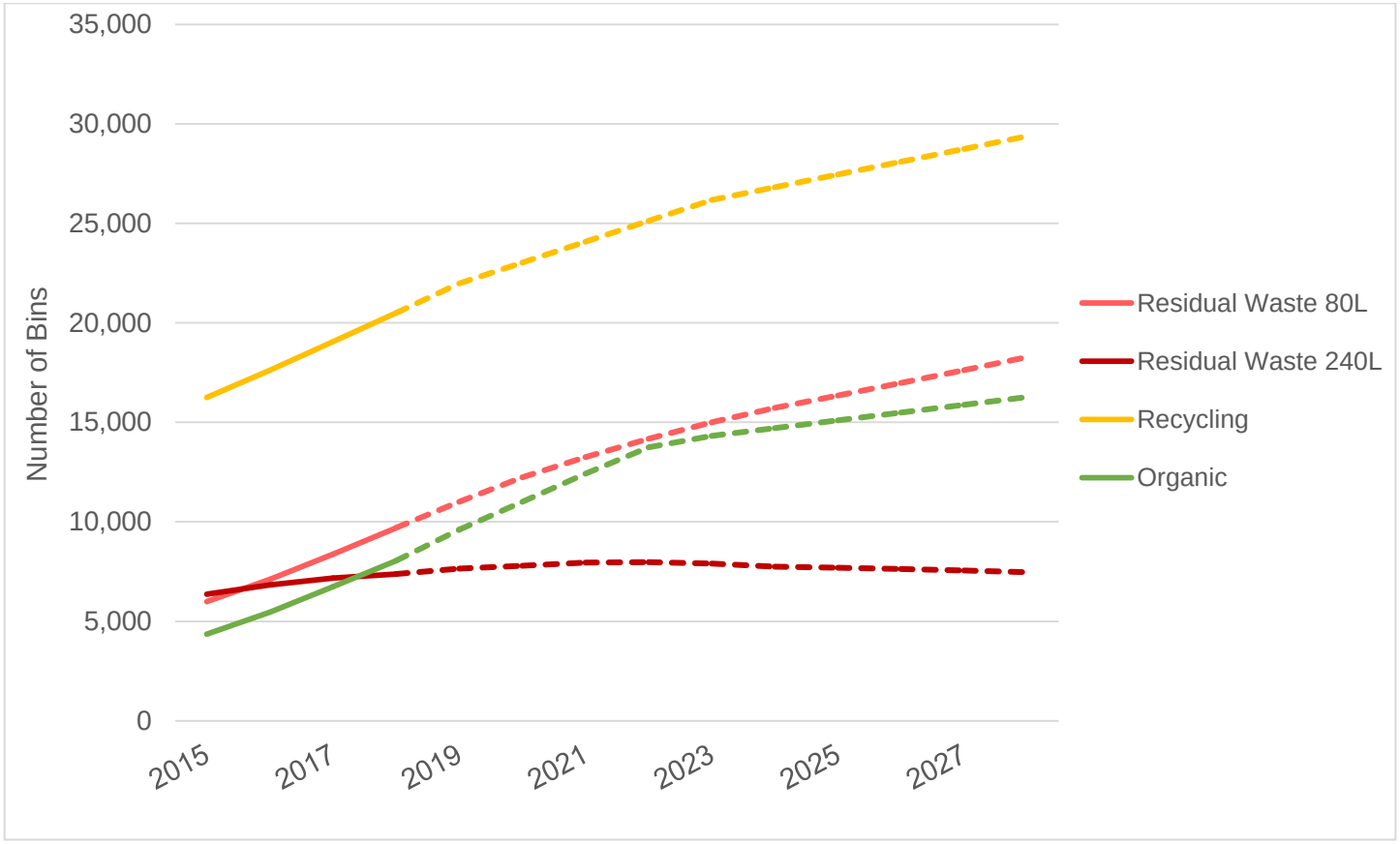
- increasing landfill prices;
- increasing waste disposal costs arising from climate change charges, which may cause an increase in RRP charges and an increase in residual waste collection charges. These increased charges incentivise waste reduction and diversion;
- promotion of the recycling collection to improve household yields;
- promotion of the organic collection to encourage more households to subscribe and to increase household yields;
- promotion of home composting;
- a reuse shop and salvage yard potential at Pines RRP;
- construction waste sorting and recovery at Pines RRP;
- other waste minimisation activities;
- increasing public environmental awareness; and
- new technologies or the ability to recover additional materials from residual waste.

The cumulative effects of these factors will maintain, or potentially decrease, the current levels of residual waste per capita and increase the quantities of diverted waste. The potential impact is difficult to quantify, especially in view of the construction activity within the District and already relatively high kerbside diversion rates.

5.8.2.1 Demand for Collection Services

Kerbside Residual Waste, Recycling and Organics Collections
The kerbside collection service is funded on a user-pays basis and can accommodate growth by adding bins and collection trucks. Kerbside Collection Contract no. 1144 now has generous assumed growth levels included to allow for this.

Figure 5-29: Projected Bin Numbers



Potential exists to actively promote the organics service as well as to improve the separation of recyclables from residual waste. Both of these opportunities have the potential to alter the growth and uptake of the organics service as well as a decrease in the kerbside residual waste bin size and tonnages.

Increasing expectations from rural residents for an urban level of service (bin collection at gate) places increased demand with regard to 'dead running' time between less dense housing areas. This has the potential to marginally increase the collection cost per bin. Not all roads, however, are suitable for kerbside collection vehicles. Part of the solution is to manage the expectations of residents in these areas, and to look at what other facilities may improve the level of service they receive (i.e. a recycling drop-off facility on commonly travelled routes).

Collection from High Country Villages
The Arthur's Pass / Castle Hill frontload truck has somewhat limited capacity to cater for increasing demand on the current fortnightly collection cycle, particularly in summer. The installation of new recycle stations in 2017/18 will divert recyclable material from residual waste bins, easing volumes to some degree. Peak times for issues are around long weekends. Better forward planning to increase collections around these long weekends will help to alleviate some of these issues.

Lake Coleridge's refuse trailer is adequate for the existing village but would have to be reviewed if new subdivisions were developed in the future.

Compactors may become an economically viable option for some locations in the future.

Residual Waste and Recycling Collection from Public Litter Bins
The current capacity for collecting residual waste and recyclables from public litter bins is sufficient and additional capacity can be added when required.

5.8.2.2 Demand for Disposal and Diversion Infrastructure

Residual Waste
The residual waste compactor at Pines RRP had an original estimated maximum processing ability of 30,000 tonnes per annum. Based on this and an assessment by the site supervisor, the compactor is currently at approximately 70% of maximum capacity. According to current residual waste projections this would be approximately 2032. The existing residual waste compactor is expected to require replacement for end-of-life reasons in approximately 2027 and an assessment of replacement options will be done closer to this time.

Currently the Pines RRP is open to the public Monday – Friday from 9am – 4:30pm and Saturday and Sunday from 10am – 4pm. Operating and opening hours could be extended as demand dictates.

Under the Pines RRP vision concept 'Reconnect' (July 2017), the potential development (refer Figure 5-30) of a reuse shop, salvage yard, micro enterprise, education and with advances in new technologies such as pyrolysis of timber, tyres and plastics could make significant inroads into reducing the residual waste tonnage projections. A detailed assessment of the feasibility of these activities is required to determine the potential reduction in residual waste and is planned for 2017-2019.

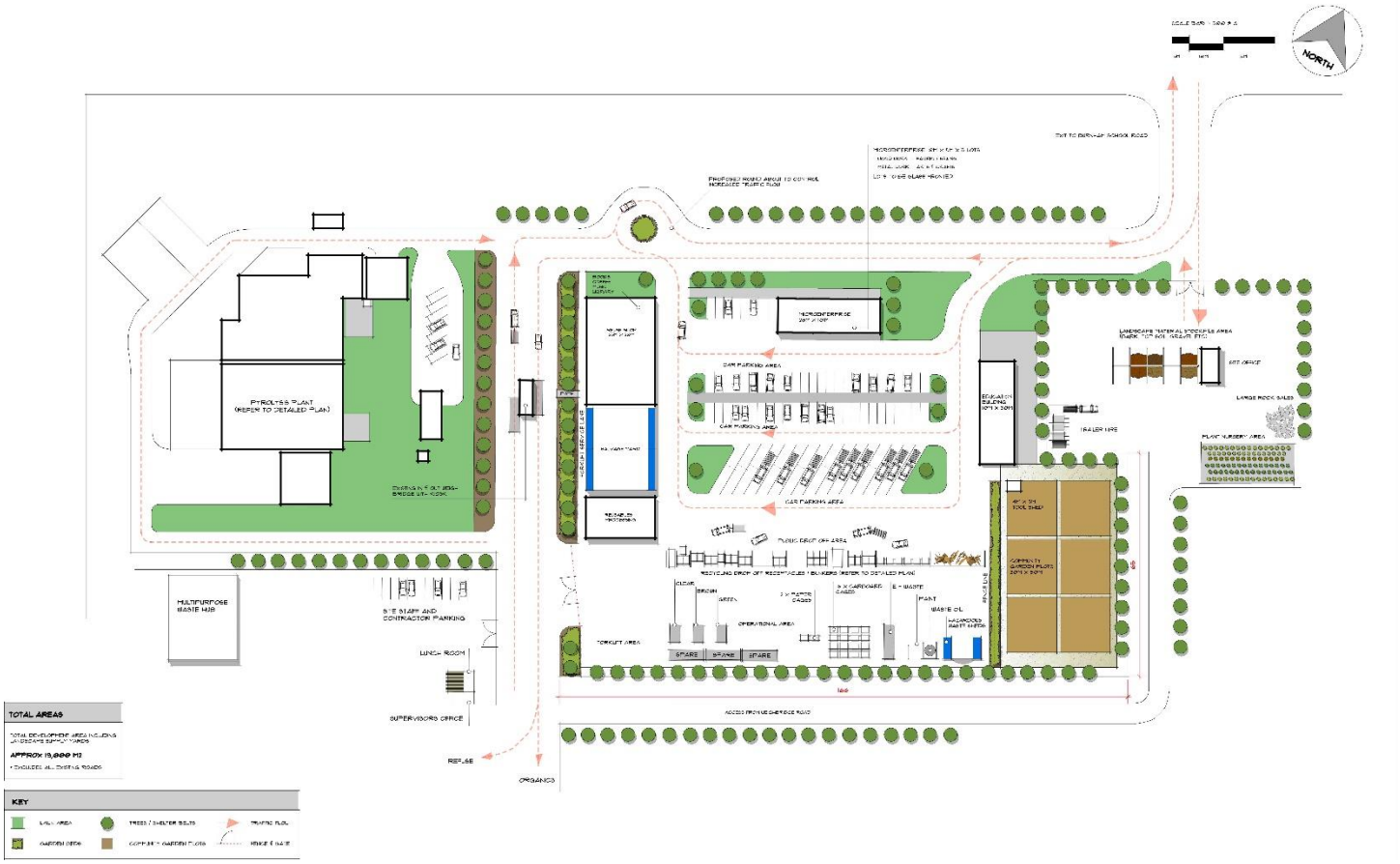
Cartage of residual waste from Pines RRP to Kate Valley Landfill is through Canterbury Waste Services Ltd (CWS) and is covered for a 20 year period (ending 2025) under an agreement between the Council and Transwaste Canterbury Ltd. CWS replace and add vehicle fleet and compactor bins as required to meet forecast demand. As the expiry of this agreement approaches it is likely that a tender will take place to ensure the best value and quality service provider is in place for the coming period.

Kate Valley Landfill services Ashburton, Selwyn, Christchurch, Waimakariri and Hurunui Districts as well as some private transfer stations. It has a 35 year consent period (with approximately 23 years left) and a reported capacity that reaches well beyond the consent period. It is therefore concluded that the Council has no issue with landfill capacity over the period covered by this AMP.

Recyclable Materials
The current contractual arrangement between Council and EcoCentral Ltd (formally CCC Two Ltd) is in place until 2024. This agreement covers the processing and marketing / sale of recyclables from both kerbside collection and public drop-off and is flexible enough to meet future forecast demand. However, commodity markets for recyclable materials are volatile and future demands for the collected materials are expected to rise and fall. Material quality is a significant factor in market demand, however the key driver is the global economy, and Asian economies in particular. Increasingly strict regulation in China is impacting the ability to send some recyclables to manufacturing plants there.

Pines RRP has adequate capacity to accept, store and transfer public drop-off recyclables and to accommodate increasing quantities of materials during peak periods and with future population growth. If market demands for further source separation of recyclables increase, the RRP has sufficient space and flexibility to accommodate any change. The site is sufficiently large to cater for the District's resource recovery activities for the foreseeable future. An early stage vision and concept plan has been drawn up (July 2017), a draft of which is included as Figure 5-30. This provides for opportunities to accommodate future market changes and growth in volumes.

Figure 5-30: Draft Vision 'Reconnect' for Redevelopment of Pines RRP



Organic Waste

At the time of writing the Pines RRP compost plant is over capacity. This has forced a review of the processing method. Consideration of a number of options is underway. A key factor in selecting a preferred option will be capacity for future growth. As shown in Figure 5-21, significant opportunity exists to divert more material from kerbside bins – particular organic material. This will be a focus over the coming years as recently established new subdivision garden areas mature in the District.

Cleanfill

There are no forecast capacity restrictions on disposing of cleanfill. There is still significant space available, especially at the Springston Pit site. The remaining capacity of the Council's other gravel pit sites is not fully known and will be assessed in conjunction with Council's Property Department.

Community Recycling Drop-off Days

It is expected that demand will increase for the Community Recycling Drop-off Days held in Ellesmere and Malvern. Currently these are limited to accepting garden waste and, more recently, scrap metal. Consents have now been obtained to allow the increase in the number of events as well as the volumes and types of materials accepted at these events. It is envisaged that additional materials will be added progressively to these events over the coming years. Eventually these waste days will become mini 'pop-up' Resource Recovery Parks accepting a broad range of materials. This will increase the attendance at these events, and also the tonnage of material collected for recycling or disposal. Space onsite at these locations allows for suitable future expansion.

5.8.2.3 Demand for Council Supported Initiatives

Waste minimisation is currently promoted through a number of different initiatives. With increasing population and development in the District, along with increased expectations around environmental protection, the demand for more council supported initiatives is expected to increase. This may necessitate a review of the initiatives supported by Council, and of the funding allocated to ensure alignment with Council and WMMP goals and strategies.

5.9 Sustainable Management Assessment

The Council has adopted a sustainable approach to asset management planning through the consideration of seven principles of sustainability. Four aspects of well-being are incorporated to assist discussion with the public in matching the Levels of Service to their overall well-being as a community. The Council's approach to Solid Waste Management has been assessed against these seven principles below in Table 5-7.

Table 5-7: Council's Approach to Solid Waste Management against the Seven Principles of Sustainability

Principle	Assessment
1. Make decisions based on the four aspects of well-being	
Integrate **environmental, economic, social and cultural** considerations within both the short-term and long-term effects of the decision.	Solid Waste management is subject to continual change. The social implications of waste management are about reconnecting people with their waste, re-directing people's behaviour to address the generation and disposal of waste and to meet long-term goals for the avoidance of environmental pollution and degradation, improved economic benefits for the region, including employment and skill opportunities within the recovery industry, while recognising and incorporating cultural values. The Council seeks a balance between long term management of assets and maintaining flexibility, to respond to risks and new demands, and to take advantage of new technologies when appropriate.
2. Observe the Precautionary Principle to provide contingency and enable adaptability of our community	
Take a precautionary approach in the face of serious or irreversible environmental damage.	The Council's commitment to using the Kate Valley Landfill as its only means of disposing of residual waste follows this principle. In the event of a natural disaster, short term contingency measures involve working with other Councils, other transfer facilities and alternative landfills, in the event that Pines RRP and/or Kate Valley was unusable or inaccessible.
3. Seek "intra-generational" and "inter-generational" equity	
Improve quality of life and create opportunity for the current generation without compromising the quality of life and opportunity of future generations.	Council seeks to embed the waste hierarchy (in order of importance reduce, reuse, recycle recovery, treatment, disposal), in both its short and long term planning and service provision. In addition the goals of the NZ Solid Waste Strategy 2010 and those of the Waste Management Act 2008 provide additional impetus for the incorporation of positive social and cultural outcomes.
4. Internalise environmental and social costs	
Develop and adopt a system that recognises the true costs and benefits of protecting and restoring environmental/ ecological, human social and cultural resources affected as a result of the services that Council provides.	Solid Waste services are charged out at rates which enable the overall cost to be recovered across the service. The Waste Minimisation Act 2008 allows for the ability to lower one charge and raise another to encourage certain behaviours e.g. separating organic waste.
5. Foster Community Welfare	
Support and encourage the region to prosper socially and culturally. Our assets are not just our built assets but our people, the community, their skills and the connections between them.	Although the economic aspect of managing solid waste is an important consideration, legislation is tending more and more to addressing the social, environmental and community issues around this activity. The Council responds to the community's desire to live in a clean green environment by providing leadership in non-negotiable aspects of the service, while allowing significant individual choice in how any household or community may satisfy its own particular needs. An educated community assists in the achievement of waste minimisation goals. Future plans for the Solid Waste Activity include incorporating more social and cultural opportunities at the RRP.
6. Conserve biological and ecological integrity	

Principle	Assessment
Protecting all life forms, their genetic diversity and the ecosystem of which they form part, recognising the various services that ecosystem provides to humans as well as intrinsic values.	By providing a well-managed service at a reasonable cost, the Council helps to protect the environment and its ecosystems from damage associated with illegal dumping. Regular monitoring of groundwater at old landfill sites helps to ensure that any adverse effects on groundwater are able to be addressed. An opportunity to consider converting old landfill sites into native planting regeneration areas is being investigated.
7. Not compromising the sustainability of neighbouring communities	
Recognising that we are part of a global ecosystem whether we can physically see the impacts of our actions or not.	Though the use of Kate Valley for disposal is an 'out of district' solution, it is a responsible approach for several Councils to use one highly engineered, and well managed disposal site. Stringent resource consent conditions help protect the environment. Kate Valley installs landfill gas extraction technology and generates power the gas. Leachate is collected and recirculated through the landfill. The Council works with community organisations, education providers and schools in raising environmental awareness of the problems waste generation causes. Council also works closely and shares ideas, problems, solutions and experiences with other Canterbury Councils (and across NZ).

This assessment gives some assurance that the Council's response to the management of solid waste is making progress towards a more sustainable approach. This document shows the improvements in waste diversion over recent years, and also tables options to further minimise waste in the district. The community currently achieves the diversion of 40% of all waste* generated in the District, with the diversion of kerbside collected materials as high as 48%. Greater success will require a step change, focussing on the upper tiers of the waste hierarchy, including a focus on waste avoidance (reduce), reuse, recovery, and on-going education. The Council will continue to measure and monitor its operations so that decisions are made on robust and relevant information and in full knowledge of the implications of various choices of action.

*Waste handled by or received through Council services and facilities.

6: Assumption and Risk

6 Assumptions and Risk

This section looks at the Risk Management Processes utilised by SDC for assessing and managing risk within the Solid Waste activity. Risk is used as a strategic decision-making tool assisting with developing and prioritising strategies and work programmes.

6.1 Significant Assumptions

Assumptions and Uncertainties (referred to as "Assumptions" henceforward) required to assist in the development of an appropriate standard AMP have been developed. This has included an assessment of the assumptions already made in recent Council documents– particularly the:

a. *2015-2025 Long Term Plan*
b. *2015 Suite of Activity Management Plans*

Assumptions are provided on the basis that they are representative of the best available information, and are clarified through the level of uncertainty of the matter. Assumptions provide a mechanism for Activity Planning to proceed.
This assessment is provided in Tables 1 and 2.

Table 1 indicates the assumptions that apply to all activities and are at a sufficiently high level to be published in the LTP.
Table 2 lists the assumptions that apply specifically to one or more activities and, while necessary for planning purposes, are deemed to be at a lower level that need not be disclosed in the LTP.

A division of assumptions has been made into the following categories:

- *Financial*
- *Growth*
- *Lifecycle*
- *Levels of Service (LoS), and*
- *Sustainability*

The expectation is that the tabled assumptions will form a clear and transparent disclosure that enables activity planning and prudent decision making to proceed where some uncertainty exists.

Assumptions have been considered firstly at a corporate and then at an activity level.

Table 6-1: Significant Corporate Level Assumptions and Uncertainties for the Selwyn Long Term Plan (2018-2028)

Activity	Assumption Area	Source Of Information	Stated Assumption	Level of Uncertainty	Risk	Potential Impact/Consequence if Assumption Wrong
Asset Management Area: Financial						
All	Asset lives and depreciation	NAMS	It is assumed asset lives will be as set out in the statement of accounting policies.	Moderate	There is a risk that assets will wear out more quickly than forecast and require replacement earlier than planned.	If assets require replacement more quickly than forecast, renewal or capital expenditure projects may need to be brought forward. The Council will consider the funding implications of any early replacements as they occur. Early replacement will result in a write off of the book value of the asset, increasing expenditure in the year it occurs.
All	Asset values	BERL	The Council revalue its assets so that carrying values are maintained at fair value based on condition. It is assumed that revaluations will take place a minimum of every three years and that replacement value of the assets will reflect construction costs.	Moderate	There is a risk that price level changes will be greater or lower than those assumed and that revaluation movements will be higher or lower than forecast.	If price levels increase by more than forecast, the value of the Council's assets and the associated depreciation charge will increase. If price levels increase by less than that forecast, the value of the Council's assets and associated depreciation will increase less quickly. The impact of any such changes on rates will depend on whether the depreciation charge is funded by rates.
All	Borrowing costs	The Council in conjunction with its financial advisors	Interest on term debt is assumed to be 4.0-6.0%.	Moderate	There is a risk that interest rates will differ from those assumed and that borrowing costs will be higher than those assumed.	If borrowing costs are greater than those assumed, the Council may need to increase development contribution charges, rates or reduce expenditure. Conversely, lower borrowing costs may mean rates are lower than they would otherwise have been.
All	Funding of capital expenditure	The Council	The Council funds capital expenditure from a number of sources:	All	Funding of capital expenditure	The Council
All	Funding of capital expenditure	The Council	Assumptions have been made on how each capital project included in the Long Term Plan will be funded. The Council's policy in relation to the funding of capital expenditure is set out in the Revenue and Financing Policy.	Moderate	There is a risk that sufficient funds will not be available to pay for the planned capital projects. For example, because growth does not provide sufficient funding from development contributions or the community considers that required rate rises are not affordable. There is also a risk that depreciation funds will be utilised affecting funding for renewals	The Council will assess the availability of funds as part of the annual budget process and if funds are not available, it may revise the capital programme that is set out in the Selwyn Long Term Plan.
All	Funding of capital expenditure	Development Contributions	Development Contributions will remain available to fund network infrastructure.	Moderate	There is a risk that policy implementation and methodology restrictions will affect the ability to collect Development Contributions or the method by which contributions are calculated.	If Development Contributions are less than assumed, the Council may need to increase its rates to cover any shortfall or delay upgrade works.

Activity	Assumption Area	Source Of Information	Stated Assumption	Level of Uncertainty	Risk	Potential Impact/Consequence if Assumption Wrong
All	Inflation	SOLGM/BERL forecasts	The level of prices is assumed to increase over the period of the Long Term Plan for each activity area as forecast by BERL.	All	Inflation	SOLGM/BERL forecasts
All	Insurance		That an appropriate level of insurance will be secured by Council.	All	Insurance	
All	Investment in Orion NZ Ltd and Sicon Limited	Sicon Limited, Orion NZ Limited, the Council	The Council revalue its investment in Orion NZ Limited, and Sicon Limited so that the carrying value is maintained at fair value. It is assumed that the value of the investment will be maintained at its relative dollar value, with the investment increasing in line with general price levels.	Moderate	There is a risk that the value of the investment may increase or decrease.	A change in the value of the investment in Orion NZ Limited, and Sicon Limited will change the Council's equity but will not have a direct impact on revenue or expenditure.
All	Investments	The Council	Earnings from cash balances will be treated as revenue	Low	There is a risk that the Council will revise this policy and allocate these funds differently.	Should the Council allocate or retain these funds differently, there will be inadequate funds for roading improvements, or the revenue available to support the general rate requirement will reduce and the Council may need to increase rates or reduce expenditure.
All	Izone Southern Business Hub surplus	Izone	It is assumed that the Izone Development will generate a cash surplus of $42 million. Allocation of funds to capital projects will be determined through the LTP process	Low	There is a risk that the surplus will be higher or lower than forecast	If the surplus is lower, then Council will have less investments to fund future activities. If no surplus is realised then Council may need to increase rates or reduce expenditure.

Activity	Assumption Area	Source Of Information	Stated Assumption	Level of Uncertainty	Risk	Potential Impact/Consequence if Assumption Wrong
Transportation	NZTA revenue	The Council	It is assumed that the level of financial assistance received from NZTA for maintenance will remain at 51% for the 2018-28 period. Works associated with nationally and regionally significant projects will receive sufficient NZTA funding (e.g. Christchurch Southern Motorway Stage 2). Funding Assistance for large Capital transport works would be achieved on a case by case basis through a Business Case approach with NZTA. NLTP Funding will be awarded for 3 year periods and that the following 7 years will be funded in a similar manner.	Moderate	There is a risk that sufficient funds will not be available to pay for the planned capital projects. For example, because growth does not provide sufficient funding from development contributions or the community considers that required rate rises are not affordable	The Council will assess the availability of funds as part of the annual budget process and if funds are not available, it may revise the capital programme that is set out in the Long Term Plan.
All	Resource consents	The Council	Extra-ordinary consents required to implement the LURP and Housing Accord will be approved within normal budgets and processes.	Low	There is a risk that the consent conditions will change or that consent will not be obtained for the Council projects.	If consent conditions change, expenditure may increase to comply with the conditions and this may have an impact on rate levels. If consents cannot be obtained for planned projects, the project may be delayed or may not go ahead.
All	Return on investments	The Council in conjunction with its financial advisors	It is assumed that the Council's investments will generate an average return of 3.0 – 5.0%.	Moderate	There is a risk that returns on investments will be higher or lower than forecast because actual investment balances and interest rates may vary from those used in the forecast.	If investments returns are lower than those assumed, the Council may need to increase its rates or reduce expenditure. Conversely, higher investment returns mean rates may be lower than they would otherwise have been.
All	Selwyn 2031 (District Wide Strategy)	The Council	No significant changes in the management of infrastructure assets, reserves and community facilities are expected in the short term. Actions required in the 2018-21 period can be accommodated within current forecasts.	Low	There is a risk that the visions and initiatives identified through the District wide strategy process cannot be accommodated through current planning, funding and delivery mechanisms.	Changes in service (demand, performance, condition, resourcing) may be required as a result of decisions resulting from the Strategy. Changes to Activity Planning including funding may be required.

Activity	Assumption Area	Source Of Information	Stated Assumption	Level of Uncertainty	Risk	Potential Impact/Consequence if Assumption Wrong
All	Timing and level of capital expenditure	The Council	The Long Term Plan assumes that the timing and cost of capital projects and associated operating costs are as determined through the Council's activity management planning process.	High	There is a risk that capital projects may not occur as planned. This may have an impact on the costs of the project. There is also the risk that actual project costs will vary from those forecasts. Transport projects seeking subsidy will need to be developed through a Business Case approach to NZTA which may change originally anticipated outcomes	If projects do not occur as planned, capital expenditure in any year may differ from that forecast and delay may also change the cost of individual projects. The Council will consider the impact of any change as part of the annual budget process and consider the funding implications of any cost changes.
All	Unidentified liabilities	The Council	It assumed that the Council does not have any unidentified liabilities.	Low	There is a risk of an unexpected liability coming to light, for example, a claim against the Council.	If an unidentified liability arises it may increase the Council's expenditure. This risk is mitigated by the Council's Risk Management and Insurance Policies.
Asset Management Area: Growth						
All	Greater Christchurch Urban Development Strategy (UDS)	The Council	The adopted strategy and action plan contained a preferred long-term urban development pattern for the greater Christchurch area. The UDS will continue to promote collaborative planning and project implementation (such as the Greater Christchurch Transportation Statement) across the partner agencies.	Moderate	There is a risk that coordinated effort will cease or become fragmented as priorities vary. There is a potential for competition for growth investment. Mandated amalgamation remains a concern.	Planning and funding initiatives are thwarted
All	Land Use Recovery Plan (LURP)	The Council	The LURP replaces the development staging detailed in the UDS, Regional Policy Statement PC1 and Selwyn District Plan policies and Land Use Zoning. It is assumed Council will be able to provide sufficient controls on development, and establish any essential strategic infrastructure (as agreed) to facilitate the implementation of the LURP and in accordance with related Outline Development Plans.	High	There is a risk that development will be disconnected and/or at a rate faster or slower than expected. Achieving coordinated development in "brownfield" areas can be problematic dealing with multiple land owners with varying degrees of expectations.	If development takes unexpected patterns, or becomes disjointed, the Council will need to review and revise its capital works programmes. It will also need to revise operations and maintenance budgets and renewals programmes to suit unpredicted demand and disconnected development.
All	Greater Christchurch Urban Development Strategy (UDS)	The Council	The adopted strategy and action plan contained a preferred long-term urban development pattern for the greater Christchurch area. The UDS will continue to promote collaborative planning and project implementation (such as the Greater Christchurch Transportation Statement) across the partner agencies.	Moderate	There is a risk that coordinated effort will cease or become fragmented as priorities vary. There is a potential for competition for growth investment. Mandated amalgamation remains a concern.	Planning and funding initiatives are thwarted

Activity	Assumption Area	Source Of Information	Stated Assumption	Level of Uncertainty	Risk	Potential Impact/Consequence if Assumption Wrong
All	Land Use Recovery Plan (LURP)	The Council	It is assumed Council will be able to provide sufficient controls on development, and establish any critical essential strategic infrastructure (as agreed) to facilitate the implementation of the LURP and in accordance with related Outline Development Plans.	High	There is a risk that development will be disconnected and/or at a rate faster or slower than expected. Achieving coordinated development in "brownfield" areas can be problematic dealing with multiple land owners with varying degrees of expectations	If development takes unexpected patterns, or becomes disjointed, the Council will need to review and revise its capital works programmes. It will also need to revise operations and maintenance budgets and renewals programmes to suit unpredicted demand and disconnected development.
All	Lincoln Hub	The Council	The Lincoln Hub proposal will not require significant investment in infrastructure from Council.	Moderate	There is a risk that there are expectations that Council will fund infrastructure for this proposal. This includes the Lincoln Roading Bypass	If Council is required to provide infrastructure it will need to review and revise its capital works programmes. It will also need to revise operations and maintenance budgets and renewals programmes to suit unpredicted demand and disconnected development.
All	National Policy Statement - Urban Development Capacity	The Council	That Council can respond to and undertake the planning and coordination required by the NPS-UDC	Moderate	That planning and coordination in not adequate as required by the NPS-UDC	Planning and coordination is inadequate and insufficient for the growth experienced.
All	Population Change	The Council and Statistics New Zealand	The Selwyn District population will continue to grow at a high rate, similar to that experienced over the past ten years. Growth will be focused in Rolleston and the Eastern Selwyn area, with moderate rates elsewhere. Some more remote communities will only experience limited growth. Total population will grow to nearly 77,000 in 2028 and 105,000 in 2048. The numbers of persons per house will vary between townships, with a decrease over time.	Moderate	There is a risk that the level of population growth will be higher or lower than the projections and that the timing of population growth will differ from that in the model.	The Council has based its plans for the management and expansion of its infrastructure on the population projections. Should growth occur at different rates, it can respond by accelerating, delaying or revising planned capital works. The level of revenue from development contributions will vary from that forecast if actual growth differs from the projections, but any variation will tend to mirror the need for capital expenditure, thereby mitigating the risk to the Council of any shortfall. If growth occurs at a different rate from the projections, the forecasts for the cost of service provision will differ from the actual. Any impact on the Council's financial performance will be mitigated because the change in forecast revenue from rates and fees and charges will tend to mirror the change in the cost of service provision.

Activity	Assumption Area	Source Of Information	Stated Assumption	Level of Uncertainty	Risk	Potential Impact/Consequence if Assumption Wrong
Transportation	Traffic Growth -General -Heavy -Passenger Transport	The Council	There will be a growth in traffic on state highways and local networks within Selwyn district. While this will vary across the district, but generally be consistent with projected population growth rates. Heavy traffic growth will be higher than general growth with concentrations around industry and transport hubs Passenger transport growth will progressively increase	High	There is a risk that traffic numbers and composition will increase at a rate beyond that expected.	If Council is required to fund and undertake works that are not expected; this will put budgets under pressure, or the extent of works that can be undertaken will be restricted by budget available.
Asset Management Area: Lifecycle						
All	Central Plains Irrigation Scheme	The Council	Following on from the successful completion of Stage 1 of the Central Plains Water Ltd Scheme supplying surface water to 23,000 Ha in the Te Pirata Area; Infrastructure is being constructed to irrigate 20,000 Ha in the Darfield area (Stage 2), and 4300 Ha in the Sheffield/Springfield area. Water races with be closed at the rate predicted by Council.	Low	There is a risk that the demand for the water race network will become fragmented as farmers receive water from CPW and other sources.	If races are closed at a faster or slower rate than predicted, rates will need to be adjusted on an annual basis to suit
All	Central Plains Irrigation Scheme	The Council	The impact on Council's activities, particularly water races and the requirement for new bridges/culverts will be included in AcMPs.	Low	The CPW construction requires unbudgeted works by Council	Unexpected costs
All	Earthquake Prone Building Legislation	The Council	That any changes to the Building Act regarding earthquake prone buildings will be able to be addressed within normal resources.	Moderate	There is a risk that the legislative requirements will be more onerous than expected.	Council will require additional resources to undertake inspections; or will be required to upgrade buildings where upgrades were not forecast
All	Earthquake Prone Building Legislation	The Council	Council's administration buildings will not require major capital works.	Low	There is a risk that Council's administration buildings will not meet future standards required.	
All	Earthquake Prone Building Legislation	The Council	Council will not assume control of buildings that require upgrade.	Low	There is a risk that Council will assume control of buildings requiring upgrading through gifting or abandonment.	

Activity	Assumption Area	Source Of Information	Stated Assumption	Level of Uncertainty	Risk	Potential Impact/Consequence if Assumption Wrong
Transportation	Long Term Strategies	The Council	That there will be no significant change to the intent of the policies and strategies in place, but the funding available and implementation timetables may change National - includes: Government Policy Statement on Land Transport Funding RoNS programme; Regional - includes: Regional Land Transport Plan, Greater Christchurch Transport Statement; SDC strategies include: Walking and Cycling and Road Safety Strategy	Moderate	There is a risk that national, regional and local priorities change or differ from the priorities identified by Council.	Council programmes that do not integrate with NZTA priorities (national and regionally) are unlikely to attract funding, and provide an overall solution to the district and region.
All	No major adverse events	The Council	It assumed that there will be no major adverse events during the period covered by the Long Term Plan, for example, earthquake, pandemic or flood. While events may occur at any time, Council's planning will focus on operational resilience and Emergency Management.	High	There is a risk that a major adverse event will occur and result in damage to assets and additional costs to the Council.	Any major adverse event will have a significant impact on the Council and the community. The Council seeks to mitigate this risk through its Civil Defence, Risk Management and Insurance Policies.
Asset Management Area: Levels of Service						
Community Facilities	Committees	The Council	The structure and role of Council's committees may alter.	High	Due to the aging population and make up of communities there are insufficient committee members and volunteers available. There is a risk that Council's structure will be altered, along with the role of those committees.	Alternative structures may result in changes to decision making processes and delivery of services by Council.
All	Community Expectations	The Council	The expectations of the Selwyn Community for the provision of services provided by Council will remain similar.	Moderate	There is a risk that there is a change in expectation for services and that the targeted level of service becomes inappropriate.	If there is an increase or reduction in the expectation of service/level of service provision, the cost and delivery model may need to be revised.
All	Community Outcomes	The Council	The Community Outcomes which link to Levels of Service will not change, apart from minor clarification. Funding to deliver the LoS will therefore occur in accordance with the communities stated priorities.	Low	Planning and service delivery is poorly aligned with community expectations	Increase in customer dissatisfaction. Reporting targets and LOS will require revision.

Activity	Assumption Area	Source Of Information	Stated Assumption	Level of Uncertainty	Risk	Potential Impact/Consequence if Assumption Wrong
All	Legislation	The Council	The Selwyn Long Term Plan assumes that existing Legislation will remain in place and that the structure and responsibilities of the Council will remain the same over the period covered by the Selwyn Long Term Plan.	Low	There is a risk that legislative change will bring about changes to the responsibilities of the Council.	If legislative responsibilities change, it may increase or reduce the Council's expenditure and income and associated rate levels. e.g. • Significant changes to funding levels and the AcMP forecasts • Significant changes to contracts, staff arrangements and funding arrangements • Significant changes to external subsidy funding sources.
Asset Management Area: Sustainability						
All	Climate Change	Ministry for the Environment The Council	It is assumed that climate change is happening but that there will be no significant impact on the Council's activities within the period covered by the Selwyn Long Term Plan. Council will take into account the predicted impacts of climate change as it plans, builds and renews its infrastructure. The expansion/renewal of infrastructure at Selwyn Huts will consider both climate change projections and community views in decision-making. This will be informed by studies including "Impact of Climate Cycles and Trends on Selwyn District Water Assets" (Aqualinc , 2016)	Moderate	There is a risk that climate change will happen more quickly than expected or that the impact will be different to those predicted. Council's business units may not recognise climate change adequately in the delivery of their services.	If climate change happens more quickly or impacts services differently, the Council may need to carry out work on its infrastructure assets. Decisions made now without considerations may have intergeneration effects on land use decisions, environmental policy and infrastructure decisions e.g. relying on unsuitable assets and resources in highly vulnerable parts of the district.
All	Emissions Trading Scheme	The Council	It is assumed that any costs or actions required in regard to the Emissions Trading Scheme are adequately incorporated into the relevant AcMPs, Sustainability Strategies and the Selwyn Long Term Plan. Funding received from the waste levy is assumed to remain at similar levels ($10/T and $0.65/T MoE)	Low	There is a risk that costs or actions have not adequately addressed.	Any increase or decrease in costs or actions will need to be resourced differently to the approach planned.
All	Maori role in decision-making and iwi expectations	The Council Mahaanui Iwi Management Plan	Council will foster relationship with Maori and iwi as community members and as detailed through legislation and other agreements.	Low	There is a risk that objectives differ and there are insufficient consultation and communication mechanisms in place.	Initiates, consents and projects are delayed or poorly implemented

Table 6-2: Significant Corporate Level Assumptions and Uncertainties for the Activity Management Plans 2018-2048

Asset Management Area	Assumption area	Source Of Information	Stated Assumption	Level of Uncertainty	Risk	Potential Impact/Consequence if Assumption Wrong
All Activities						
Financial	**Fees and charges**		Operational revenue is based on current service charges and, in the future, it is assumed charges for services will vary little from present day apart from inflation adjustments.	Low	Fees will be insufficient to meet expenses	Council may review its existing fee structures and charging policy which would affect revenue streams. Adjustments can be made via the Annual Plan process.
Financial	**Investments**	The Council	The funds may be invested externally or internally at the Council's cost of capital.	Low	There is a risk that the Council will revise this policy and allocate these funds differently.	Should the Council allocate or retain these funds differently, there will inadequate funds for roading improvements, or the income available to support the general rate requirement will reduce and the Council may need to increase rates or reduce expenditure.
Financial	**Renewal Funding & Programme**		5Waters: A minimum 30 year renewal plan is followed, with funding via targeted scheme funding, general rates, and external sources as relevant to the asset. No depreciation funding occurring for any assets on the basis that actual identified renewal needs form the basis of ongoing funding needs.	Low	That renewal planning in inappropriate and there are funding consequences	Condition assessments and deterioration modelling of assets establish renewal needs and programmes. Current users may consume the assets but not contribute their share of the use they have made. Costs would then be carried by future users without the benefit having been received.
Financial	**Renewal Funding & Programme**		Transportation: A minimum 10 year renewal plan with indicative renewal out to 30 years is followed, with funding via general rates, and external sources as relevant to the asset. It is noted that NZTA financial assistance is only allocated in three-year blocks. No depreciation funding identified for any assets on the basis that actual identified renewal needs form the basis of ongoing funding needs.	Low	That renewal planning in inappropriate and there are funding consequences	Condition assessments and deterioration modelling of assets establish renewal needs and programmes. Current users may consume the assets but not contribute their share of the use they have made. Costs would then be carried by future users without the benefit having been received.
Financial	**Renewal Funding & Programme**		Property: The renewals programme has been developed from condition assessments to component level for most asset groups. Remaining useful life has been calculated using standard industry lives and input will be sought from management committees where appropriate to refine programmes. It is assumed that this will provide a realistic renewals programme that ensures assets continue to deliver services to required standards.	Low	That renewal planning in inappropriate and there are funding consequences	Condition assessments and deterioration modelling of assets establish renewal needs and programmes. Current users may consume the assets but not contribute their share of the use they have made. Costs would then be carried by future users without the benefit having been received.

Asset Management Area	Assumption area	Source Of Information	Stated Assumption	Level of Uncertainty	Risk	Potential Impact/Consequence if Assumption Wrong
Financial	**Resource consents**	The Council	It is assumed that the conditions of Resource Consents held by the Council (requirements and costs) will remain similar to current levels, and that the Council will obtain the necessary Resource Consents for planned projects and ongoing needs in the future.	Moderate	There is a risk that the consent conditions will change or that consent will not be obtained for the Council projects.	If consent conditions change, expenditure may increase to comply with the conditions and this may have an impact on rate levels. If consents cannot be obtained for planned projects, the project may be delayed or may not go ahead.
Growth	**Tourism**		That tourism numbers will increase at a similar rate to population growth and that facilities will be adequate	Moderate	That unexpected tourism growth will put pressure on facilities that was not anticipated	Facilities will be overused and/or pollution occurs
Lifecycle	**Central Plains Irrigation Scheme**	The Council	Following on from the successful completion of Stage 1 of the Central Plains Water Ltd Scheme supplying surface water to 23,000 Ha in the Te Pirata Area; Infrastructure is being constructed to irrigate 20,000 Ha in the Darfield area (Stage 2), and 4300 Ha in the Sheffield/Springfield area.	Moderate	There is a risk that the scheme proceeds more quickly or slowly than assumed	If the impacts of the establishment of the scheme are not understood then planning for ongoing use (or ease of use) will be incorrect.
Lifecycle	**Data Quality and Management**		Investment in maintaining and developing the required level of quality data to efficiently operate and predict issues.	Low	Insufficient information leads to poor decisions	Incorrect data or inefficient or use of available data may result in relatively poor decisions on investments in operational, maintenance, renewal and capital, projects both in the short and long term.
Lifecycle	**Major Project & Capital Works**		Will be estimated on the basis this work is facilitated by external consultants. Construction Projects costs estimated using the following: a. Estimate +/- 25% b. Where designed +/-10% c. Post tender +/-5%	Moderate	Project scoping and estimates are insufficient for budgeting purposes, or are excessive for potential projects	Conservative funding approach, staff may have capacity to undertake some work. Particular skill sets in high demand may attract higher costs.
Lifecycle	**New Technologies**		There will be no new technologies deployed that will significantly change the demand for or of provision of services.	Low	Service delivery is poorly aligned with community demand	Inefficient of ineffective provision of services in the traditional manner when other alternatives maybe available.
Lifecycle	**Planning Horizons**		It is assumed that the planning horizon for growth (30-45 years) and asset lifecycles (30 years plus) are sufficient to inform the ten year forecasts included in the LTP.	Low	Nil	Planning is less robust for long term decision making.

Asset Management Area	Assumption area	Source Of Information	Stated Assumption	Level of Uncertainty	Risk	Potential Impact/Consequence if Assumption Wrong
LoS	**Iwi relationship**		Council will foster and positively develop its relationship with Iwi.	Low	An ineffective relation causes misunderstandings and delays in planning and consent applications	A poor relationship may result in delays and additional costs in completing District Plan variations, Water Conservation Order matters and Structure Planning as delays and resources concentrated or within drawn at critical points in Councils work programmes.
LoS	**Procurement of Services**		Procurement will be provided that delivers the defined LoS within budget, at a similar cost to that presently incurred in accordance with the Asset Procurement Strategy.	Moderate	Service providers cannot be secured and/or costs are greater than expected	A change in procurement model may result in unacceptable reduction in LoS.
LoS	**Service delivery modes & contracts**		It is assumed that there will be no significant changes to current modes of service delivery for each service area or variations in terms of contract prices (above inflation and inventory adjustments) for current operations and maintenance contracts. Council will continue to consider collaboration opportunities and assess changes to service delivery on a case by case basis.	Moderate	That service delivery modes do not demonstrated value for money outcome. That changes to service delivery modes are enforced.	Maintenance contracts may be re-tendered during the plan period. If maintenance and service contracts are consolidated and/or re-tendered there is a possibility contract prices will be higher than anticipated. This would require Council to either increase rates and/or operating revenue if efficiencies cannot be found or it may consider reducing levels of service.
LoS	**Service Delivery**		That reviews of service delivery modes (LGA 2002 s17) will not initiate significant changes to service delivery modes	Moderate	That service delivery modes do not demonstrated value for money outcome. That changes to service delivery modes are enforced.	That there is a drive for a change in service delivery modes affecting management and providers
Sustainability	**Gravel extraction potential**		It is assumed that sufficient gravel will be available for projects proposed. It is acknowledged that Council's Gravel Management Strategy proposes a wider range of sources than Council managed sites in future, this may be associated with a different cost structure.	Moderate	That there will inadequate supply from commercial or Council sources	If volumes of gravel available from various sources are considerably lower than anticipated, this may necessitate a greater reliance on Council or purchase of alternative sites or consideration of other supply sources/options. Consequently the cost of gravel supply would increase.

Table 6-3: Assumptions / Uncertainties for the Solid Waste Activity

AM Area	Assumption area	Source Of Information	Stated Assumption	Level of Uncertainty	Risk	Potential Consequences and Measures to Mitigate
Solid Waste Activity						
Collection Services	**Kerbside Collection Contractor operating costs**	Council, Contractor	Pines RRP Contractor operating costs will not increase at a rate greater than CPI or agreed cost indices.	Low	Expenditure is greater than budgeted	Contract costs are fixed through to contract completion in 2024. The expectation is that when tendering in 2024, costs will remain reasonably consistent with rates budgeted at that time.
	Number of kerbside wheelie bins in service (and resulting income and expenditure)	Council	Growth in the number of bins in service is aligned with household number projections	Low	Numbers will be higher or lower than projected. Income and expenditure will vary against budget as a result.	Budget variance. Income rises or falls as expenditure rises or falls, so impact will be 'self-correcting'.
	Income from kerbside recycling material sales	Industry, International markets	Recent Chinese importation restrictions will reduce income generated from the sale of kerbside recyclable materials.	High	Income line will reduce. Worst case is that it may become an expenditure line.	Council may receive more revenue than budgeted if assumption is wrong Council may have to pay for the processing of recyclable material rather than be paid for it. Adjustments (through the Annual Plan process) to household recycling charges may be required to recover this cost.
	Wheelie bin purchase at end of contract	Council	That Council will choose to negotiate and purchase wheelie bins from existing contractor at the contract end in 2024.	Medium	Over budgeted if Council chooses not to purchase wheelie bins. Reduced competition during next contract tender due to unfair advantage with incumbent contractor	Reduced competition during next contract tender due to unfair advantage with incumbent contractor – potentially resulting in a higher Contract price.
	RFID tag project	Council, Contractor	That Council will support an RFID bin tag project in 2019	Low	Budgeted expenditure no longer required if RFID tagging is not supported.	Less than budgeted expenditure Continued database accuracy issues, and over/under charging situations. Reduced future charge options flexibility Reduced LOS Increased cost to Council to regularly audit and manage database to ensure accuracy for billing.
Disposal and Diversion Infrastructure	**National landfill levy**	Industry, Central Government	Landfill levy will increase from $10 per tonne to $15 per tonne in 2020/21 (next review), and from $15 per tonne to $20 per tonne in 2024/25	High	Expenditure is less than budgeted	Council may review and reduce projected Pines RRP landfill disposal fees and also projected kerbside residual waste bin charges.
	Pines RRP Contractor operating costs	Council	Pines RRP Contractor operating costs will not increase at a rate greater than CPI or agreed cost indices.	Low	Expenditure is greater than budgeted	A contingency has been allowed for. Should the costs be greater than this contingency, Council may have to review fee structure at Pines RRP in the Annual Plan process.

AM Area	Assumption area	Source Of Information	Stated Assumption	Level of Uncertainty	Risk	Potential Consequences and Measures to Mitigate
Disposal and Diversion Infrastructure	**Residual waste and Organic Tonnages (and resulting income and expenditure)**	Council	Residual waste and organic tonnages will rise in accordance with projections made.	Low	Higher than expected tonnes, resulting in increased processing or disposal costs	Minimal impact. Council charges for bins in service. This means that as bins and tonnes grow, so does income. Pines RRP organics and residual waste fees are on a user pays basis. So as tonnes increase, so does income, and our ability to pay for increased operational costs.
	Organics processing cost, and capital expenditure	Council	Organics processing cost and capital expenditure will be as budgeted	High	Processing cost will be greater or lower than forecast – budget effect. Capital cost may not be required if 3rd party trials are successful	Confident that final option chosen will likely be less than budgeted processing cost. Low risk that processing costs may be higher than budgeted. Reduced Capital expenditure compared to budget.
	Reconnect projects at Pines RRP	Council	That all Pines RRP Reconnect projects will proceed	High	Feasibility studies may show that not all components of the Reconnect concept may be viable. Council may not support all stages of the Reconnect project.	Less than budgeted capital expenditure Overall less successful “Hub” concept when parts of the concept are removed. Resultant budget effect – reduced operational income and expenditure, as well as capital expenditure
	Commercial tonnages	Council	Private Commercial waste collectors will continue to take waste to Pines RRP at the same level and these tonnes will grow as projected	Medium	Lower than expected tonnes, resulting in lower than expected income	Lower income, potentially resulting in higher per tonne operating costs. If necessary the per tonne charges at Pines RRP can be altered to address this via Annual Plan process.
	Kate Valley Disposal fees	Industry, Council	Kate Valley Disposal fees will not rise greater than CPI	Low	Higher than budgeted disposal costs	Higher than projected expenditure Requirement to review bin charges and Pines RRP disposal charges

Table 6-4: Inflation Forecasts as Produced by BERL for Local Government Use (September 2017)

	Roading	Property	Water	Staff	LGCI	CPI
2018/19	2.0%	2.2%	2.3%	3.6%	2.0%	1.8%
2019/20	2.2%	2.8%	2.5%	2.4%	2.2%	1.6%
2020/21	2.2%	2.8%	2.3%	2.3%	2.2%	1.6%
2021/22	2.3%	2.8%	2.4%	2.2%	2.2%	1.7%
2022/23	2.4%	2.8%	2.4%	2.0%	2.3%	1.7%
2023/24	2.4%	2.8%	2.5%	1.9%	2.3%	1.8%
2024/25	2.5%	2.8%	2.6%	1.8%	2.4%	1.8%
2025/26	2.6%	2.8%	2.6%	1.7%	2.5%	1.9%
2026/27	2.7%	2.8%	2.7%	1.5%	2.6%	1.9%
2027/28	2.8%	2.8%	2.8%	1.4%	2.7%	2.0%

For the purposes of the Infrastructure Strategy the following inflation estimates from 2028:

Roading	Property	Water	Staff	LGCI	CPI
2.8%	2.8%	2.8%	1.4%	2.7%	2.0%

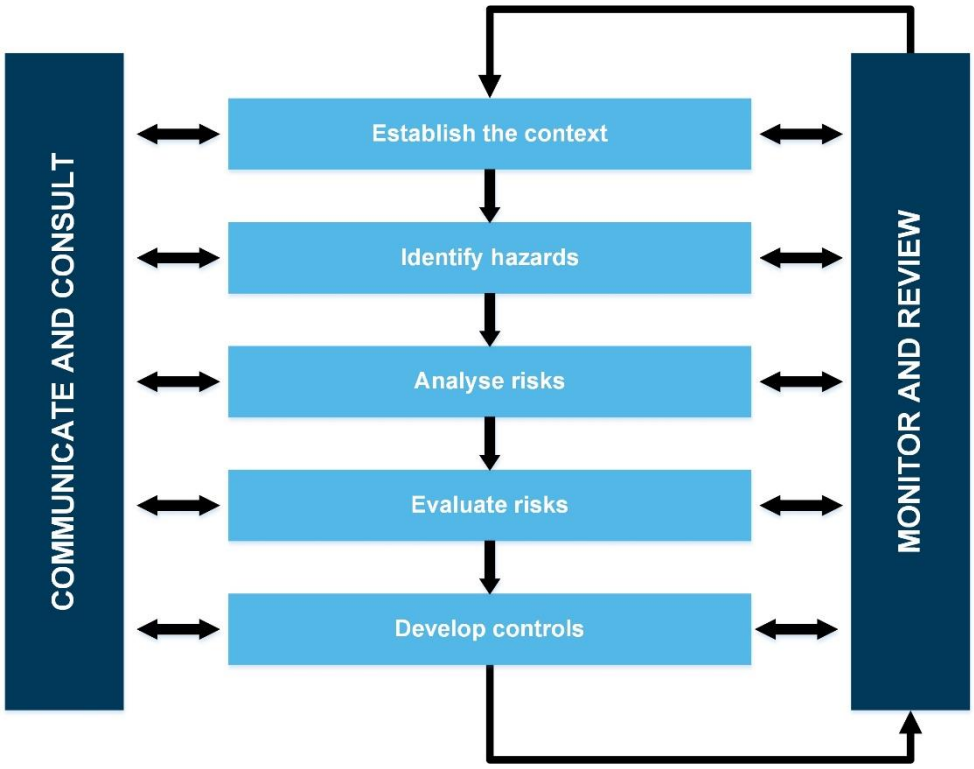
6.2 Risk Management

The Selwyn District Council risk management process has been developed in accordance with ISO 31000:2009 Risk Management – Principles and Guidelines.

As part of the Council's risk management approach to operating safely, it is essential that all significant hazards (those that have the potential to cause serious harm) are identified and attention is given to ensuring the risk control measures adopted are effective and appropriate.

Significant hazards are managed and reviewed on a regular basis to ensure that they are managed to a level that is acceptable.

Figure 6-1: Risk Management Process (Modified from ISO 31000:2009 Risk Management – Principles and Guidelines)



6.2.1 Communicate and Consult

Potential risk events are considered based on information derived from consultation with contractors and Council staff. Risk tables have been populated based on discussions with Council's Asset Managers and Service Delivery personnel. The risk assessment process then identifies the tasks required to manage, monitor and minimise risk.

6.2.2 Establish the Context

The Risk Context for Council is established by a Corporate Risk Policy, which defines the relative importance of all the various types of risk foreseen and the level of response required to each.

Risk Policy
A corporate Risk Management Policy aligned with ISO 31000 was reviewed by Council in November 2017 with the following objectives:

- Achieving Council's goals, programs and targets with commercially and politically acceptable level of risk;
- Ensuring all staff understand and fully accept their risk identification and control responsibilities;
- Ensuring all staff implement appropriate risk management processes naturally as part of their daily work;
- Establishing a best practice model for corporate governance and risk management for local government in New Zealand.

Table 6-5: Risk Management Responsibilities

Category	Description	Unit Responsibility
Asset / Infrastructure	Managing assets – including condition assessment, replacement and planning new assets	Assets & Capital Works
Financial / Audit	Risks associated with budgetary requirements and allocation grants or operational budgets not being met	Finance
Customer Relations / Service Delivery	Meeting the current and changing expectations of customers	Customer Service
Environment	The risks arising from management of the environment when applying Council services and functions	Environmental Services & Assets
People & Capability	Risks associated with recruitments and retention of employees and workforce planning. Includes payroll and HR issues	HR
Compliance / Legal	Compliance with legislative and policy framework	All Council units
Political / Reputation	Risks associated with the delivery of Local Government legislation and meeting Council's overall strategic goals	CEO / Council
Safety & Welfare	Risks associated with the safety and welfare of employees and contractors of the Council	Health & Safety at Work

Types of Risk
There are a number of key risk areas that are important and relevant to the Solid Waste Activity.

Table 6-6: Types of Risk

Risk Area	Description
Asset	Asset risk is fundamentally associated with the performance of assets, both from a delivery of services perspective and from a cost management perspective. The longer an asset has been operating, the more historical performance data is available for analysis to ensure budgets are set realistically. However, it is also important to note that the longer the asset has been operating, the older the asset will be and the more prone the asset will be to performance issues and the need for additional (or unbudgeted) expenditure on maintenance or replacement.
Demand Forecasting	Forecasting future demand for household refuse collection services primarily relies on NZ Statistics population projections for the District. Forecasting demand for Resource Recovery and Disposal related services relies on a mixture of household and commercial growth projections, with reflection upon data trends in recent years. Forecasting for both collections and recovery or disposal is always at risk of disruption due to factors such as natural disasters, changes in technology, changes in international markets and changes in legislation, business behaviour (e.g. packaging choices) and consumer behaviour.
Natural Hazards	Natural disasters such as floods, fires and earthquakes could have devastating effect on the service – both for collections and disposal.

Risk Area	Description
Information Technology	Continued operation of business information systems such as the rates database, bins database, weighbridge hardware and software is critical to Council continuing to meet its service obligations for the Solid Waste Activity. The systems contain both commercially and personally sensitive information, and system reliability, security and data accuracy are of paramount importance. Technology risk also arises from the adoption of technology that has no, or relatively limited, previous application in the sector. It may also be associated with older, proven technology that has not previously been used on the scale proposed for a new project. New technology can be prone to "teething" issues on start-up and commission, creating some cost and performance issues and potential discontinuity in operation.
Financial	Prudent financial management of the Solid Waste Activity is critical to providing cost effective services. There are well established corporate controls and mitigating actions to mitigate this risk.
Service Delivery	Service delivery risk is the risk associated with all aspects of the performance of systems and services, which can bring reduction in, or loss of, service. An example of such risk is a critical service where a failure by the provider results in a loss of service. Risk may also be associated with inadequate disaster recovery provisions.
Environmental	Environmental risk is the actual or potential threat of adverse effects on living organisms and the environment by effluents, emissions, wastes, resource depletion etc, arising out of an organisation's activities.
People	Selwyn District Council is a lifeline utility that operates and manages community assets, requiring qualified, skilled and competent staff. There are a number of specialist roles where the knowledge resides with key individuals. The loss of key personnel and associated loss of knowledge in critical roles has the potential to compromise Council service to customers.
Legal	Legal risk is the risk of not meeting laws and regulations, and the risk of a claim due to an event occurring which results in a liability for Council or other loss which results in a liability for Council.
Reputational	Reputational risk, often called reputation risk, is a risk of loss resulting from damages to an organisation's reputation, consequent to an adverse event.
Health and Safety	In providing services to the community, workers are exposed to significant process and operational safety risk, which have the potential to cause serious and fatal injuries to workers and members of the public. Council has identified those risks and potential consequences, and is continually reviewing existing controls and mitigation actions.

6.2.3 Identify the Risks

Risk events have been identified based on consideration of possible failure modes relating to physical risks to assets (including natural disasters, external impacts and operation failures), risks to health and safety, and other risk categories highlighted above.

Council has undertaken a comprehensive risk analysis of the Solid Waste Asset / Activity groups and identified key risks. These are shown in Table 6-11.

6.2.4 Analyse Risks

Risk analysis has been carried out by assigning a consequence and likelihood to each risk event based on information available in strategic and operational documents as well as discussions with Council staff and contractors. During this analysis, any existing controls were also identified and taken into consideration.

Rating levels and consequences have been adopted from the corporate matrices, but scaled down to a level more appropriate for the Solid Waste activity. Potential consequences have also been split into four broad categories.

Table 6-7: Solid Waste Activity Consequence Table

Rating Level & Score	Legislation	Community Expectation	Financial	Environmental
Catastrophic 5	Commissioners appointed	Expectations not obtainable, damage to reputation at a national level	Detrimental effects >$0.5m	Widespread long-term effect
Major 4	Adverse audit opinion or disclaimer	Expectations not obtainable medium term, adverse news in regional media	Detrimental effects >$50k	Long term effect
Moderate 3	Qualified opinion, warning over non-compliance	Expectations not obtainable short term, adverse news in local media	Detrimental effects between $10k - $50k	Short term, reversible effect
Minor 2	Minor non-compliance, technical breach	Faults within agreed LoS	Detrimental effects <$10k	Reversible and contained effect
Insignificant 1	Compliance	Expectations reached	No effect	No effect

The likelihood table shown below is identical to that used within the corporate likelihood matrix.

Table 6-8: Likelihood Table

Likelihood	Description	Score	Probability %
Almost Certain	Will almost certainly occur, and at least once in a month	5	91-100
Often	Will probably occur 6-12 times per year	4	71-90
Likely	1-5 times per year – likely to occur at least once in the next 2 to 3 months	3	51-70
Possible	May occur once in the next year - little chance of occurrence in foreseeable future	2	21-50
Rare	Not expected to occur this year but may occur in a future period – unlikely in the foreseeable future	1	1-20

The risk score is calculated by multiplying the consequence measure by the likelihood measure. The established risk score determined leads to an indication of the severity of the risk which, in turn, assists in the evaluation and treatment of the risk.

The risk assessment matrix detailed below is used to establish the risk score and resultant level of risk.

Table 6-9: Risk Assessment Matrix

		Consequence				
		Insignificant (1)	**Minor (2)**	**Moderate (3)**	**Major (4)**	**Catastrophic (5)**
Likelihood	**Frequent (5)**	5	10	15	20	25
	Often (4)	4	8	12	16	20
	Likely (3)	3	6	9	12	15
	Possible (2)	2	4	6	8	10
	Rare (1)	1	2	3	4	5

6.2.5 Evaluate Risks

Council will tolerate a certain “acceptance” level of risk. Any risk that is rated low or moderate should be monitored and reviewed in line with relevant processes and systems.

Any risk scoring above Moderate level is considered by Council to be of sufficient magnitude to require mitigation action.

Table 6-10: Risk Assessment Levels

Risk Score	Level of Risk	Action Required	Attention of / Assigned to
15-25	Extreme	Required immediate assessment of actions	ELT / Council (as required), statutory bodies
8-12	Significant	Required remedial assessments and action vis the annual planning process	Unit manager, programme sponsor, programming steering group
4-6	Moderate	Address via new procedures and / or modification of existing practices and training	Programme manager, workstream leaders
1-3	Low	No formal requirement for further action, unless escalation of risk is possible	Workstream leads, project managers

6.2.6 Control Measures

Methods for treating risks or future control actions have been developed by Council staff. These tasks are required to reduce the risks to an acceptable level. Where risks cannot be eliminated consideration is given to mitigation, i.e. reducing the effect if an event occurs.

Actions to mitigate risk have been built into operational contracts.

Risk management is also factored into capital investment decision-making and the design of assets that are being replaced or added. Decisions on renewal or new works expenditure are made using multi-criteria analysis that includes evaluation of safety, environmental, social, cultural and economic risks.

6.2.7 Monitor and Review

Risk is monitored throughout operational contracts, both by the contractor, and using spot checks by the Principal. Risk is also reviewed every three years as part of the Activity Plan Update.

Evaluation of the effectiveness of controls and monitoring processes are important considerations in the risk management process for the following reasons:

- Risks do not always remain static
- Control measures may have created additional hazards and risk previously not considered
- There may have been changes in the environment, personnel, processes etc that may affect the consequence and likelihood measures
- The control measures may not be an effective as first thought
- Control measures may be able to be refined and enhanced following observation of the control measures actually in practice

6.2.8 Solid Waste Activity Risk Matrix

The table below shows the Risk Assessment for the Solid Waste Activity. These have been analysed in accordance with the Council's Risk Management Process.

Table 6-11: Solid Waste Risks

Activity Area	Risk Description	Potential Consequence	Existing Mitigation Measures	Legislation Risk Rating	Community Expectation Risk Rating	Financial Risk Rating	Environ-mental Risk Rating	Potential Additional Mitigation Measures to Investigate
Collections	Kerbside collections budget increases at a rate greater than CPI or agreed cost indices.	Expense is greater than budgeted.	Contract costs are fixed through to contract completion in 2024. The expectation is that when tendering in 2024, costs will remain reasonably consistent with rates budgeted at that time.	1	2	2	1	-
	Growth in the number of bins in service does not align with household number projections.	Numbers of bins in service higher or lower than projected. Variances in income and expenditure against budget as a result.	Budget variance. Income rises or falls as expenditure rises or falls, so impact will be "self-correcting".	1	1	2	1	-
	High uncertainty of impact of recent Chinese importation restrictions on the sale of kerbside recyclable materials.	Council may receive more revenue than budgeted or Council may have to pay for the processing of recyclable material rather than be paid for it.	Adjustments (through the Annual Plan process) to household recycling charges may be required to cover this cost. Update budgets to reflect processing costs (instead of income received).	1	6	6	6	Consider reducing material types collected (e.g. plastics 3-7).
	Wheelie bin ownership at end of contract.	Over budgeted if it is decided not to purchase wheelie bins. If wheelie bins are not purchased, there is potential for reduced competition during next contract tender due to unfair advantage with incumbent contractor - potentially resulting in a higher contract price. If Council owns the bins but wishes to pursue fortnightly waste option, 80L bins would not be suitable, therefore Council left with asset with little value.	Budgeted in Draft 2018-28 LTP to purchase wheelie bins at end of contract.	1	2	2	1	Thoroughly investigate the impact of alternatives to purchasing bins at the end of contract in order to guide the best decision regarding bin ownership. Thoroughly investigate fortnightly waste option - this will determine whether we wish to purchase 80L bins or not.

Activity Area	Risk Description	Potential Consequence	Existing Mitigation Measures	Legislation Risk Rating	Community Expectation Risk Rating	Financial Risk Rating	Environ-mental Risk Rating	Potential Additional Mitigation Measures to Investigate
Collections	Council not supporting the budgeted RFID bin tag project in 2019.	Less than budgeted expenditure. Continued database inaccuracy issues and over / under charging situations. Reduced future charge options flexibility. Reduced LoS. Increased cost to Council to regularly audit and manage database to ensure accuracy for billing.	RFID project is budgeted for in the Draft 2018-28 LTP	2	2	2	1	-
	Collection vehicles and pedestrian interaction.	Injury. Fatality.	Driver training and assessments. SOP, JSEA, WI, training, appropriate license, vehicle warning devices, vehicle maintenance.	3	3	3	1	-
	Slip, trips, falls associated with kerbside collections.	Injury.	Staff induction and training, NIMS, JSEA, SOP, VCR, footwear.	3	1	1	1	-
	Incorrect manual handling technique.	Injury.	Staff training on correct techniques. JSEA, WI, appropriate tools and equipment.	3	1	1	1	-
	Side load vehicle operation around power lines and poles.	Damage to infrastructure. Injury. Fatality.	Relevant vehicle operating SOPs. Overhead wire safety training. SLAM JSEAs	3	3	1	1	-
	Hydraulic oil spills.	Aesthetic damage in subdivision. Contamination of waterways. Road accidents due to slippery surface.	Spill kits in all trucks. SOP SEMP JSEAs and vehicle and equipment maintenance. Principal conducted spot checks.	3	2	1	4	-
	Fire in collection vehicles.	Damage to vehicle. Injury. Smoke inhalation.	Waste acceptance criteria. Communication and Education. SOPs, training, SEMP, JSEAs. Driver's emergency procedure booklets.	1	1	3	2	-
	Incorrect operation of rear door on collection vehicle when emptying.	Damage to vehicle. Injury (standing under back door).	SOP, driver training and assessment, JSEAs. Warning devices, tail door props. Principal conducted spot checks.	1	1	1	1	-
	Natural disaster.	Inability to collect kerbside refuse due to damage to the road network. Damage to vehicles.	Contractor has spare vehicles and access to additional fleets across New Zealand.	1	4	5	3	MOUs with partner organisations and contractors. Plan for disrupted road network (e.g. methods to establish, equip and operate central waste drop-off points for affected areas.)

Activity Area	Risk Description	Potential Consequence	Existing Mitigation Measures	Legislation Risk Rating	Community Expectation Risk Rating	Financial Risk Rating	Environ-mental Risk Rating	Potential Additional Mitigation Measures to Investigate
Disposal & Diversion Infrastructure	Landfill levy does not increase as budgeted (from $10 per tonne to $15 per tonne in 2020/21 and to $20 per tonne in 2024/25).	Expenditure is greater or less than budgeted.	Council may review and reduce (or increase) projected Pines RRP landfill disposal fees (and also projected kerbside residual waste bin charges).	1	1	2	4	Landfill levy does not increase as budgeted (from $10 per tonne to $15 per tonne in 2020/21 and to $20 per tonne in 2024/25).
	Pines RRP operational costs increase at a rate greater than CPI or agreed cost indices.	Expenditure is greater than budgeted.	A contingency has been allowed for. Should the costs be greater than this contingency, Council may have to review fee structure at Pines RRP in the Annual Plan process.	1	1	2	1	Pines RRP operational costs increase at a rate greater than CPI or agreed cost indices.
	Residual waste and organic tonnages do not rise in accordance with projections made.	Higher than expected tonnes resulting in increased processing or disposal costs.	Council charges for bins in service, as bins and tonnes grow, so does income. Pines RRP organics and residual waste fees are on a user pays basis. So as tonnes increase, so does income, and Council's ability to pay for increased operational costs.	1	1	1	1	Residual waste and organic tonnages do not rise in accordance with projections made.
	Organics processing cost and capital expenditure is not as budgeted.	Processing cost will be greater or lower than forecast. Capital cost may not be required if 3rd party trials are successful.	Confident that final option chosen will likely be less than budgeted processing cost. Low risk that processing costs may be higher than budgeted. Reduced Capital expenditure compared to budget.	6	2	6	1	Organics processing cost and capital expenditure is not as budgeted.
	Pines RRP Reconnect projects as budgeted do not proceed. Feasibility studies may show that not all components of the Reconnect concept may be viable. Council may not support all stages of the Reconnect project.	Less than budgeted capital expenditure. The "Hub" concept would be less successful overall when parts of the concept are removed. Resultant budget effect - reduced operational income and expenditure.	Effective Planning. Project Manager appointed Carefully managed expenses	1	4	2	2	Pines RRP Reconnect projects as budgeted do not proceed. Feasibility studies may show that not all components of the Reconnect concept may be viable. Council may not support all stages of the Reconnect project.
	Private commercial waste collectors stop taking waste to Pines RRP at the current volumes.	Lower than expected tonnes, resulting in lower than expected income, potentially higher per tonne operating costs. May impact feasibility of construction waste sorting line.	If necessary, the per tonne charges at Pines RRP can be altered via the Annual Plan process.	1	2	6	4	Private commercial waste collectors stop taking waste to Pines RRP at the current volumes.
	Kate Valley fees rise greater than CPI.	Higher than budgeted disposal costs.	If necessary, review bin charges and Pines RRP disposal charges.	1	2	3	1	-

Activity Area	Risk Description	Potential Consequence	Existing Mitigation Measures	Legislation Risk Rating	Community Expectation Risk Rating	Financial Risk Rating	Environ-mental Risk Rating	Potential Additional Mitigation Measures to Investigate
Disposal and Diversion Infrastructure	Pedestrian / vehicle interaction at the Pines RRP site.	Injury. Fatality.	Public recycling area is cordoned off to public whilst contractors are clearing applicable recycling material. Road markings and signage designate one-way movement. Staff training to ensure that visitors and contractors are instructed not to enter or exit kiosk while vehicle is present on the weighbridge. Alert signage installed on the kiosk exterior and interior. Signage instructing customers that children are to remain in car". Staff monitor and approach customers to explain if necessary. Low posted speed limits onsite. Traffic management plan in place (?)	8	3	3	1	External assessment of SSSP.
	Roadside litter clean-up around Pines RRP.	Injury. Fatality.	Only trained staff are permitted to perform this task. PPE - hi vis	4	3	3	1	Require Contractor to establish a roadside litter collection procedure. Create roadside signage ("litter collection in progress").
	Interaction of vehicles at the Pines RRP site.	Vehicle accident. Damage to equipment. Injury.	Clear SOP for operational pit area. Kerbside vehicles instructed to reverse into tipping area set aside for commercial vehicles only. Contractor inductions (?) Road markings and signage. Trained and pit inducted personnel only to operate loader. Staff management and monitoring of areas. Low posted speed limits onsite.	1	2	2	1	-

Activity Area	Risk Description	Potential Consequence	Existing Mitigation Measures	Legislation Risk Rating	Community Expectation Risk Rating	Financial Risk Rating	Environ-mental Risk Rating	Potential Additional Mitigation Measures to Investigate
Disposal & Diversion Infrastructure	Slips, trips, falls at the Pines RRP site.	Serious injury.	Safety rails and wheel stops at rubbish pit tipping area. Signage alerting public to fall risk. Staff monitoring unloading techniques by public. Regular and as required sweeping off of debris on ground in tipping areas (also checked at least monthly during spot checks by Council staff). Slip risk of surfaces monitored during wet or frosty times. Grit applied if appropriate. Emergency airhorn? Trained and inducted personnel working onsite. Appropriate lighting in operational areas where required.	6	2	2	1	External assessment of SSSP.
	Flying debris at the Pines RRP site.	Injury. Windblown litter.	Staff wear appropriate PPE for the weather. Wind management procedure in place - including closing of the facility when risk is unacceptable. Shelter belts and windbreak fence being developed. Warning signage present.	2	2	4	4	-
	Hazardous waste, oil and gas bottles at Pines RRP.	Environmental contamination. Fire. Reaction between incompatible chemicals. Injury: Chemical splash, contact with eyes / skin, inhalation. Fatality.	All staff trained hazardous waste handlers. Hazardous waste procedure in place including correct storage and separating of hazardous wastes. Inventory of what hazardous substances are on site updated regularly along with MSDS. Appropriate PPE worn by staff if handling of containers is necessary. Hazardous waste stored in locked containers in restricted access area of site. Fire extinguishers and spill kits located in task areas. No smoking areas clearly identified with signage.	4	3	3	2	-

Activity Area	Risk Description	Potential Consequence	Existing Mitigation Measures	Legislation Risk Rating	Community Expectation Risk Rating	Financial Risk Rating	Environ-mental Risk Rating	Potential Additional Mitigation Measures to Investigate
Disposal & Diversion Infrastructure	Manual handling of waste on Pines RRP site.	Sharps related injuries (skin lacerations, punctures). Injuries associated with lifting. Skin or eye injury or irritation. Inhalation of dust	Waste manual handling procedure in place (?) Appropriate PPE worn by staff on site. Correct lifting technique explained to staff at regular toolbox talks. Utilise machinery instead of manual handling, where possible.	9	1	1	1	-
	Fuel, oil spill.	Environmental contamination. Fire.	Scheduled vehicle maintenance program (?) No smoking areas clearly identified with signage. Fire extinguishers and spill kits located in task areas. Vehicles and machinery are only refuelled at a designated, concreted area. Stop valve to isolate drainage.	2	2	3	3	-
	Fire anywhere onsite.	Damage to plant and equipment. Injury. Smoke inhalation. Fatality.	Fire extinguishers located at all task areas - which are regularly maintained and checked. Fire hoses and reels highly visible and staff are aware of locations. Fire emergency procedures in place. Emergency sirens installed. Fire drills. Staff training in use of fire extinguishers. Clear signage as to where fire extinguishers are. Electrical appliance tag testing.	1	2	3	2	-
	Operation of machinery (e.g. shredder / loaders / compactor) at Pines RRP.	Serious injury, hearing damage, crush related injury / fatality.	Trained personnel only to operate shredder and in accordance with operating manual and procedures Relevant PPE worn at all times (glasses, gloves, ear protection, steel caps) Area restricted access Compactor bin handling procedure (?) Induction and training of contractors and staff. Equipment maintained in good working order. Lock out / tag out procedure for compactor maintenance or blockage removal	4	3	4	1	-
	Electrical equipment.	Electric shock injury / fatality. Fire.	All electrical equipment is tagged and tested. Spot checked at least once per month.	1	1	1	1	-

Activity Area	Risk Description	Potential Consequence	Existing Mitigation Measures	Legislation Risk Rating	Community Expectation Risk Rating	Financial Risk Rating	Environ-mental Risk Rating	Potential Additional Mitigation Measures to Investigate
Disposal & Diversion Infrastructure	Natural disaster.	Damage to infrastructure. Disruption to refuse services. Inability to operate transfer station (compacting, shredding etc…)	Preliminary post-earthquake structural checklist. Emergency procedures in place.	1	4	5	3	MOUs with partner organisations and contractors. Plan for short term storage of waste in the event of landfill closure / inaccessible or partner Councils and organisations unable to assist.
	Trespassers at Pines RRP site afterhours.	Access to loader, digger, vehicles, compactor and other machinery. Injury. Damage to plant and equipment.	Fences inspected regularly during litter patrols. Keys to vehicles and machinery are locked in a cabinet inside locked building. Compactor unable to be started without key. CCTV.	1	1	3	1	Change Locks. Roller gate at entrance with tag entry.
Cleanfill & old Closed Landfills	Status of unknown closed landfills and historic "town dumps".	Financial or environmental liability.	Listed Land Use Register (LLUR) records. John Christensens 's work?	2	3	5	4	Consider how Council might extract historical knowledge of sites from the community (particularly those with long histories in the District)
	Landfill leachate affecting groundwater at known closed landfills.	Harm to human or animal health. Remediation costs. Reputational damage.	Post closure landfill management plan under development. Closed landfill capping design plans under development Annual groundwater testing.	6	3	4	6	-
	Unauthorised access to, and subsequent unmanaged tipping at, Springston cleanfill pit.	Groundwater contamination. Remediation costs.	Site is fully fenced. Restricted Security key access. Frequent inspections and monitoring. Groundwater testing.	1	1	3	2	Consider mobile hunting CCTV cameras should issues arise.
	Contaminated material unknowingly tipped at cleanfill (contamination not visible to the eye - e.g. hydrocarbons)	Groundwater contamination. Remediation costs.	Under development. Groundwater testing.	3	3	4	3	Seek advice on additional measures that can be utilised to provide more rigour around material received.

6.3 Negative Effects

There are risks from providing a solid waste service and these have been assessed in the light of the four aspects of community wellbeing per s10 of the Local Government Act 2002. The Council's response to the possible impact of the activity on the community is set out in table below.

Table 6-12: Possible Negative Effects

Well-being	Possible negative effect	The Council's response is to
Social	With regard to compulsory recycling and Uniform Annual charges, the interests of the individual may, sometimes, have to take a secondary position to the wider needs of the community.	Provide pricing incentives and options that encourage waste reduction behaviours in order to meet waste management and minimisation goals and to keep the community healthy.
Economic	Charges have to be levied to cover the cost of providing a service that meets the Council's goals and its statutory obligations while remaining sustainable.	Justify the costs by providing efficient and highly rated services. Provide a range of user pays services (where practical) so people can make a cost-effective choice which best suits their household needs. Ensure that disposal fees are reasonably consistent with those of surrounding Districts.
Environmental	The kerbside collection relies on bins, bags and some crates being left out in the street awaiting collection. Strong winds can lift lids and topple bins, contributing to litter. Animals can tear open bags, causing litter and attracting vermin.	Provide high quality bins and crates. Collection takes place at a regular time (as much as is practical). Investigate lid clips for high wind areas. Disincentivise bags, and incentivise 80L refuse bins through pricing. Extend kerbside service to additional properties wherever practical and cost effective. This allows for better uptake of wheelie bins instead bags and crates.
	There is the potential for nuisance from litter, dust and odours at the Pines Resource Recovery Park.	Provide well sealed bins and practice good housekeeping at the Pines Resource Recovery Park. Utilise fencing and planting to capture litter or to reduce wind speed in operational areas. Operate regular litter collections across the site and along approaching road side. Adhere to Resource Consent conditions. Do not turn compost during high wind events.
Cultural	The pollution of groundwater is an important cultural concern for our community.	Dispose of cleanfill only at consented cleanfill sites and monitor groundwater regularly. Monitor cleanfill closely to ensure compliance. Dispose of residual waste at Kate Valley Regional Landfill where stringent Resource Consent conditions are met. Help facilitate alternatives to burning or burying of waste in rural areas. Work collaboratively with other Councils to manage illegal waste related activity.
Safety	Bag collections increase risks to collection contractors through manual handling injuries, cuts, needle stick injuries, slips, trips and falls.	Disincentivise bags, and incentivise 80L refuse bin through pricing. Extend kerbside service to additional properties wherever practical and cost effective. This allows for better uptake of wheelie bins instead bags and crates.

7 : Lifecycle Management

7 Lifecycle Management

Table 7-1 below shows a summary of Solid Waste asses and activities. The lifecycle of the asset or activity is reviewed by the condition as well as the performance i.e.: is it still fit for purpose? Section 6.2 discusses the risks associated with the asset or activity in greater detail.

Table 7-1: Key Asset / Activity Information Summary

	Asset / Activity	Owned by	Age	Condition	Performance	Risks
Collection Services	Kerbside bins	Contractor	0 – 20 years	Variable	Good	End of contract ownership
	Collection vehicles		5 years (?)	Good	Good	Safety, Disaster?
	High country village bins	Arthur's Pass / Castle Hill - Contractor Lake Coleridge - SDC	10 years	Good	Good	Access during weather events Volumes during peak times (holidays)
	Public litter bin enclosures	Selwyn District Council	5 years	Variable	Good	
Disposal & Diversion	RRP Foundations		10 years	Poor	Fair	Cracking, surface deterioration. Early repair / replacement.
	RRP Water & Electrical Network		10 years	Good	Good	
	RRP Fire Hydrant		10 years	Good	Good	
	RRP Weatherwise Build		10 years	Good	Good	
	RRP Portacom Kiosk		10 years	Good	Good	
	RRP Site Manager's Office Portacom		1 year	Good	Good	
	RRP Roads		10 years	Good	Good	
	RRP Frame / Structure		9 years	Good	Good	
	RRP Shredder		4 years	Fair	Fair	Capacity constraints. Higher wear and tear due to volumes.
	RRP Compactor		10 years	Fair	Fair	
	RRP Weighbridge		10 years	Good	Good	
	RRP Fencing		10 years	Good	Good	
	RRP Signage		10 years	Good	Good	
	Compost Plant		6 years	Good	Poor	Capacity restraints.
	Springfield Landfill		-	Closed	-	Groundwater contamination.
	Hawkins Landfill		-	Closed		
	Hororata Landfill		-	Closed	-	
	Killinchy Landfill		-	Closed	-	
	Springston Landfill		-	Fair	Good	
	Satellite ("Pop-up") RRPs		1 year	Good	Good	

7.1 Operation and Maintenance

In delivering the solid waste service Council utilises a mix of private companies and its own Council Controlled Organisation (Sicon Ltd). The high satisfaction levels evident in the residents survey (refer Section 4.3.2) indicates that this arrangement works well. The Solid Waste Manager works closely with service providers and reports on the service delivery as required.

Most equipment required for delivering the solid waste service is owned by contractors. Maintenance is undertaken through their respective internal processes.

Table 7-2 sets out the operational tasks and their delivery by Council staff and contractors working together.

Table 7-2: Operational Tasks and Delivery

Activity	Description	Managed By
Collection Services	Waste: Weekly kerbside residual waste collection using rubbish bags (60 litre), 80 litre wheelie bins or 240 litre wheelie bins. Residual waste is transported by the contractor to Pines RRP for compaction and transfer by Canterbury Waste Services to Kate Valley Regional Landfill.	Contracted to Waste Management NZ Limited under Contract #1144 Kerbside Collection Contract. (5 + 3 + 2 year term)
	Recycling: Weekly kerbside recycling waste collection using 240 litre wheelie bins. Collected recyclables are taken to EcoCentral, in Christchurch, for sorting, processing and on sale.	
	Organics: Weekly kerbside garden and food organic waste collection using 240 litre wheelie bins. This service is available in the larger townships only (currently Darfield, Kirwee, Leeston, Lincoln, Prebbleton, Rolleston, Springston, Southbridge and West Melton). The organic waste is taken to Pines RRP for composting.	
	Arthurs Pass, Castle Hill and Lake Coleridge waste is transported to Pines RRP fortnightly from large bins at these locations.	
	Customer Service – respond to public enquiries including new customers, service change requests, delayed or missed collections, provision of customer information to Corporate Services Division for charging through Rates.	This work is carried out by Asset Management's customer services helpline staff supervised by the PA to Assets Manager, with involvement from the Solid Waste Manager, and Solid Waste Support Officer. Customer service staff communicate with the waste collection contractor to address and resolve day to day matters. Matters that fall into the contract management area are handled by the Solid Waste Manager or the Solid Waste Support Officer. Due to the nature of the collections any quality problems are quickly brought to Council's attention by residents, and addressed by the contractor. The optional nature of the residual waste and organic collections and competition from private enterprise collection contractors potentially provides an indication of customer satisfaction, because customers can opt out of these collections if not they are not satisfied with the Council's services. Selwyn District Council's annual household survey also monitors resident satisfaction. Collection services regularly rate in the 90th percentile. There is a performance measure in the Council's Annual Report regarding complaints.
	Charging via targeted rates – adding customers to the rates database or changing the category of service provided.	Corporate Services Division
	Supply, distribution and retail of official SDC rubbish bags.	Bags are currently manufactured by Pacrite Industries Limited. Wholesale orders, invoices and payments are processed by the Solid Waste Support Officer. Warehousing and distribution is via Online Distribution Limited. Bags are sold from Council's Service Centres and various retail outlets.

Activity	Description	Managed By
Pines Resource Recovery Park Management, Administration, Performance Monitoring and Resource Consent Compliance - Operations	Activities in this category include the following: a) Overall management. b) Engineer to site operations contract described below. c) Arranging for the maintenance of the composting plant, the weighbridges and waste compactor d) Oversight of cash and account transaction activities and provision of cash receipt information to allow SDC's corporate division to check the amounts "banked". e) Monthly provision of detailed account transaction details to SDC corporate division for customer invoicing. f) Authorising payments and customer invoices. g) Preparation of estimates and budgets. h) Setting waste acceptance criteria. i) Specifying operating standards. j) Oversight of compliance with resource consents and reporting as required. k) Oversight of safety requirements. l) Provision of a Management Plan as required under resource consent conditions and oversight of compliance with this. m) Data capture, monitoring and reporting.	The Council's Solid Waste Manager is responsible for overall management of the Pines RRP and oversight of the various activities. The Operations Contractor (refer to details below) and various other contractors carry out the physical aspects of the works. Resource consent and land use designation conditions are monitored by officers from Environment Canterbury and SDC. Payments and invoices are signed off by the Solid Waste Manager and authorised through SDC's financial delegation process before being passed to SDC's Corporate Division to process. KPI and H&S auditing "spot checks" are completed by the Solid Waste Support Officer no less frequently than monthly. A KPI and Monthly Report is generated by the Contractor's Contract Supervisor. Data captured through the weighbridge software is monitored by the Solid Waste Support Officer on a monthly basis and reported to the Solid Waste Manager. Financial activities are audited by the Council's auditors.
Pines Resource Recovery Park Day to Day General Operations	Day to day operation of the Pines Resource Recovery Park including the following activities: a) Site security and manning of the site during open hours. b) Ensuring that the site is operated in accordance with the Site Management Plan, Operations Manuals, Safety Plans and in a safe manner. c) Supervision of the receipt of residual, organic and recycling waste. d) Ensuring that work is carried out in compliance with resource consent conditions and SDC requirements. e) Operation and maintenance of the weighbridges and compactor f) Collection and banking of cash payments, maintaining records of account transactions, sending the daily computer batch file with transaction information to the Solid Waste Manager and thence into the computer system at SDC's headquarters. g) Operation and day to day maintenance of the organic waste shredder and composting plant, in accordance with the appropriate Operations Manual, Electrical Manual, safety requirements and SDC requirements. h) Managing visitor and contractor inductions and safety. i) Management of the composting process. j) Operation and day to day maintenance of the Scarlett Static Compactor Model 350-3 in accordance with its Operators Manual and SDC requirements. k) Attaching empty residual waste containers to the waste compactor, filling the containers to their legally allowable maximum weights, and unhooking and parking full containers to await dispatch to the landfill. l) Liaison with Canterbury Waste Services Ltd to arrange supply of empty waste containers and the transport of full containers. m) Supervision of the recycling drop-off area and making arrangements for the disposal of recyclable materials. n) Carrying out minor site maintenance work and liaising with Solid Waste Manager regarding additional maintenance requirements.	The activities are carried out by Sicon Ltd under The Pines RRP Contract # 1245, with a contract completion date during 2021. The work is overseen by the Council's Solid Waste Manager who is Council's Representative for the Operations Contract. Operations contract work performance is monitored on a monthly basis, and randomly using spot checks.

Activity	Description	Managed By
Pines RRP Weighbridge Maintenance and Servicing	Maintenance of the two weighbridges, load cells, indicators, sentries, printers, scanners, display units, computers, tag readers, power supplies and modem. From 2018, weighbridge software is via Weightrax, a division of ATRAX Group NZ Ltd.	The equipment except for the power supply and modem are covered by the Weighbridge Service Agreement with Sensortonic Ltd. This agreement commenced in October 2017 and has no fixed term. SDC's ICT section provides service for the power supply, modem and data transfer to SDC's headquarters.
Pines RRP Scarlett Static Compactor Maintenance and Servicing	Maintain the waste compactor in accordance with the Manual and the monitoring schedule. Maintenance requirements include oil sampling, oil replacement, filter replacement, wear strip replacement, cleaning and checking cycle times.	B J Scarlett Limited, the manufacturer carries out scheduled maintenance or maintenance as necessary. Electrical, electronic and weighbridge maintenance is carried out by sub-contractors.
Residual Waste Disposal	All residual waste in Selwyn is transported to Kate Valley landfill – see Pines RRP activities listed above. Contract management, supervision, administration and processing of payment claims for each of the activities mentioned above. Capture & collation of waste quantity and payment data for reporting, planning and estimating purposes.	Transfer of residual waste from Pines RRP is carried out under the RRP's Operations contract. See details above. The cartage of waste to Kate Valley Regional Landfill and the disposal of the waste at the landfill, is carried out by Canterbury Waste Services Limited under a contract between Transwaste Canterbury Ltd and the Selwyn District Council. The agreement is for 20 years (7 + 7 + 6 years) and because of its long term it represents one of the largest contractual commitments entered by SDC. The agreement contains stringent requirements that include waste acceptance, loading and access. Contract management, administration and payments are handled by the Council's Solid Waste Manager. Waste data is collected, collated and analysed by the Solid Waste Support Officer and is monitored and used by the Solid Waste Manager.
Organic Waste Disposal	Receive and process the following organic wastes at Pines RRP: a) Garden and food organic waste from SDC's kerbside collection; b) Mixed organic waste, mainly garden organics dropped off by the public at the Pines RRP; Arrange for the testing, screening, and sale of mature compost.	The receipt and handling of organic waste (feedstock), and its composting and stockpiling are carried out under the RRP's Operations Contract – see details above. Arrangements for testing, screening and sale of the compost are made by the Solid Waste Manager.
Closed Landfill and Cleanfill Resource Consent Compliance Operations	Comply with resource consent requirements for Arthur's Pass, Hawkins, Hororata, Killinchy, Springfield and Springston landfills. Requirements include waste acceptance restrictions, supervision, post-closure management and monitoring.	Comply with resource consent requirements for Arthur's Pass, Hawkins, Hororata, Killinchy, Springfield and Springston landfills. Requirements include waste acceptance restrictions, supervision, post-closure management and monitoring.
Waste Minimisation Education and Communication	Provide an environmental education / waste minimisation programme in the District's schools Provide businesses and the general public with waste minimisation information and communications.	SDC contributes funding towards Enviroschools and the Wastebusters Canterbury Trust to provide school education programmes that incorporate a waste focus. Lincoln Envirotown are funded by SDC to assess and assist with the sustainability of businesses in the District. SDC regularly communicate waste related messages to residents through various media. Refer Section 3.3 for more detail.
Solid Waste Management Statutory Responsibilities	Promote effective and efficient waste management and minimisation within the district. Prepare a Waste Assessment within the statutory timeframes prescribed. Adopt a new Waste Management and Minimisation Plan in terms of the Waste Minimisation Act 2008. Resource consent compliance. Health Act 1956 compliance.	The draft Waste Assessment was completed in 2017. The WMMP is to be rewritten and consulted on during 2018. Consent compliance has been covered under Resource Recovery Park and Landfill Resource Consent headings above. Health Act compliance is addressed within the Waste Assessment and WMMP.

Activity	Description	Managed By
Canterbury Regional Waste	Fulfil responsibilities under the Regional Waste Management Agreement. Fulfil responsibilities prescribed in various reference documents relating to the Canterbury Regional Landfill Joint Committee and its predecessors, the Canterbury Joint Standing Committee, including the Memorandum of Understanding and the Shareholders Agreement relating to the regional landfill. Fulfil responsibilities under the Constituting Agreement of the Canterbury Waste Joint Committee and its Subcommittee the Canterbury Hazardous Waste Working	Selwyn District Council appoints an elected Councillor as its representative on the Canterbury Regional Landfill Joint Committee, the Canterbury Waste Joint Committee and the Canterbury Hazardous Waste Working Party. This SDC Councillor has delegated powers with respect to the Canterbury Regional Landfill Joint Committee. Selwyn's Solid Waste Manager is a member of a regional waste staff group that supports the above mentioned committees. The Canterbury Joint Standing Committee initiates waste minimisation projects and the Canterbury Hazardous Waste Working Party has a strategy and implementation plan. Both these groups of project initiatives are funded by contributions from the TLAs and Region
Financial and Reporting	Expenditure monitoring, preparation of estimates, budget recommendations, reports	Solid Waste Manager and the Solid Waste Support Officer.
Solid Waste Management Planning	Prepare strategic and operational plans for waste management and waste minimisation.	This is a requirement of the Waste Minimisation Act and the Local Government Act and has been covered in the Statutory Responsibilities section above.

7.2 Summary of Significant Capital Projects Proposed 2018 – 2028

Table 7-3: Summary of Significant Projects / Changes Proposed 2018-2028

Project no.	Year	Capital Project	Estimated Costs	Funding Source
1	2019/20	Compost plant replacement*	$1,500,000	Surplus & Capital budget
2	2019/20	Concrete pad replacement	$500,000	Capital budget
3	2019/20	Resource Recovery Park "Reconnect" Project (stages 1-3)	$3,347,750	Surplus
4	2019/20	Waste sorting line	$300,000	MfE application
5	2019/20	Kerbside Bins RFID Tag Project	$420,000	Capital budget
6	2020/21	Resource Recovery Park "Reconnect" Project (stage 4-5)	$2,667,000	Surplus
7	2020/21	Organics shredder replacement*	$500,000	Capital budget
8	2021/22	Resource Recovery Park "Reconnect" Project (stage 6)	$2,562,650	Surplus
9	2023/24	Resource Recovery Park "Reconnect" Project (stage 7)	$705,000	Surplus
10	2024/25	End of Contract wheelie bin purchase	$1,982,220	Capital budget
11	2025/26	Waste Compactor Replacement	$120,000	Capital budget
12	2027/28	Pines RRP site road reseal	$150,000	Capital budget

*Compost plant and shredder replacement may not proceed – dependent on trial and negotiations with 3rd party underway at time of writing.

All proposed projects are subject to feasibility studies. This may change timing and costs.

7.2.1 Compost Plant Replacement (2019/20)

This project is to replace the current composting plant at the Pines Resource Recovery Park, which is now over capacity. The project will be funded from fees and charges and the refuse collection and disposal targeted rate. At the time of writing, a trial is underway with a third party to process organic waste into a saleable compost product. However, should it eventuate that the process used in the trial is unsuccessful Council may need to invest capital into processing organic waste using an aerated static pile process. For this reason, provision in the 2019 budget has been made to cater for this scenario.

7.2.2 Concrete Pad Replacement (2019/20)

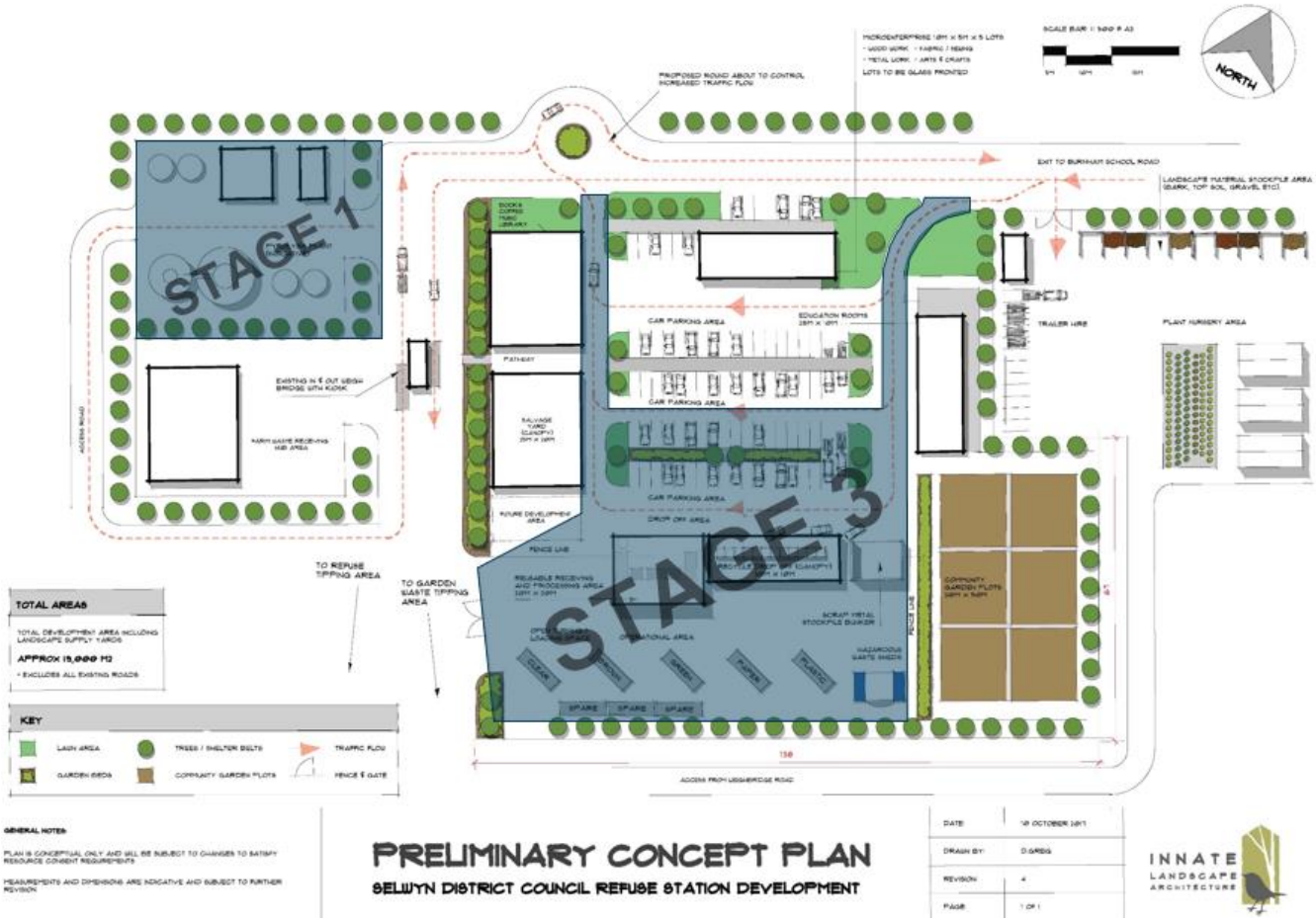
The concrete pads in various heavy operational areas of the site are cracked and deteriorating. Replacement of concrete areas has been budgeted some years ago for 2019/20 year.

7.2.3 Resource Recovery Park "Reconnect" Project Stages 1-3 (2019/20)

Stages 1-3 involves the construction of:

- A roading and carpark area
- Concreted surfaces
- Operational area – separated from the public and future proofed (space) for growth
- A canopy for the public to unload recyclables under cover, and sheltered from some of the weather effects
- A reusables receiving and processing building. This building may be used for the commencement of a reuse shop while the reuse shop and salvage yard in stage 4 is under construction
- Purchase and installation of a waste sorting line (see Section 7.2.3)

Figure 7-1: "Reconnect" Concept Plan – Stages 1-3*



*Not shown on site plan: waste sorting line (Stage 2)

7.2.3.1 Stage 1: Pyrolysis Plant

At the time of writing, discussions are advancing with a pyrolysis company wanting to process tyres and potentially plastic wastes.

Pyrolysis turns plastics and tyres into liquid and gas fuel. This is seen as an excellent fit with other recovery related activities proposed in the "Reconnect" concept for Pines RRP.

There is also potential for construction on a viewing platform with information for the public to see and understand what is happening and how pyrolysis works.

Figure 7-2: Commercial Pyrolysis Plant

7.2.4 Waste Sorting Line (2019/20)

Based on composition studies completed in Christchurch, 52% of waste on a typical house building site is divertible material (e.g. cardboard, concrete and bricks, plasterboard, polystyrene, and metal) and 29% is potentially divertible (e.g. timber and plastics).

Using these figures as basis, of the 2,481 tonnes of construction related waste tipped at Pines RRP in the financial year 2016/17, 2,009 tonnes of it could have potentially been diverted from landfill.

It is estimated that the diversion of only 500 tonnes per annum from landfill would pay for the labour costs of two staff for 20 hours per week.

Figure 7-3: Images of Recoverable Materials amongst Construction Waste at Pines RRP

7.2.5 Kerbside Wheelie Bin RFID Tag Project (2019/20)

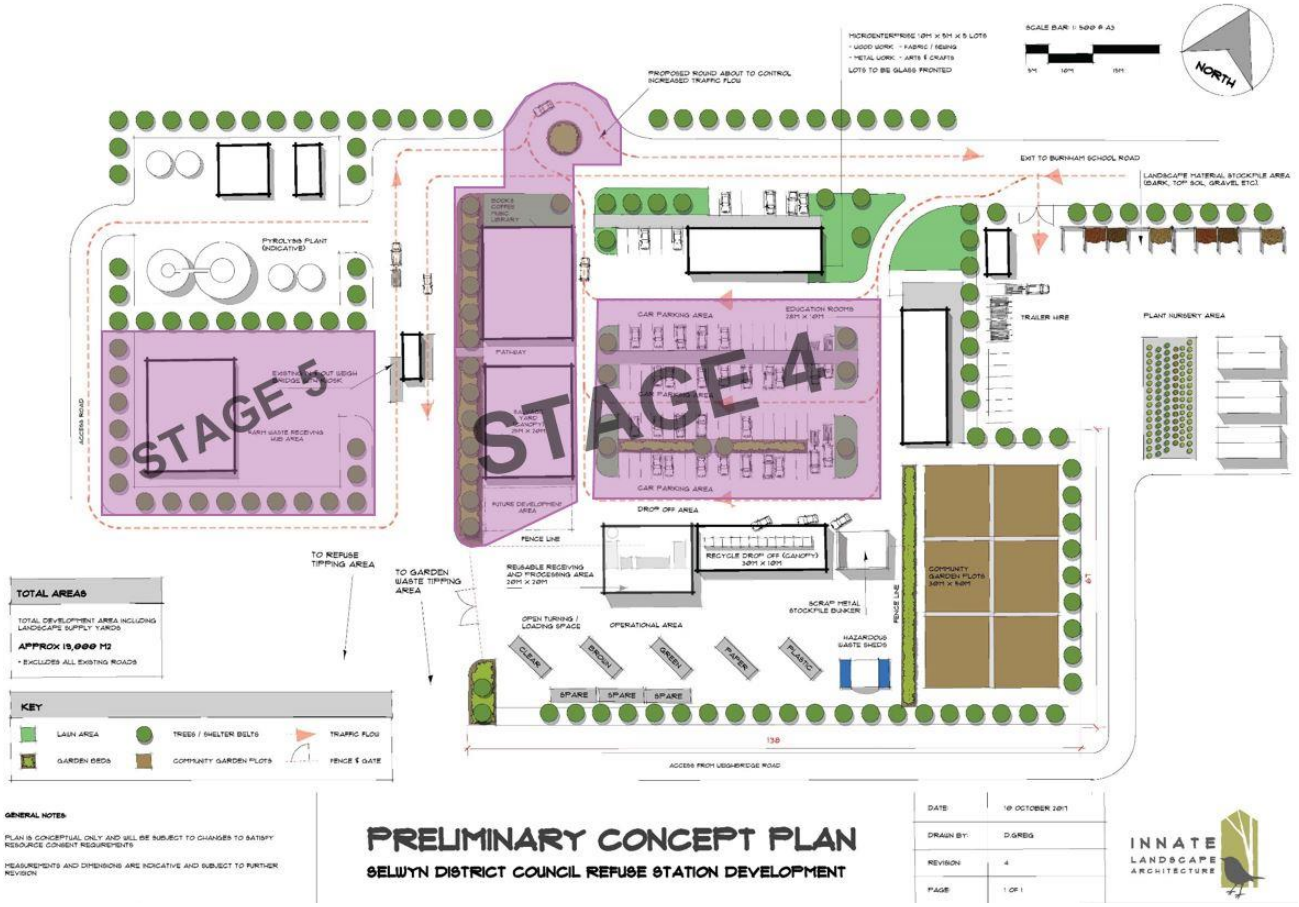
This project is to install radio-frequency (RFID) tags on kerbside collection bins throughout the District. This would improve the accuracy of our customer database, assist in locating missing or stolen bins, improve fairness of charging and provide for potential alternative charging options in the future (e.g. pay-as-you-throw). The project will be funded from the refuse collection and disposal targeted rate; however increasing numbers of ratepayers means no rate increase is required.

7.2.6 Resource Recovery Park "Reconnect" Project - Stages 4-5 (2020/21)

These stages involve the construction of:

- Reuse shop
- Salvage yard
- Farm waste hub
- Remainder of carpark area and landscaping
- Internal site roundabout to facilitate safe passage for vehicles into and out of that area of the site

Figure 7-4: "Reconnect" Concept Plan – Stages 4-5



7.2.7 Organics Shredder Replacement – renewal (2020/21)

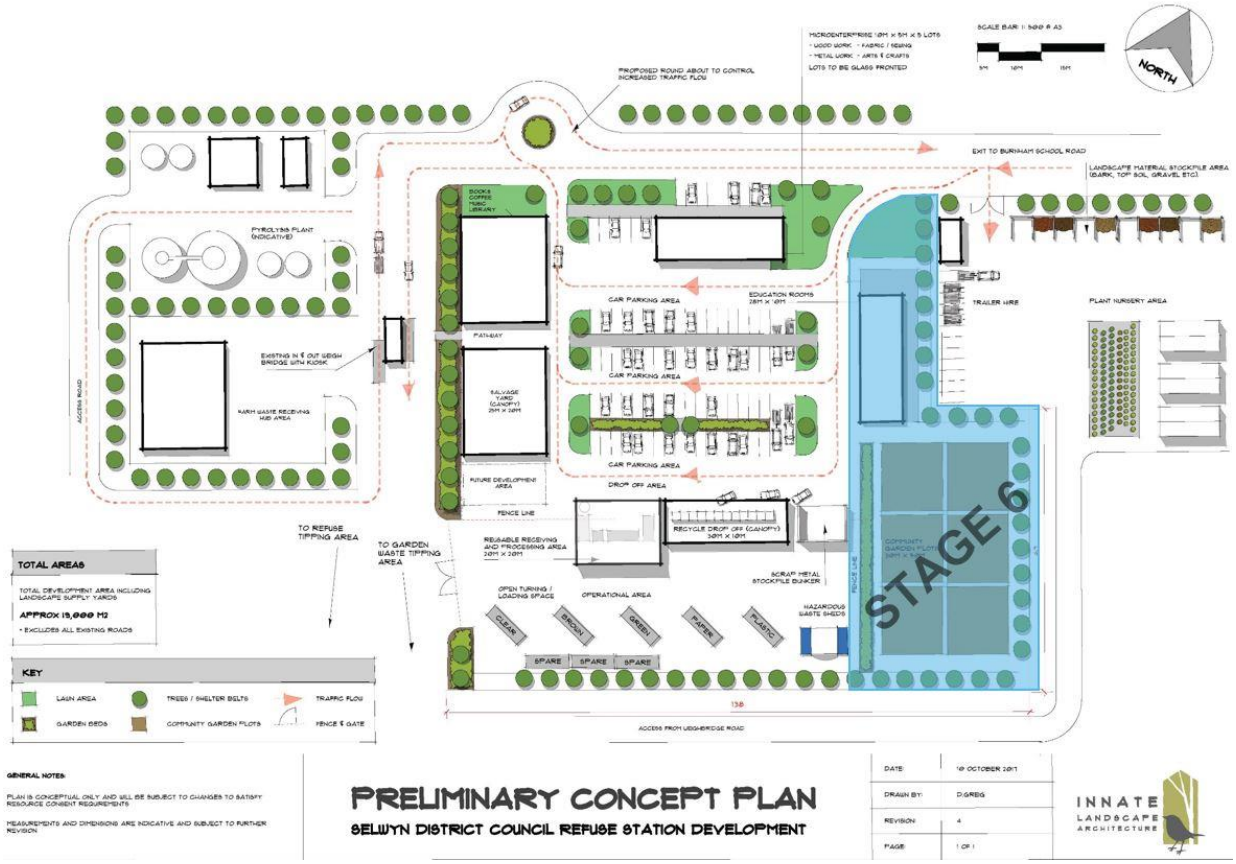
This project is to replace the current organics shredder at the Pines Resource Recovery Park, in order to cope with forecast organic tonnages. The project will be funded from fees and charges and the refuse collection and disposal targeted rate. At the time of writing, a trial is underway with a third party to process organic waste into a saleable compost product. However, should it eventuate that the process used in the trial is unsuccessful Council may need to invest capital into renewing existing equipment due to increased volumes being receives at the Pines RRP.. For this reason, provision in the 2020 budget has been made to cater for this scenario.

7.2.8 Resource Recovery Park "Reconnect Project" – Stage 6 (2021/22)

Stage 6 involves the construction of:

- Education rooms and community gardens
- Additional external works (pavements, drainage, landscaping)

Figure 7-5: "Reconnect" Concept Plan – Stage 6

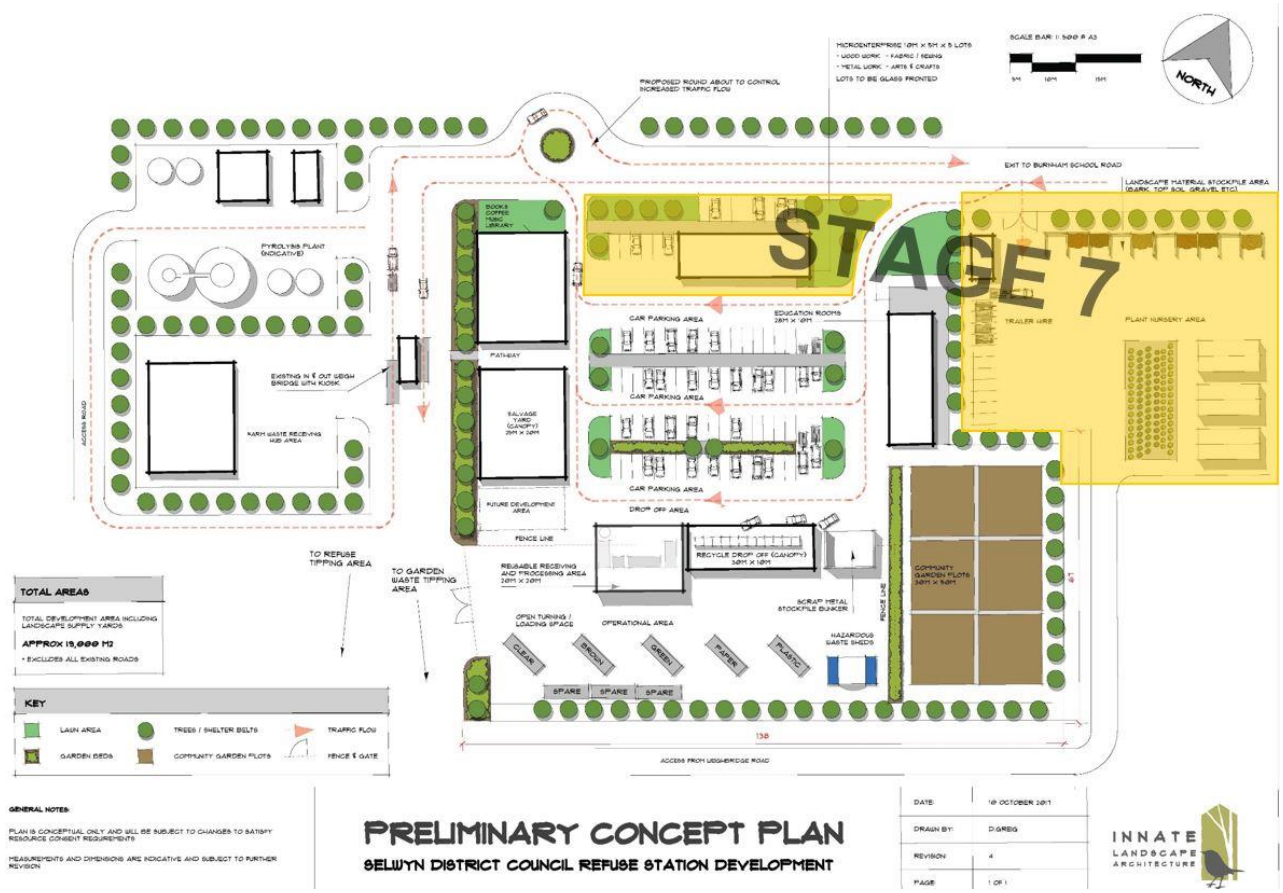


7.2.9 Resource Recovery Park "Reconnect" Project – Stage 7 (2023/24)

Stage 7 involves the construction of:

- Microenterprise units
- Landscape supplies yard
- Additional external works (car parking, landscaping)

Figure 7-6: "Reconnect" Concept Plan – Stage 7



7.2.10 End of Contract Wheelie Bin Purchase (2024/25)

Under the current Kerbside Collections Contract 1144, the Contractor owns the wheelie bins. While this works well during the contract term, it leads to an unfair advantage of the incumbent contractor over other tenderers when the contract is retendered in 2024. An uncompetitive tender process could result in Council paying more for future kerbside contracts. For this reason, an allowance has been made to either the purchase the wheelie bins at the end of the current contract or to purchase new bins.

7.2.11 Waste Compactor Replacement – renewal (2025/26)

The replacement of the existing compactor has been allowed for in the 2025/26 year but will be reviewed closer to the time to re-evaluate remaining capacity, condition, and to conduct a review of current compactor technology.

7.2.12 Pines RRP Site Road Reseal (2027/28)

This project is necessary to maintain the condition of roading surfaces at the Pines RRP.

7.3 Proposed Changes to Waste Related Charges 2018-2028

Collection Services
The proposal is to continue to subsidise the smaller waste bin options to encourage diversion behaviour, but look to decrease the out-of-step subsidy on 80L refuse bins (subsidy of $55.00/pa) and refuse bags (Subsidy of $1.16ea).

Bags
Currently Council refuse bags have an RRP of $2.00ea. The cost to supply bags, then collect and dispose of them is $3.02 each. This cost was lowered when we moved to a new bag supplier, however bag pricing has not increased in line with bin pricing over recent years. The last time bag prices were increased was in 2014. The proposal is to increase the RRP of bags to $2.50 (incl GST) in 2018/19, and again in 2021 to $2.75 (incl GST) per bag. Refuse bags and 80L bins will still receive a significant subsidy from the charges on the larger 240L waste bins (the intention being to incentivise the smaller waste bin options).

The spin-off effect of the bag price catch up is that bag usage will continue to decrease. This reduces vermin issues (bags torn by cats, dogs and birds) and contractor health and safety issues associated with manual handling – strains, needle stick risks, and slip/trip/fall from the frequent in/out of the collection vehicle operator on uneven verges.

Bins
- Refuse 80L bin increases in 2018/19 from $121pa to $136.40pa. Prices have not increased since July 2016. The new price still means that an 80L refuse + organics 240L (combined volume of 320L) = $344pa compared to a 240L refuse at $407pa.
- Refuse Uniform Charge to all households on the collection route increases from $24pa to $26 pa.
- Continue to hold recycle bins at 2016 prices[18], increase only by CPI after that if necessary.
- Continue to hold organic bins at 2016 prices, increase only by CPI after that if necessary.
- Refuse 240L bins increase to rates provided for in the 2018 year of the 2015-25 LTP Budget, and then increase only at CPI rates if necessary.

Lake Coleridge Waste Charge
The cost to provide refuse and recycling services to the Lake Coleridge community is disproportionately high on a per house property compared with other high country villages, yet Lake Coleridge properties pay a lower refuse fee. By moving to a standardised refuse and recycling fee, Lake Coleridge properties will pay a fairer proportion of the cost to provide the service, while still receiving a significant subsidy (greater than that of Castle Hill and Arthur's Pass). Lake Coleridge properties currently pay a refuse rate of $79 per annum. It is proposed that in 2019 to increase the refuse rate to $121pa, to match that of the other High Country Villages such as Arthur's Pass and Castle Hill.

In addition, it is intended that in 2019 a review of the recycling facilities will be undertaken, to investigate the installation of a small recycling station, in place of the adhoc recycling bin arrangement currently in place. At this point in time this is envisaged to take place in 2019/20, it is proposed to introduce the standardised recycling charge of $63pa as other households in the district are charged. There is no intention to apply the Refuse Uniform Charge as the properties do not receive a kerbside service.

Pines RRP Disposal Charges
Projections for disposal fee increases (to customers) at Pines RRP have been allowed for in the LTP Budget. The intention is that disposal fees will be reviewed annually and adjusted as appropriate according to cost increases, neighbouring district disposal prices (to avoid cross boundary waste flow due to low prices), and for project funding (an option under the Waste Minimisation Act 2008) if necessary.
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[18] This has been updated as at 1 July 2018 due to current international recycling situation.

8: Asset Management Processes and Practices

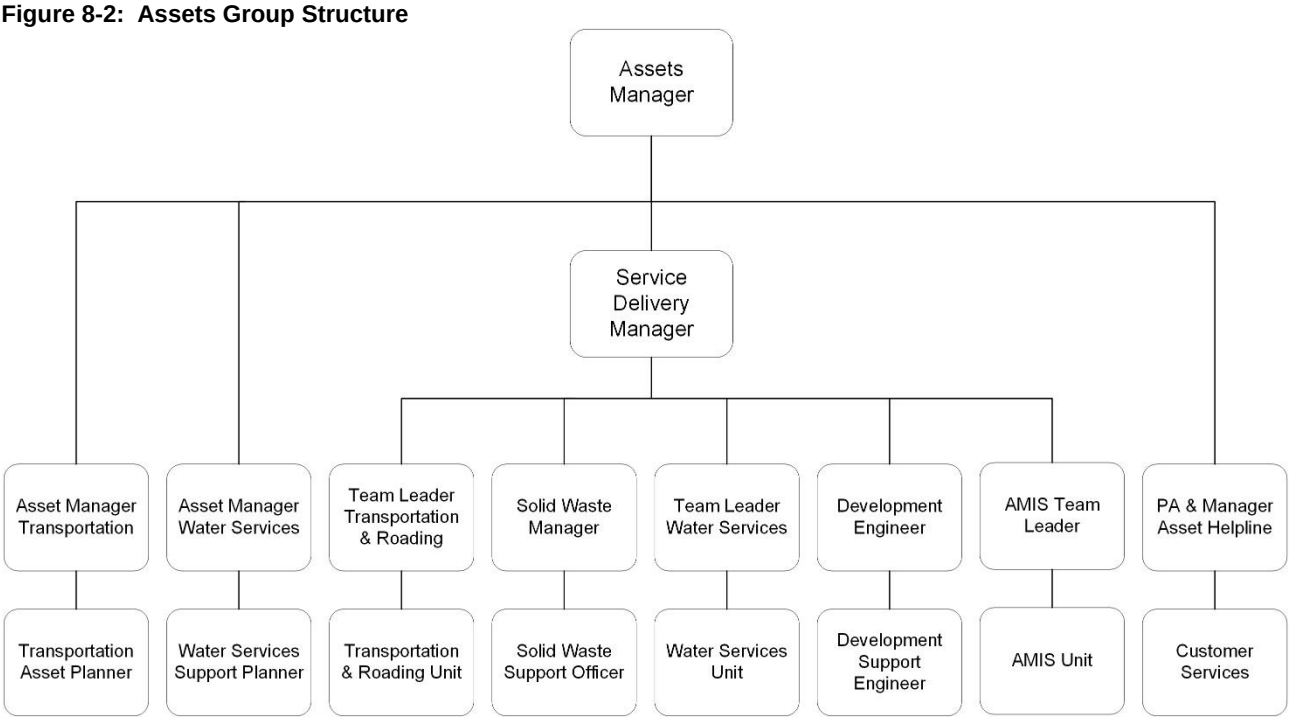
8 Asset Management Processes and Practices

This section outlines the information available on the assets, information systems used and process used to make decisions on how the asset will be managed. It also provides details on planning for monitoring the performance of the AMP.

8.1 Structure

Figure 8-1: Organisation Structure

Figure 8-2: Assets Group Structure



8.2 Systems

Asset Management systems (AMS) provide Council staff with the ability to obtain, store, analyse and report on the significant quantities of data that is or will be available associated with the specific activity.

The information and data systems relevant to the Solid Waste Activity are:

- NCS (Main Council Operating System)
  - Property rates
  - Consents
  - Finance
  - Creditors & Debtors
  - Service requests
  - Complaints
- Bins Database
- GIS Map Viewer
- Document Organisation and Record Information System (DORIS)
- Weightrax Weighbridge Software

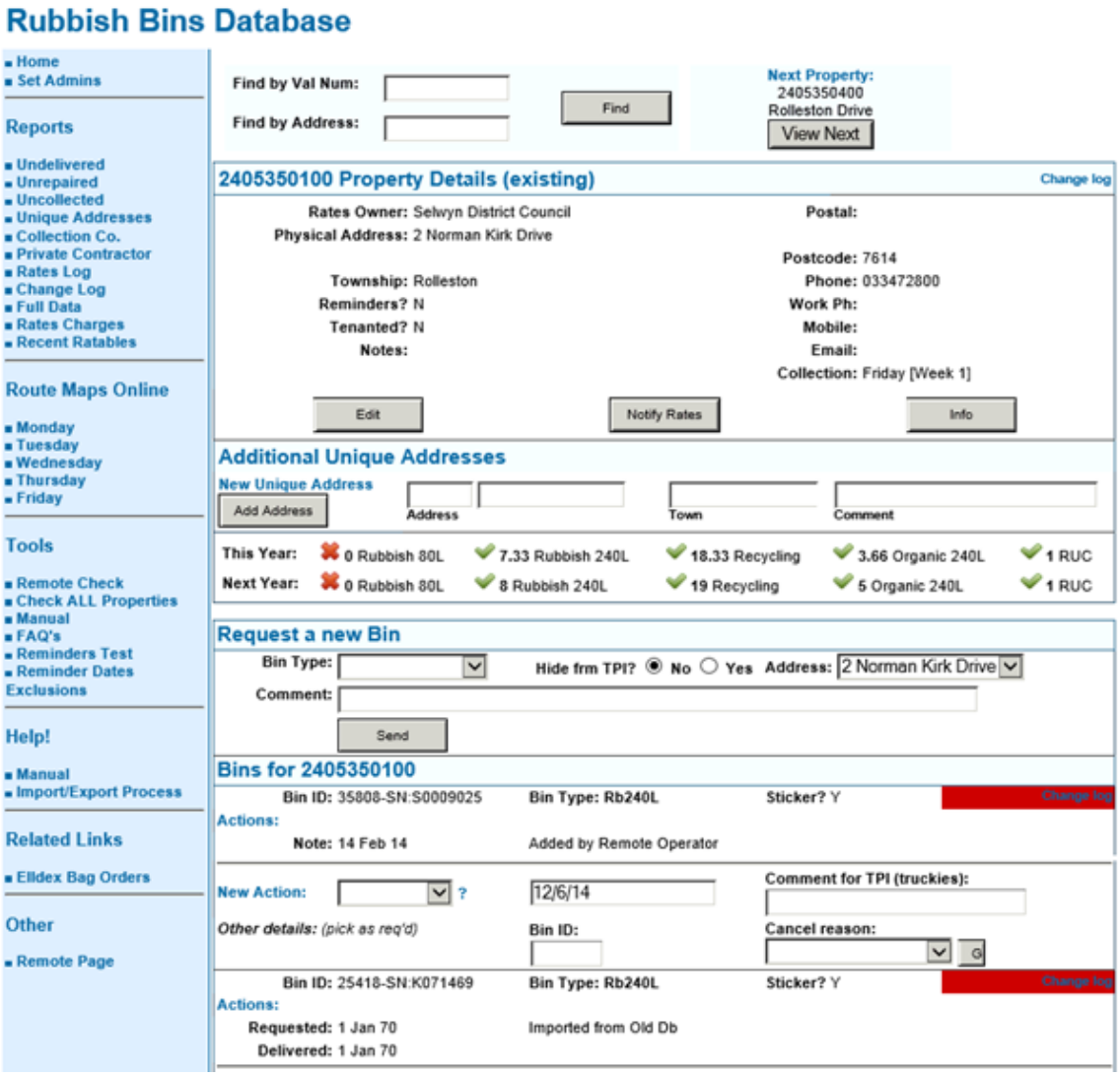
8.2.1 Bins Database

The Bins Database is a Council developed system used to manage bins at a property level. The Database has a basic level of communication with the Council Rates Department whereby the customer services officer can select to “update rates” when a change implemented may result in a change to the targeted rate for a property. The Database contains:

- Property details (i.e. physical address)
- Number of bins in service
- Type of bins (residual waste / recycling / organics)
- Size of bins (80 litre / 240 litre)
- Functionality to book delivery / removal / repair of bins
- Date when bins are requested or replaced
- Issues and notifications relating to recycling or organic bin contamination or overweight bins

The bins database can be accessed remotely by the operator through a tablet or mobile phone during audits. This provides the operator with the ability to check whether the property details and bins data aligns with the actual property and bins on site. A screenshot of the bins database is provided below.

Figure 8-3: Bins Database Screenshot



The bins database will continually be updated in an effort to ensure that Council receives the correct revenue for the kerbside collection services provided.

8.3 Human Resources

The Solid Waste Activity is managed by

- The Solid Waste Manager
- The Solid Waste Support Officer
- Assets Customer Services Officers (Helpline) and Assets Administrator

9: Financial

9 Financial

Financial expenditure for the next ten years is set out in the following diagrams and spreadsheets. The key messages here are that the Activity's costs are covered by the charges levied with some surplus to fund future proposed projects.

The details of operational income and expenditure, together with the capital programme, are set out in the following tables.

9.1 Financial Forecasts

The following forecasts are included in the 2018 LTP.

Both operational and capital expenditure with the Solid Waste Activity falls outside of the general rate and is self-funded. Fortunately operational income and expenditure generally 'self-correcting'. For example, an increase in the number of bins equates to an increase in expenditure, and a subsequent increase in income. Significant changes or projects proposed are discussed in Section 7.

The 10 year financial programme for Solid Waste is divided into the two main groups:

- Refuse Collection
- Refuse Disposal

Table 9-1: Refuse Collection Financial Summary 2018-2028

Item	2018/19	2019/20	2020/21	2021/22	2022/23	2023/2024	2024/25	2025/26	2026/27	2027/28
Income	($7,776,966)	($8,316,828)	($8,864,924)	($9,430,779)	($10,005,813)	($10,434,502)	($10,856,080)	($11,294,447)	($11,737,653)	($12,185,697)
Expenditure	$6,116,907	$6,595,444	$6,974,313	$7,346,190	$7,735,966	$8,013,076	$8,411,747	$8,741,474	$8,977,057	$9,305,359
Support	$293,357	$298,510	$305,048	$315,052	$317,761	$323,871	$335,404	$342,334	$348,986	$360,535
Projects	$35,000	$450,000	$30,000	$30,000	$30,000	$30,000	$2,012,220	$30,000	$30,000	$30,000

Table 9-2: Refuse Disposal Financial Summary 2018-2028

Item	2018/19	2019/20	2020/21	2021/22	2022/23	2023/2024	2024/25	2025/26	2026/27	2027/28
Income	($5,262,103)	($5,553,967)	($5,994,245)	($6,325,506)	($6,626,088)	($6,923,064)	($7,373,541)	($7,706,917)	($8,056,098)	($8,421,898)
Expenditure	$4,606,537	$5,154,925	$5,954,144	$6,444,318	$6,867,951	$7,207,238	$7,626,668	$7,983,421	$8,359,058	$8,693,293
Support	$245,351	$249,815	$255,365	$264,135	$266,070	$271,228	$281,341	$287,267	$292,892	$303,384
Operational Projects	$535,000	$335,000	$365,000	$370,000	$365,000	$340,000	$345,000	$345,000	$345,000	$345,000
Capital Projects	$2,099,000	$4,047,750	$3,227,000	$2,620,150	$500,000	$705,000	$0	$720,000	$0	$210,000

10: Issues and Opportunities

10 Issues and Opportunities

This Section details issues, or potential issues that have been identified and areas for possible improvements.

10.1 Issues and Opportunities

Table 10-1 below provides a summary of the proposed mechanisms to address emerging issues identified in the Waste Assessment 2017.

Table 10-1: Mechanisms to Address Emerging Issues

	Issues / Opportunities	Mechanisms to Address
Kerbside Collection	Rapidly expanding population, keeping up with servicing households.	Investigate and embrace new or emerging technologies associated with collection services Use regulatory tools such as the Waste Bylaw to for example alter refuse collection start times.
	Household residual waste bins containing significant volumes of recyclable or compostable material.	Pursue methods to increase the diversion of recyclable or recoverable (organic) materials from kerbside residual waste.
	A significant opportunity exists to improve organic waste diversion from households.	Confirm and proceed with preferred organics processing method, then: Promote the kerbside organic collection and home composting and emphasise the financial benefits of waste diversion; Specifically market to those households with access to the organic service, but who have not taken up the option.
	Disposal of non-acceptable waste in the refuse collection. Contamination in the recycling and organics bins.	Education via advertisements, bin tags, and direct letters to residents with contaminated bins. Bylaw that addresses acceptance criteria.
	Refuse bags and wheelie bins that are put out too late for kerbside collection may not be picked up. Missed or packed bins and subsequent potential for 'argument' with residents / Council / Contractor. The use of unofficial bags/wheelie bins.	Consideration of RFID tagging bins to improve database accuracy, therefore claim accuracy, and also address any issues associated with unofficial bins. Bylaw that addresses collection times and approved waste containers.
	Providing household waste services to properties not on current kerbside collection routes.	Proactively reviewing properties not currently receiving kerbside service – is extension feasible? Increased number and distribution of kerbside drop-off points. Provision of recycling and refuse drop-off facilities to accept material from houses not on kerbside routes.
	Inadequate spacing between wheelie bins at kerbside does not allow the collection truck's lifting arm to empty bin. Overweight bins.	Targeted leaflets for drivers to put in letter boxes (e.g. bin in road gutter, not on kerbside), bin tags, and direct letters to residents with heavy bins. Bylaw that addresses kerbside bin spacing.
	Sufficient kerbside space is required to accommodate wheelie bins and bags to be left at the kerbside for collection. Adequate provision is required for collection trucks to turn. Collection trucks do not collect waste in private rights-of-way. Building Act / code limitations – apply only to waste under certain circumstances.	Good communication currently exists between the Solid Waste Manager and the Development Engineer. This ensures that consideration is given to kerbside collection vehicles during the consent process – particularly in subdivisions where stages mean that some streets end abruptly. The following has been proposed for District Plan Review considerations: requirement for adequate allowance in road and sub divisional design for kerbside waste collections and on-property storage developments; and provisions for solid waste storage at medium and high density residential developments.
	Risk of injury attributed to manually handling refuse bags.	Monitor contractor's accident records and safe work procedures. Look to reduce bag usage by pricing mechanisms – positive with 80 litre residual waste bin pricing, negative with bag pricing (propose increase in bag prices in 2019/20). Extend collection route wherever economical practical.
	End of Contract ownership of wheelie bins and the creation of a level playing field for the next tender.	Negotiate with contractor prior to EOC and purchase bins at depreciated value, Or make new bins a requirement of the next tender so everyone is on a level playing field. This may also address the potential 80 litre bin issue if we were to move to a fortnightly service and require larger bins.

	Issues / Opportunities	Mechanisms to Address
Public Litter Bins	Disjointed public litter bin management.	Review management of litter bins and fly tipping within Council.
	Provision of additional public recycling bins, but limiting contamination levels.	Audit existing residual waste litter bins to identify further diversion opportunities. Monitor public place recycling in other Districts, learn from their experiences. Add public recycling bins in carefully selected locations so as to not jeopardise entire recycling load.
Pines Resource Recovery Park	Possible development of land near the Pines RRP, and subsequent reverse sensitivity issues impacting on Pines RRP operation.	Monitor planning and consenting applications that may adversely affect the operation of the RRP and make submissions as appropriate. Strictly manage processes onsite at Pines RRP to reduce likelihood of activities causing nuisance beyond boundary.
	Increase in disposal costs resulting from emissions related legislation and Waste levy increases.	Continue to monitor potential changes. Make budget allowances for likely future increases in these charges as indications suggest upcoming change.
	Improving knowledge of composition data; and cross boundary material / waste flows to allow more informed management.	Bylaw provisions to license waste operators and require licensees to report upon quantity composition and destination of waste collected and transported. Improve Council knowledge of commercial, construction and public waste composition received at Pines RRP by conducting a SWAP analysis.
	Health and Safety issues associated windblown debris at Pines RRP.	Currently investigating a very large wind diffusing fence to reduce prevailing strong easterly. Poplars have been planted around entire operational area. When these trees have matured, they will reduce wind speed from all directions.
	Compactor throughput and capacity.	Increase the residual waste compactor capacity throughput (increase operational hours or upgrade compactor at Pines RRP) when most appropriate.
	Disposal facilities (non-kerbside) for those properties that are more significant distances from Pines RRP.	Provide ‘Pop-up’ Resource Recovery Park / Transfer Station facility periodically to Ellesmere and Malvern communities. Consider increasing the opening and staff operational hours at the Pines RRP.
	Address apparent lack of awareness of Pines RRP facility existence.	Advertising the facility through a range of mechanisms / media.
	Burning and burying of farm waste in the District.	Investigate providing a structure and utilities for a farm waste / recycling receiving and processing area. Tender for an organisation to run the facility and provide a user pays collection service.

	Issues / Opportunities	Mechanisms to Address
Pines Resource Recovery Park	Increase diversion of waste by tackling upper tiers of waste hierarchy.	Investigate the feasibility of a reuse shop and salvage yard, implement if appropriate. Investigate the feasibility of an Environmental Education Centre, implement if appropriate. Investigate the feasibility of microenterprise units on site to repurpose and upcycle waste, implement if appropriate. Investigate the feasibility of a waste sorting line, implement if appropriate. Investigate the feasibility of a landscape supplies yard to assist with sale of compost generated and trailer hire to improve convenience, implement if appropriate. Continue to subsidise recovery of some material streams to encourage uptake of service – for example E-waste and Car Seat Recycling. Continue to lend support to and encourage national initiatives, including Product Stewardship schemes (for example AgRecovery). Work with 3rd parties to facilitate pyrolysis or alternative processing techniques to reduce waste to landfill.
	Construction waste is a significant and increasing component of the waste stream.	Continue to record construction related waste separately at weighbridge. Investigate feasibility of sorting construction waste at Pines RRP, implement if appropriate.
	Protecting our environment from hazardous wastes.	Investigate hazardous waste disposal education. Continue to accept hazardous waste at Pines RRP. Continue to support local sections of national haz waste collection programs.
Cleanfills & Closed Landfills	Potential Financial or Environmental liability associated with old closed landfill sites (those known and unknown).	Investigate current status, existence of other unknown landfills, liability and potential remediation costs.
	Requests to allow access to cleanfill sites when unattended.	Maintain appropriate controls around access to cleanfill disposal sites.
	Ensuring cleanfill material is uncontaminated (by rubbish, vegetation, and by potentially non visual contamination such as heavy metals, asbestos etc.).	Continue to manage incoming cleanfill and restricted access to pits. Investigate methods for better documentation of loads (where from etc.). Investigate practical methods for determining presence of non-visual contamination.
Council Supported Initiatives	Increase diversion of waste by considering new initiatives or improving / expanding on existing relationships.	Continue to support Education related programs such as Enviroschools, Waste Busters, Lincoln Envirotown Responsible Business Assessments and other activities (e.g. Waste Free Parenting classes) or organisations that fit within the Education Strategy. Develop a more comprehensive strategy for education.

10.2 Improvement Plan

Table 10-2, Table 10-2, Table 10-3 and Table 10-4 summarise potential options to meet the forecast demand. Each option in the table is assessed for its advantages and disadvantages against the New Zealand Waste Strategy 2010 (NZWS) goals, affordability, accessibility and convenience, ease of implementation and degree of impact on future waste to landfill. Accessibility and convenience are assessed because they are important factors with regard to community buy-in and uptake of waste minimisation initiatives or services. The final column questions whether, on balance, the option is one that is preferred in terms of future investigation, and grades it in terms of priority after considering the preceding columns.

Table 10-2: Collection Services Options and Assessment

Service	Options to Meet the Forecast Demand	Assessment Criteria						Overall Assessment: 'Preferred' Option to Investigate Further?
		Reducing Harmful Effect of Waste (NZWS Goal 1)	Improving Efficiency of Resource Use (NZWS Goal 2)	Affordability	Accessibility / Convenience	Ease of Implementation	Degree of Future Impact on Waste to Landfill	
Kerbside Collection Services	Status quo: Continue extending kerbside collection services to cater for increasing population	✓ Removes residual waste for safe and appropriate disposal. ✓ Wheelie bins provide a convenient, comparatively clean and safe method of collecting kerbside waste. ✓ Increasing the quantities of diverted material reduces quantities of waste to landfill. ✓ Refuse bags provide a way of servicing off-route properties that otherwise may burn or bury waste. ✗ The use of refuse bags and recycling crates has health and safety, animal strike and windblown litter issues.	✓ The user pays charging system and the waste bin size options encourage waste minimisation. ✓ Increases quantities of diverted materials for recycling. ✗ The convenience of the larger refuse wheelie bins may be a disincentive to waste minimisation for some. ✗ Staying with the status quo does not actually 'improve efficiency of resource use'.	Moderate ✗ Landfill costs are projected to increase. As this occurs, more recycling options become viable. Limiting ourselves to the status quo closes off those future opportunities.	High ✓ Kerbside bins are the highest rated service in the resident's survey. This gives Council confidence that the service is convenient and accessible for the bulk of the District. ✗ Does not address those off-route properties not receiving a kerbside service.	High	Low	Yes Logical to continue with this, but to do so in conjunction with other options presented.

Service	Options to Meet the Forecast Demand	Assessment Criteria						Overall Assessment: 'Preferred' Option to Investigate Further?
		Reducing Harmful Effect of Waste (NZWS Goal 1)	Improving Efficiency of Resource Use (NZWS Goal 2)	Affordability	Accessibility / Convenience	Ease of Implementation	Degree of Future Impact on Waste to Landfill	
Kerbside Collection Services	Proactively reviewing properties not currently receiving kerbside service –is extension feasible?	✓ Wheelie bins provide a convenient, comparatively clean and safe method of collecting kerbside waste. ✓ Increasing the quantities of diverted material reduces quantities of waste to landfill. ✓ Reduces the use of farm pits or burning of waste. ✓ Reduces the use of waste bags, reducing the likelihood of manual handling injuries for public and contractor, as well as reduces vermin issues associated with animals and torn bags. ✓ Reducing the use of recycling crates by providing wheelie bins to more properties will reduce windblown litter.	✓ Increases quantities of diverted materials for recycling. ✗ Increased 'dead running' of truck as a result of low density of properties in these areas. Results in increased emissions.	Moderate ✓ Expected that the higher costs associated with collecting from a lower density collection route would be spread over the total household base, and therefore the cost per house would be relatively small.	High • This is a relatively frequent item raised by individuals to the Councillors.	Low ✗ Quantifying the effect on truck numbers, route and day changes required, as well as understanding the level of uptake will be a significant piece of work.	Low • May actually result in more waste to landfill, as a result of decreased reliance of burning or farm pits. But this is a positive outcome.	Yes (medium priority)
	Increased number and distribution of kerbside drop-off points	✓ Increases the quantities of diverted material reduces quantities of waste to landfill	✓ Makes use of existing collection method, with very little additional vehicle running	High ✓ Very little expense required to implement.	Moderate ✓ Improves accessibility and convenience for off-route residents.	High	Low	Yes

Service	Options to Meet the Forecast Demand	Assessment Criteria						Overall Assessment: 'Preferred' Option to Investigate Further?
		Reducing Harmful Effect of Waste (NZWS Goal 1)	Improving Efficiency of Resource Use (NZWS Goal 2)	Affordability	Accessibility / Convenience	Ease of Implementation	Degree of Future Impact on Waste to Landfill	
Kerbside Collection Services	Provision of recycling and refuse drop-off facilities to accept material from houses not on kerbside routes	✓ Increases the quantities of diverted material reduces quantities of waste to landfill. ✓ May reduce incidence of residents burying waste in farm pits, or burning it. ✓ Will provide a facility for freedom campers and tourists to use – reducing litter issues.	✓ Encourages waste minimisation.	Moderate	Moderate ✓ Increases accessibility and convenience for off-route residents.	Moderate • Requires identifying and gaining lease or ownership of suitable land, site works, capex etc.	Low • May actually result in more waste to landfill, as a result of decreased reliance of burning or farm pits. But this is a positive outcome.	Yes Still a viable option to address those properties unable to access kerbside services.
	Phase out residual waste bag option (move to wheelie bins only)	✓ Will reduce the risk of injuries to collectors. ✓ Will reduce incidents of animals tearing open bags – and subsequent animal health effects as well as litter from torn bags. ✗ Not providing a bag option to off-route properties may increase the use of less desirable alternatives for disposal of waste (e.g. burning) because of the inconvenience associated with taking a wheelie bin to a collection point compared with a bag.	✓ May result in some decrease in the use of single use plastic refuse bags.	High ✓ The smallest residual waste bin option is only marginally higher to a bag cost if put out weekly. ✗ Very low volume waste producers, or holiday homes may be financially worse off by the removal of the bag option.	Moderate ✓ Convenient for those with direct kerbside collection. ✗ May present issues for those who have to transport their waste to a collection point (note: other options presented do address this issue).	Moderate ✗ Some opposition expected.	Low	Yes (medium priority) Only on the proviso that off-route properties are provided with an easy to use alternative (e.g. a conveniently located recycling / refuse drop off station).

Service	Options to Meet the Forecast Demand	Assessment Criteria						Overall Assessment: 'Preferred' Option to Investigate Further?
		Reducing Harmful Effect of Waste (NZWS Goal 1)	Improving Efficiency of Resource Use (NZWS Goal 2)	Affordability	Accessibility / Convenience	Ease of Implementation	Degree of Future Impact on Waste to Landfill	
Kerbside Collection Services	Fortnightly kerbside residual waste collection (instead of current weekly)	✓ Expect a reduction in waste to landfill. ✓ Reduced collection vehicle emissions. ✗ Fortnightly collection may create odour issues with putrescible waste and disposable nappies. ✗ Restrictions in refuse container capacity may result in contamination of recycling and organics waste.	✓ Kerbside collection trucks travel shorter distances. ✓ Encourages waste minimisation by restricted refuse container capacity. ✗ 80L refuse bins will be too small for fortnightly service and would have to be replaced with 140L (or larger) bins (high cost to purchase and reissue these bins).	Moderate ✓ Expected reduction in annual residual waste collection cost. ✗ 80L refuse bins will be too small for fortnightly service and would have to be replaced with 140L (or larger) bins (high cost to purchase and reissue these bins).	Moderate	Low ✗ A significant amount of work would be required to implement this.	Moderate	Yes (review longer term)
	Promotion of organics service in serviced areas	✓ Will receive greater quantities of organic waste and reduce waste to landfill.	✓ Increases beneficial use of organic waste. ✓ Improved collection density, therefore improved efficiency of collection trucks. ✗ Some small reduction in the potential for landfill gas extraction at Kate Valley Landfill.	High	High	High	High	Yes A logical step that is relatively 'untapped' so far.
	Supply of home kitchen food waste caddies and biodegradable liners	✓ Will receive greater quantities of organic waste and reduce waste to landfill – and resultant methane generation.	✓ Increases beneficial use of organic waste.	Unknown ✓ Cost reduction potential from food waste reduction in landfill disposal fees.	High	Moderate	Moderate	Yes, but not initially (medium term)

Service	Options to Meet the Forecast Demand	Assessment Criteria						Overall Assessment: 'Preferred' Option to Investigate Further?
		Reducing Harmful Effect of Waste (NZWS Goal 1)	Improving Efficiency of Resource Use (NZWS Goal 2)	Affordability	Accessibility / Convenience	Ease of Implementation	Degree of Future Impact on Waste to Landfill	
Kerbside Collection Services	Installation of RFID tags on wheelie bins (and potential future charging options)	✓ Future charging options (pay per lift or pay per weight) encourage waste minimisation behaviour, thereby minimising harmful effects of waste. ✗ If pay per lift implemented there is potential for increased contamination of the divertible streams as they will likely have higher capacity bins and a lower cost of collection.	✓ Future potential charging options (pay per lift or pay per weight) encourage less frequent bin presentation at kerbside – reducing truck emissions and wear and tear. ✓ Reduced staff time and resources involved in investigating and resolving issues, because RFID tags would provide more certainty around bin allocation and missed collections.	Moderate ✓ Allows for improved accuracy of database. This allows reliable and accurate charging for bins in service. ✓ Future charging options such as pay per empty, or pay by weight would financially reward residents producing less waste (and vice versa). ✗ Capex quite significant.	High ✓ All bins would be tagged.	Moderate • Capex Budget required. • Council approval likely to be required proceed with this system (due to potential for public concern).	High ✓ Future charging options could result in significant behaviour change.	Yes (medium priority) Prudent to future proof by continuing to add RFID tags on new bins. Further research required before considering changes to pay per lift type options
	Investigate future kerbside contract ownership structure/model of wheelie bins	N/A	N/A	Moderate • Council will end up paying either to own the bins at the end of current contract, or will pay indirectly through a new (the next) contract. This is so as to level the playing field in future tenders.	N/A	Moderate ✗ If new contract was to specify all new bins (to level playing field), then this is a significant task.	N/A	Yes (low priority)
	Develop a strategy to increase the diversion of recyclable or recoverable (organic) materials from kerbside residual waste	✓ Reduces waste to landfill.	✓ Increases beneficial use of organic waste ✓ Increases quantities of diverted materials for recycling. ✗ Some small reduction in the potential for landfill gas extraction at Kate Valley Landfill.	High	High	High	High	Yes (high priority)

Service	Options to Meet the Forecast Demand	Assessment Criteria						Overall Assessment: 'Preferred' Option to Investigate Further?
		Reducing Harmful Effect of Waste (NZWS Goal 1)	Improving Efficiency of Resource Use (NZWS Goal 2)	Affordability	Accessibility / Convenience	Ease of Implementation	Degree of Future Impact on Waste to Landfill	
Collection from High Country Villages	Status Quo: Increase the number or size of refuse / recycling bins or frequency of collection to accommodate demand or growth	✓ Removes residual waste for safe disposal. ✓ Removes divertible material for recycling.	✗ Staying with the status quo does not actually 'improve efficiency of resource use', and may potentially increase resource use (fuel) as a result of distances to High Country Villages.	High	Moderate	High	Low	Yes Logical to continue with this, but to do so in conjunction with other options presented
Public Litter Bins	Status Quo: Increase the number of refuse / recycling bins to accommodate demand or growth	✓ Removes residual waste for safe disposal. ✓ Removes divertible materials for recycling.	✗ Staying with the status quo does not actually 'improve efficiency of resource use'.	High	High	High	Low	Yes (low priority) Logical to continue with this, but to do so in conjunction with other options presented
	Audit existing residual waste litter bins to identify further diversion opportunities (i.e. adding a recycling bin)	✓ Increases diversion of material from landfill.	✓ Increases quantities of diverted materials for recycling.	High	High	High	Low	Yes (long term priority)
Public Litter Bins	Review management of litter bins and fly tipping within Council	✓ Would provide greater oversight of litter bins and fly-tipping in the district, allowing better management. ✓ Would avoid "grey area" management challenges such as bus stop bins.	✓ May allow for consolidation of service providers. ✓ Allow more efficient oversight of District litter – and therefore potentially a strategy to better management. ✗ Would require increased staff time of whichever department litter bins were allocated to.	High	N/A	High Staff time and contract management is the only requirement.	N/A	Yes (low priority but worth investigating)
All Collection Services	Investigate and embrace new or emerging technologies associated with collection services	✓ New technologies may improve quality of diverted materials (sensors recognising contamination, sensors that can communicate with residents)	✓ New technologies may improve efficiency of collections	Unknown	Unknown	Unknown	Unknown	Yes Keep informed of advances in this area

Service	Options to Meet the Forecast Demand	Assessment Criteria						Overall Assessment: 'Preferred' Option to Investigate Further?
		Reducing Harmful Effect of Waste (NZWS Goal 1)	Improving Efficiency of Resource Use (NZWS Goal 2)	Affordability	Accessibility / Convenience	Ease of Implementation	Degree of Future Impact on Waste to Landfill	
All Collection Services	Use any potential budget surpluses generated to assist with other waste related activities. Or specifically increase some collection service components in order to generate surplus for use for other waste related activities	✓ Increases funds available for activities that achieve NZWS Goal 1. ✗ Artificially high costs may exacerbate fly tipping.	✓ A small increase spread across a large number of properties generates a reasonable revenue stream that could potentially be used in activities that promote resource use efficiency.	High	N/A	High	Dependent	Yes (low priority) Only if suitable projects were suited to this type of funding, and it was deemed the most appropriate way to fund a project
	Use regulatory tools such as the Waste Bylaw to for example alter refuse collection start times	N/A	✓ Longer collection hours reduces the number of trucks required – enables more bins collected per truck in service.	High	High • Some potential increased inconvenience for residents associated with putting bins out earlier.	Moderate • Bylaw review required. • Consultation required.	N/A	Yes (low priority) If demand / growth required it. Consider at next bylaw review. Has been raised by collection contractor.

Table 10-3: Disposal and Diversion Options and Assessment

Service	Options to Meet the Forecast Demand	Assessment Criteria						Overall Assessment: 'Preferred' Option to Investigate Further?
		Reducing Harmful Effect of Waste (NZWS Goal 1)	Improving Efficiency of Resource Use (NZWS Goal 2)	Affordability	Accessibility / Convenience	Ease of Implementation	Degree of Future Impact on Waste to Landfill	
Pines Resource Recovery Park	Status quo	✓ Maintains current performance in this regard, but doesn't improve. ✗ Longer-term the volumes will outstrip the throughput capacity of the facility if changes are not made.	✗ Does not improve performance in this regard.	Moderate • Landfill costs will increase, as will landfill levy charges. Not improving diversion options will ultimately cost the community more to dispose of waste.	Moderate • Concern regarding travel distance for households in outlying areas (addressed in other options)	High	Low	Medium Medium to longer term changes are needed to cope with volumes.
	Increase the opening and staff operational hours	✓ Refuse is accepted and managed in a manner that ensures minimal harmful effects. ✓ Improved opening hours may have a beneficial effect on fly tipping in the District.	✓ Increasing the operating capacity of the existing facility is a more efficient use of resource and finances than creating new facilities in other areas of the District.	High	Moderate ✗ Concern regarding travel distance for outlying areas (addressed in other options). Although improved hours will make it easier to access for those travelling longer distances.	High • Would require contract amendment and budget consideration.	N/A	Yes Longer-term: Not currently a priority. Analysis of demand would be required to determine whether longer hours would provide any material benefit to residents. No indication that this is currently the case.
	Increase the compactor capacity throughput (upgrade compactor)	N/A	✓ Upgraded compactor capacity at the end of its useful life allows maximum use of existing facility at Pines RRP and improved operational efficiency	High • However only worthwhile doing when at capacity limit or nearing compactor end of life.	N/A	High	N/A	Yes (long term) Recent refurbishments have extended the life of the asset. Throughput capacity currently fine and can be increased by extending staff hours before looking at larger capacity compactor. Would look to re-assess max capacity.

Service	Options to Meet the Forecast Demand	Assessment Criteria						Overall Assessment: 'Preferred' Option to Investigate Further?
		Reducing Harmful Effect of Waste (NZWS Goal 1)	Improving Efficiency of Resource Use (NZWS Goal 2)	Affordability	Accessibility / Convenience	Ease of Implementation	Degree of Future Impact on Waste to Landfill	
Pines Resource Recovery Park	Improve Council knowledge of commercial, construction and public waste composition received at Pines RRP	✓ Improving Council's knowledge of the composition of these waste streams enables decisions to be made in order to divert additional waste from landfill	✓ Enables the recovery of additional resources from the waste stream. These can be reused, recovered or recycled	High	N/A	Moderate Impact on operations at Pines RRP whilst SWAP studies are taking place.	None directly	Yes (high priority)
	Investigate the feasibility of a waste sorting line, implement if appropriate	✓ Enables the recovery of additional resources from the waste stream – greater diversion = less harmful effects on the environment.	✓ Enables the recovery of additional resources from the waste stream. These can be reused, recovered or recycled.	High ✓ Envisage that waste sorting is achievable for less than the cost of compacting and sending waste to landfill.	High ✓ Most waste in the district currently goes to Pines RRP, and most growth is in the Rolleston / Lincoln / West Melton areas. This is the most logical place for the waste sort line.	Moderate • Requires feasibility study, and trials / budget.	High	Yes (high priority)
	Work with 3rd parties to facilitate pyrolysis or similar processing techniques to reduce waste to landfill	✓ Assists with the recovery of materials and energy from waste streams. ✓ Potentially a better alternative to other methods of handling some materials (e.g. tyre stock piles, or export to countries with low health and environmental standards).	✓ Assists with the recovery of resources that would otherwise be landfilled.	High Expect 3rd party to fund themselves.	High ✓ Good location – proximity to Christchurch material volumes and South Island road and rail network.	Moderate • A number of uncertainties exist at present.	High	Yes (low priority) Maintain open mind to opportunities.
	Address apparent lack of awareness of Pines RRP facility existence	✓ May reduce fly tipping, burying or burning of waste.	✓ May result in shorter travel distances for those traveling to Christchurch for waste disposal.	High	Moderate	High	Low	Yes (high priority)

Service	Options to Meet the Forecast Demand	Assessment Criteria						Overall Assessment: 'Preferred' Option to Investigate Further?
		Reducing Harmful Effect of Waste (NZWS Goal 1)	Improving Efficiency of Resource Use (NZWS Goal 2)	Affordability	Accessibility / Convenience	Ease of Implementation	Degree of Future Impact on Waste to Landfill	
Pines Resource Recovery Park	Investigate the feasibility of a landscape supplies yard to assist with sale of compost generated and trailer hire to improve convenience, implement if appropriate	✓ Provides more reasons to visit the RRP facility – spin off effect for recycling, future reuse shop etc.	✓ Located at the RRP provides synergies with resident vehicle movements.	High Expect 3rd party to fund for the most part.	High ✓ Most waste in the district currently goes to Pines RRP, and most growth is in the Rolleston / Lincoln / West Melton areas. ✓ Seen as a good fit for the site and a drawcard to encourage activity in other areas of waste minimisation.	Moderate	N/A	Yes (low priority). 3rd party to do the investigation work associated with this part of the facility.
	Provide a structure and utilities for a farm waste / recycling receiving and processing area	✓ Assists with the diversion of waste and recyclables from farm pits and the burning of farm waste. ✓ Enables the recovery of additional materials.	✓ Located at Pines RRP enables efficient processing and diversion of waste, as well as recyclables, collected by existing RRP providers.	High ✓ It is envisaged that the initial capital outlay for structure would be funded by budget surplus or WMF Levy Fund application.	High ✓ Located at Pines RRP enables efficient processing and diversion of waste, as well as recyclables, collected by existing RRP providers.	Moderate	Moderate	Yes (medium priority)

Service	Options to Meet the Forecast Demand	Assessment Criteria						Overall Assessment: 'Preferred' Option to Investigate Further?
		Reducing Harmful Effect of Waste (NZWS Goal 1)	Improving Efficiency of Resource Use (NZWS Goal 2)	Affordability	Accessibility / Convenience	Ease of Implementation	Degree of Future Impact on Waste to Landfill	
Pines Resource Recovery Park	Investigate the feasibility of a reuse shop and salvage yard, implement if appropriate	✓ Reduces waste to landfill, associated negative effects including those associated with the transport of waste to landfill. ✗ Risk associated with accepting items – hazards such as needles, cleanliness, electrical safety, manual handling of heavy items.	✓ In the Waste Hierarchy material reuse is a better option than recycling. ✓ Potentially valuable resources can be reused instead of being landfilled. ✗ Requires close supervision to prevent receipt of unsuitable goods. ✗ Materials (concrete and construction) required to construct a facility for reuse.	High ✓ It is envisaged that the initial capital outlay for structure would be funded by budget surplus or WMF Levy Fund application. ✓ Would generate a modest income that is expected to cover staff wages and potentially provide a surplus to contribute towards other recovery related activity onsite. ✓ Would provide a source of low cost items for the community to purchase.	High ✓ Pines RRP is closest to the largest population centres in the District, and therefore customer base.	Low	Moderate	Yes (high priority) A key missing part of the RRP facility at present.
	Investigate the feasibility of an Environmental Education Centre, implement if appropriate	✓ Educate residents, children and community groups about waste delated (and broader environmental) issues. ✓ Ability to influence the "Reduce" part of the Waste Hierarchy.	✓ Promotes efficiency of resource use messages and behaviour. ✓ Educates public regarding best practice recycling behaviours – reduces contamination of recoverable streams. ✗ Materials (concrete and construction) required to construct a facility for environmental education.	High ✓ Fund educator through local Waste Minimisation Levy Funding. ✓ Funding already exists for some waste education programmes in the District.	High ✓ Pines RRP is closest to the largest population centres in the District.	Low ✗ Considerable amount of work required to design and construct a suitable facility, as well as develop a plan around how to run activity there.	Moderate • Long term change in thinking and behaviour.	Yes (medium term)

Service	Options to Meet the Forecast Demand	Assessment Criteria						Overall Assessment: 'Preferred' Option to Investigate Further?
		Reducing Harmful Effect of Waste (NZWS Goal 1)	Improving Efficiency of Resource Use (NZWS Goal 2)	Affordability	Accessibility / Convenience	Ease of Implementation	Degree of Future Impact on Waste to Landfill	
Pines Resource Recovery Park	Investigate the feasibility of microenterprise units on site to repurpose and upcycle waste, implement if appropriate	✓ Impacts the "Reuse" part of the Waste Hierarchy, hereby reducing waste to landfill and the associated harmful effects.	✓ Impacts the "Reuse" part of the Waste Hierarchy. ✗ Materials (concrete and construction) required to construct a facility for microenterprise activities.	Moderate • Unlikely to generate much revenue, but also unlikely to require much ongoing cost support, after the initial capital cost of construction.	High ✓ Pines RRP is closest to the largest population centres in the District.	Low • Considerable amount of work required to design and construct a suitable facility, as well as to develop a plan around how to run this operation.	Moderate • Long term change in thinking and behaviour.	Yes (medium term)
	Carting organic waste to external composters for processing	✓ Reduces organic waste to landfill. ✗ Harmful effects of additional handling and cartage (emissions).	✗ Additional handling and cartage is not resource efficient from a transport perspective.	Moderate • Depends on location of 3rd party processor (local or distant – e.g. Living Earth).	Moderate • Depends on location of 3rd party processor (local or distant – e.g. Living Earth).	Moderate • Would require additional collection vehicles, rerouting and budget increase and negotiation with external party.	N/A • The composting method chosen makes little impact on volumes recovered.	Yes Dependent on processing cost.
	Windrow or aerated static pile composting of garden waste	✓ Reduces organic waste to landfill. ✗ Potential for increased vermin presence as a result of not being an in-vessel composting process.	✓ Has the capacity to increase diversion of organics waste from landfill. ✓ Utilises existing machinery onsite (loaders). ✓ Utilises existing land at Pines RRP (i.e. new site or infrastructure not required). ✓ Existing infrastructure is over capacity. New composting method is required. ✗ Reduces potential for landfill gas extraction at Kate Valley Landfill. ✗ A more resource intensive composting process than some alternatives.	High	N/A	Moderate ✗ Resource consent changes required. Food waste windrow composting potentially more difficult to get consented in a windrow operation.	N/A • The composting method chosen makes little impact on volumes recovered.	Yes Windrow composting to be assessed due to current capacity issues.

Service	Options to Meet the Forecast Demand	Assessment Criteria						Overall Assessment: 'Preferred' Option to Investigate Further?
		Reducing Harmful Effect of Waste (NZWS Goal 1)	Improving Efficiency of Resource Use (NZWS Goal 2)	Affordability	Accessibility / Convenience	Ease of Implementation	Degree of Future Impact on Waste to Landfill	
Other	Provide 'Pop-up' Resource Recovery Park / Transfer Station facility periodically to Ellesmere and Malvern communities	✓ Likely to reduce burning and disposal into farm pits in these areas.	✓ Temporary facilities don't require the infrastructure associated with a permanent facility. ✓ Existing trained staff can be utilised to operate a pop up facility for a day.	High	Moderate • Not as accessible as a permanent facility (in terms of opening hours), but the number of days offered per year could be increased if demand was sufficient.	High ✓ Proven basic level offering already takes place. ✓ Consents are now in place to expand materials accepted at these pop-up days.	Low	Yes (high priority) These pop-up RRPs offer improved accessibility to the outlying areas of the District which is valued in the community.
	Use regulatory tools to capture tonnage and composition data from private collectors	✓ Provides better oversight of waste situation enabling directed efforts to minimise waste.	✓ Provides better oversight of waste situation enabling directed efforts to minimise waste.	High	N/A	High	N/A	Yes Easy to implement.

Table 10-4: Other Items Options and Assessment

Service	Options to Meet the Forecast Demand	Assessment Criteria						Overall Assessment: 'Preferred' Option to Investigate Further?
		Reducing Harmful Effect of Waste (NZWS Goal 1)	Improving Efficiency of Resource Use (NZWS Goal 2)	Affordability	Accessibility / Convenience	Ease of Implementation	Degree of Future Impact on Waste to Landfill	
Education	Continue to support education related programmes such as Enviroschools, Waste Busters, Lincoln Envirotown Responsible Business Assessments and other activities (e.g. Waste Free Parenting classes) or organisations that fit within the Education Strategy	✓ Educating residents, students and businesses encourages awareness of waste related issues, and thinking about possible solutions. This has a flow on effect in terms of behaviours in other areas of the community (e.g. taking the message home).	✓ Educating residents, students and businesses encourages awareness of waste related issues, and thinking about possible solutions. This has a flow on effect in terms of behaviours around purchasing decisions and using resources.	High	High • The Education Strategy would involve a mixture of in-schools sessions, as well as at Pines RRP, web based, business assessments etc.	High	Moderate (hard to quantify)	Yes (medium priority). Continue as is currently until new Education Strategy is formed, then review existing arrangements.

Service	Options to Meet the Forecast Demand	Assessment Criteria						Overall Assessment: 'Preferred' Option to Investigate Further?
		Reducing Harmful Effect of Waste (NZWS Goal 1)	Improving Efficiency of Resource Use (NZWS Goal 2)	Affordability	Accessibility / Convenience	Ease of Implementation	Degree of Future Impact on Waste to Landfill	
Education	Develop a more comprehensive strategy for education	✓ Will help improve reduction of waste at source, thereby prevents any possible harmful effects. ✓ Educating residents, students and businesses encourages awareness of waste related issues, and thinking about possible solutions. This has a flow on effect in terms of behaviours when handling waste.	✓ Educating residents, students and businesses encourages awareness of waste related issues, and thinking about possible solutions. This has a flow on effect in terms of behaviours when handling waste.	Low (but also a qualitative item to try to measure the impact for)	High • The education strategy would involve a mixture of in-school sessions as well as at Pines RRP, web based, business assessments etc.	High • Requires critical thinking and considered input from a number of people.	Moderate (hard to quantify)	Yes (medium term)
	Hazardous waste disposal education	✓ Improve awareness of what is hazardous waste, and how / where to dispose of it safely. ✓ Hazardous waste has increased potential to cause significant environmental harm compared to regular household waste. Efforts to minimise incorrect disposal reduce the risk of harm.	✓ Directs public to utilise existing facility designed to receive hazardous waste, or to hazardous waste collection service providers for commercial volumes.	High	Moderate • Some issues for outer reaches of the District. Possible potential for inclusion in pop-up RRP facilities.	High	Low	Yes (medium priority)
Support / Collaboration	Continue to subsidise recovery of some material streams to encourage uptake of service – for example E-waste and Car Seat Recycling Scheme	✓ Increases uptake of waste minimisation services, normalises societal behaviour and expectation. ✓ Some items such as E-waste have increased potential to cause environmental harm over general waste due to heavy metal contents.	✓ Makes use of existing facility at Pines RRP. ✓ Recovers some rare metals and other resources that can be used for future product manufacture.	High	Moderate • Pines RRP limits some outlying residents. This may be alleviated by inclusion of these material streams at pop-up RRP sites.	High	Low • Low volumes but potentially high environmental impact if disposed of incorrectly.	Yes (continue as currently)

Service	Options to Meet the Forecast Demand	Assessment Criteria						Overall Assessment: 'Preferred' Option to Investigate Further?
		Reducing Harmful Effect of Waste (NZWS Goal 1)	Improving Efficiency of Resource Use (NZWS Goal 2)	Affordability	Accessibility / Convenience	Ease of Implementation	Degree of Future Impact on Waste to Landfill	
Support / Collaboration	Continue to lend support to and encourage national initiatives, including Product Stewardship schemes (for example AgRecovery)	✓ Combined Council support can influence the success or otherwise of initiatives that reduce the harmful effects of waste.	✓ Often national initiatives such as AgRecovery recover resources for recycling as part of the programme.	High	Moderate • Dependent on initiative or programme.	Moderate - High • Dependant on initiative or programme.	Moderate • Dependant on initiative or programme.	Yes (continue as currently)
	Continue to collaborate internally and with other Councils	✓ Collaboration with other Councils enables pooled resources and ideas to be shared when tackling the harmful effects of waste (CHER Group), for example illegal dumping.	✓ Collaboration with other Councils enables pooled resources and ideas to be shared.	High	N/A	High	N/A	Yes (continue as currently)
Other	Old closed landfills – investigate current status, existence of other unknown landfills, liability, potential remediation costs	✓ Improved knowledge of these will enable Council to minimise harm to the environment (by for example groundwater testing may detect and issue that could be remediated).	N/A	Moderate	N/A	Moderate	N/A	Yes (long-term priority)

Appendix A Waste Management and Minimisation Bylaw 2012

WASTE MANAGEMENT AND MINIMISATION BYLAW 2012

SELWYN DISTRICT COUNCIL

WASTE MANAGEMENT AND MINIMISATION BYLAW 2012

This Selwyn District Council Waste Management and Minimisation Bylaw 2012 (Bylaw) is made pursuant to sections 145 and 146 of the Local Government Act 2002, section 56 of the Waste Minimisation Act 2008, sections 64 and 65 of the Health Act 1956, and section 12 of the Litter Act 1979.

Contents

Schedules

1 General

1.1 Title

The title of this Bylaw shall be the "Selwyn District Council Waste Management and Minimisation Bylaw 2012".

1.2 Commencement

This Bylaw shall come into force on the 1 December 2012 (the start date).

1.3 Purpose

The purpose of this Bylaw is to:

a) Protect, promote and maintain public health and safety, and the health and safety of Waste and Diverted Material operators by regulating the collection and disposal of Waste and Diverted Material;

b) Promote effective, efficient and safe collection, transportation, management, storage and disposal of Waste and Diverted Material;

c) Regulate and monitor Waste and Diverted Material Operators within the District through a licensing process; and

d) Promote waste minimisation through any other activity.

1.4 Repeal

This Bylaw revokes the Ellesmere County Council General Bylaw 1969, Part X: Removal of Refuse, Malvern County Council General Bylaw 1987, Chapter 6; Removal of Refuse and the Paparua County Council Bylaw 1981, Section 2: Household Refuse Collection and Disposal.

2 Interpretation

In this Bylaw, unless the context requires otherwise, the following definitions apply:

Approved	means authorised in writing by the Council.
Approved Collection Bag	means a bag Approved for the use in the Kerbside Collection Service for Approved Waste.
Approved Collection Container	means a collection container, including a bag, Approved for use in a Kerbside Collection Service.
Approved Diverted Material	has the meaning given in Schedule 2.
Approved Organic Material	has the meaning given in Schedule 2.
Approved Waste	has the meaning given in Schedule 2.

Council	means the Selwyn District Council, or any committee, Community Board, or officer delegated to exercise the authority of the Council.
District	means the Selwyn District.
Diverted Material	means anything that is no longer required for its original purpose and, but for commercial or other waste minimisation activities, would be disposed of or discarded.
Drop-off Point	means an area provided by Council for the purpose of depositing Approved Waste, Approved Diverted Material or both.
Eligible Property	means a property within the District that is on the collection route of any of the Kerbside Collection Services.
Hazardous Waste	has the meaning given in Schedule 2.
Kerbside Collection Service	means any collection service provided by or on behalf of the Council for the collection of any Approved Waste or Diverted Material from Eligible Properties within the District.
Licence	means a licence issued in accordance with this Bylaw.
Licensed Collector	means a person who holds a current Licence to collect, transport and deposit Waste and/or Diverted material.
Litter	means any refuse, rubbish, animal remains, building materials, glass, metal, garbage, debris, dirt, filth, rubble, ballast, stones, earth, or waste matter, or any other thing of a like nature.
Nuisance	has the meaning given in section 29 of the Health Act 1956 and includes anything obnoxious, offensive or injurious to the community or any member of it.
Occupier	means any person or company who occupies any land or building (including commercial premises) and, if the land or building is unoccupied, includes the owner or the owner's agent**.**
Owner	is the person or company whose name is on the certificate of title for the premises.
Person	includes a corporation sole, and also a body of persons, whether corporate or unincorporated.
Property	means land or buildings which are separately occupied.
Public Place	means (a) A place that is under control of the Council and that is open to, or being used by, the public (whether or not there is charge for admission); and (b) Includes a road (whether under the control of Council or otherwise) and any part of a public place.

Waste	means (a) Anything disposed of or discarded; and (b) Includes a type of waste that is defined by its composition or source (for example, organic waste, electronic waste, or construction and demolition waste); and (c) To avoid doubt, includes any component or element of diverted material, if the component or element is disposed of or discarded; and (d) Litter.
Waste and Diverted Material Facility	means any land and associated improvements used for the handling, storage, processing and/or disposal of Waste, Diverted Material or both by, or on behalf of the Council, and includes, but is not limited to, resource recovery parks, landfills and Drop-Off Points.

3 Introduction

3.1 Overview

3.1.1 This bylaw provides rules that apply to the Council's Waste and Diverted Material services, and certain other activities, which without regulation have the potential to threaten public health and safety and create a nuisance.

3.1.2 All users of the Council's Approved Waste and Approved Diverted Material Services shall pay all fees and charges as specified by the Council.

3.1.3 Fees and charges for the Council's Waste and Diverted Material services may be amended by the Council following the procedures in the Local Government Act 2002 for setting fees and charges.

3.1.4 Current fees and charges will be posted on the Selwyn District Council Website (http:// www.selwyn.govt.nz) and may be obtained at the Council's office and service centres.

3.1.5 Information about the Council's Waste and Diverted Material services is posted on the Selwyn District Council Website (http://www.selwyn.govt.nz) and may be obtained at the Council's office and service centres. This information includes the operative Waste Management and Minimisation Plan and the operative Long Term Plan.

3.1.6 This Bylaw includes the following Schedules:

(a) Schedule 1 – Approved Collection Containers. This records the current collection containers that are Approved for use by a participant in a Council Kerbside Collection Service. The Council may, from time to time, alter the categories and type of Approved Collection Containers by resolution publicly notified.

(b) Schedule 2– Classification of Waste and Diverted Material. This records classifications of Waste and Diverted Material including Approved Waste and Approved Diverted Material and Prohibited Waste within the District. The Council may, from time to time, alter the classification of Waste and Diverted Material as recorded in Schedule 2 by resolution publicly notified.

(c) Schedule 3 – Waste and Diverted Material Requiring a Licensed Collector. This sets out which materials require the Collector to be Licensed.

(d) Schedule 4 – Collection Times for Waste and Diverted Material. This sets out the times that Approved Collection Containers must be placed out for collection.

(e) Schedule 5 – Form of Application for a Licence. This sets out the form of the application for a Licence to become a Licensed Collector. The Council may vary this from time to time. The current application form will be posted on the Council's website.

4 Council Waste and Diverted Material Services

4.1 Kerbside Collection

Approved Waste

4.1.1 Only Approved Waste being Permitted Waste and Controlled Waste as defined in Schedule 2 shall be put out for collection by a Kerbside Collection Service for Waste.

Approved Diverted Material

4.1.2 Only Approved Diverted Material as defined in to Schedule 2 shall be put out for collection by a Kerbside Collection Service for Diverted Material.

Approved Collection Containers

4.1.3 Only Approved Collection Containers shall be used for Approved Waste in a Kerbside Collection Service for Waste.

4.1.4 Only an Approved Collection Container for the specified type of Approved Diverted Material shall be put out for use in a Kerbside Collection Service for that type of Diverted Material.

4.1.5 Approved Collection Containers allocated to Eligible Properties shall remain the property of the Council (or contractor) and shall remain at the Eligible Properties for use in the Kerbside Collection Service.

4.1.6 Subject to clause 4.1.7 where an Approved Collection Container is lost or damaged through negligence, misuse, abuse or alterations by the Owner or Occupier of the Eligible Property, the Owner will be liable for the cost of replacement or repair.

4.1.7 It is the responsibility of every Owner of an Eligible Property to provide an Approved Collection Container for Diverted Material to any Occupier of that property.

Use of Approved Collection Containers

4.1.8 An Approved Collection Container shall be placed at the kerbside for collection no earlier than the day before the collection day but no later than the time specified in Schedule 4.

4.1.9 An Approved Collection Container shall be removed from the kerbside within 24 hours of being collected by the Kerbside Collection Service or where the container has been labelled with a non-compliance notice in accordance with clause 4.1.18.

4.1.10 An Approved Collection Container shall not be filled so as to be overweight. The maximum authorised weights of Approved Collection Containers are specified in Schedule 1.

4.1.11 An Approved Collection Container shall be placed at the kerbside in such a manner so as to prevent spillage, with container lid fully closed or bag tied close...

4.1.12 An Approved Collection Container shall be filled in a manner that enables its contents to readily fall out of the container when being emptied by the Kerbside Collection Service vehicles.

4.1.13 An Approved Collection Container shall be placed at the kerbside in such a manner as to avoid any undue restriction of vehicle traffic or pedestrian flow.

4.1.14 An Approved Collection Container shall be placed at the kerbside no closer than 0.5m from an adjacent Approved Collection Container.

4.1.15 All Approved Collection Containers shall be cleaned regularly and as necessary by the Owner or Occupier of the Eligible Property so as to avoid a Nuisance.

4.1.16 No person, other than the Owner or Occupier of an Eligible Property, the Council or the Licensed Collector shall, without the Owner or Occupier's consent, interfere with, deposit

or remove any material from the Owner or Occupier's Approved Collection Container, once it has been placed at the kerbside for collection.

4.1.17 No person, other than the Owner or Occupier of an Eligible Property, the Council or the Licensed Collector, shall uplift, collect, remove or relocate the Owner or Occupier's Approved Collection Container that has been put out for collection, unless it poses an immediate health and safety risk.

Non-Compliance

4.1.18 Where an Owner or Occupier of an Eligible Property fails to comply with this Bylaw, including by:

(a) Putting out material for collection other than Approved Waste or Approved Diverted Material;

(b) Putting out for collection Waste or Diverted Material, whether Approved or otherwise, in a collection container or bag which is not Approved;

(c) Overfilling an Approved Collection Container or an Approved Collection Bag so that it is heavier than the authorised maximum weight;

(d) Filling an Approved Collection Container in such a way that the contents do not readily fall out,

the Council or the Approved Licensed Collector may decide not to collect the bag or empty material from the collection container.

4.2 Drop-Off Points for Waste and Diverted Material

4.2.1 Drop-off Points shall be used only in accordance with the Bylaw and such further instructions or conditions as the Council may determine as displayed on signs at the Drop-off Points.

4.2.2 Only Approved Waste and Approved Diverted Material as defined in Schedule 1 shall be deposited at a Drop-off Point.

4.2.3 A user of a Drop-off Point shall deposit Approved Waste in the Approved Collection Containers for Waste located at the Drop-off Point Where a Drop-off Point provides for Diverted Material, a user shall deposit Approved Diverted Material in the Approved Collection Containers for Diverted Material located at the Drop-off Point

4.2.4 A user of a Drop-off Point shall deposit Approved Waste and Approved Diverted Material at the Drop-off Point in such a manner as to prevent spillage and the depositing of Litter.

4.2.5 No person, other than the Council or the Approved Licensed Collector, shall uplift, collect, remove or relocate an Approved Collection Container or material that has been placed at a Drop-off Point for collection unless it poses an immediate health and safety risk.

4.3 Council Waste and Diverted Material Facilities

4.3.1 Any users of the Waste and Diverted Material Facilities shall comply with the Bylaw and any other conditions that the Council may determine, as displayed on signs at the facilities.

4.3.2 No person using a Waste and Diverted Material Facility shall:

a) Deposit or dispose of any Waste or Diverted Material at the facility which is not approved by the operator to be deposited or disposed at that facility;
b) Deposit or dispose of any type or class of Waste or Diverted Material at any location within the facility which has been marked off and designated for the depositing or disposal of a different type or class of Waste and/or Diverted Material; and
c) Deposit or dispose of any Waste or Diverted Material at the facility that does not comply with the acceptance criteria of that facility unless authorised to do so by the Council or operator of that facility.

4.3.3 No person shall:

a) Enter a Council Waste and Diverted Material Facility without authorisation from the Council or operator of that facility; or
b) Move or remove any Waste or Diverted Material or any other article or item found at a Waste and Diverted Material Facility without the express permission of the Council or operator of that facility.

4.4 Public Recycling Bins and Public Litter Bins

4.4.1 Only Approved Waste or Approved Diverted Material shall be placed into a public litter bin or public recycling bin.

4.4.2 Public recycling bins or public litter bins shall not be used by any Person for the disposal of any Waste or Diverted Material that is generated from residential, commercial or industrial premises which would ordinarily be put out for collection by either a Kerbside Collection Service or a non-Council collection service.

4.4.3 In respect to any public recycling bin or public litter bin no person shall:

a) Put or attempt to put any material into it if it is full.
b) Remove anything from it unless authorised to do so by the Council or unless it represents an immediate threat to the health and safety of any person.
c) Interfere with, damage or destroy any public recycling bin or public litter bin.

4.4.4 Where Litter generated by, or attributable to, any premises is likely to be carried into any Public Place, for example from a fast food outlet, or restaurant providing take away food or the like, the Council may direct the Occupier of the premises to :

(a) Take reasonable steps, to the satisfaction of the Council, on those premises, to prevent Litter being carried, or escaping on to the Public Place;
(b) Take reasonable steps immediately adjacent to the premises to prevent Litter from the premises escaping onto the Public Place which may include (without limitation):
    (i) Removing excess Waste or Litter and Diverted Material from public litter bins or public recycling bins, or receptacles provided by the Occupier of the premise, so as to avoid such Litter, Waste or Diverted Material escaping onto the Public Place;
    (ii) Removing any excess Waste, Litter or Diverted Material which has already escaped onto the Public Place, from around the public litter bins or public recycling bins or receptacles.

4.4.5 Where any Litter generated or attributable to any premises contemplated in 4.4.4 is excessive the Council may direct the Occupier of the premises to:

(a) Provide and maintain sufficient receptacles for Litter, to a suitable design and construction, to the satisfaction of the Council, on the Public Place adjacent to the premises;
(b) Manage and maintain such Litter receptacles in a way which prevents Litter from escaping onto the Public Place.

4.4.6 Any direction given by Council under 4.4.4 or 4.4.5 must be given by notice in writing personally delivered to the Occupier or sent by post addressed to the Occupier's place of business and the Occupier must comply with the direction within the time frame specified by the Council.

5 Licensing of Waste and Diverted Material Collectors

5.1 Any person involved in the removal, collection or transportation of more than thirty (30) tonnes of Approved Waste or Diverted Material listed in Schedule 3 in any one twelve (12) month period within the District shall hold a Licence to do so issued by the Council.

Applications for Licences

5.2 Every application for a Licence must:

- Be made in the prescribed form as set out in Schedule 5 and as updated by the Council from time to time; and
- Describe the activities in respect of which the Licence is sought; and
- Be accompanied by the application and processing fee; and
- Include such further supporting information as the Council may require for processing of the application.

5.3 A Licence may be granted at the discretion of the Council, upon and subject to such terms and conditions as the Council considers appropriate taking into account, but not being limited to, the matters listed in section 5.4.

Granting a Licence:

5.4 When exercising its discretion to grant a Licence and considering the conditions to be imposed under it, the Council may take into account such matters as have bearing on the decision to grant a Licence to that applicant including but not limited to the following:

- The extent to which the licensed activities will promote public health and safety and assist the Council achieve the objectives of the Council's operative Waste Management and Minimisation Plan;
- The quantity and type of Waste or Diverted Material to be removed, collected, transported, treated or disposed;
- The methods employed for the removal, collection, transportation, storage, treatment or disposal of Waste or Diverted Material including the identity of the Waste and Diverted Material Facility at which it is proposed that treatment or disposal will occur;
- The frequency and location of the Waste or Diverted Material collection, removal, transportation services;
- The specifications of the vehicles, equipment and containers to be used for the collection, removal, transportation, treatment or disposal of Waste or Diverted Material;

- The applicant's experience, reputation and track record in the Waste and Diverted Material industry, including any known past operational issues which may affect the applicant's performance, and any breaches of previous licence conditions;
- The applicant's financial position; and
- The terms and conditions under which such disposal of Waste or Diverted Material is permitted and the existence of or need for any statutory approvals, authorisations or consents required to be held or complied with in respect of such disposal.

Licence Conditions

5.5 The Council may impose such terms and conditions on a Licence as it determines.

5.6 A licenced collector shall comply with all terms and conditions of the licence.

5.7 The Council may suspend or revoke a Licence if the Licence holder fails to comply with this Bylaw, any of the terms and obligations of the Licence or acts in a manner which, in the opinion of the Council, renders the Licence holder unfit to hold such licence

6 Offences

6.1 Any person who breaches any provision of these bylaws commits an offence under s239 Local Government Act 2002 and s66 of the Waste Minimisation Act 2008.

6. 2 A person found guilty of an offence by summary conviction under s239 of the Local Government Act 2002 or s 66 of the Waste Minimisation Act 2008 is liable to a fine of up to $20,000.

Schedules

Schedule 1– Council Approved Collection Containers

Schedule 2– Classification of Waste and Diverted Material

Schedule 3 – Waste and Diverted Material Requiring a Licensed Collector

Schedule 4 – Collection Times for Approved Collection Containers

Schedule 5 – Form of Application for a Licence

Schedule 1 – Approved Collection Containers

Approved Collection Containers for Council Kerbside Collection Services

1. Approved Collection Bag for Waste

An Approved Collection Bag for waste is one that has a Council logo and can be purchased at local supermarkets, transfer stations and Council offices. Approved Collection Bags for Waste and maximum acceptable weights are:

Pre-purchased 60 litre bag	12kg

2. Approved Collection Containers for Waste (other than an Approved Collection Bag)

An Approved Collection Container for Waste is one that has a Council logo or both a Council logo and a Council-registered wheelie bin number. Approved Collection Containers for Diverted Material shall not be used as Approved Collection Containers for Waste. Approved Collection Containers for Waste and maximum acceptable weights are:

80 litre wheelie bin	30kg
240 litre wheelie bin	60kg

3. Approved Collection Containers for Diverted Material

An Approved Collection Container for Diverted Material is one that has a Council logo or both a Council logo and a Council-registered wheelie bin number. Approved Collection Containers for Diverted Material and maximum acceptable weights are:

Designated residential collections

Recyclables (wheelie bin with yellow lid):

240 litre wheelie bin	30kg
140 litre wheelie bin	30kg

Organic Material (wheelie bin with lime green lid):

240 litre wheelie bin	60kg

Designated rural collections

Recyclables:

60 litre crate	15kg

Advice about areas serviced by designated residential collection services and areas served by designated rural collection services may be obtained from the Council website or by contacting the Council offices.

Schedule 2 – Classification of Waste and Diverted Material

This Schedule is specific to Council's Kerbside Collection Services and Drop-off Point services.

Approved Waste and Prohibited Waste

Approved Waste is Permitted Waste and Controlled Waste

Permitted Waste

Permitted Waste is Waste that is not defined as Controlled Waste or Prohibited Waste.

Controlled Waste

Controlled Waste is:

- Broken glass, broken china, broken plastic, razor blade, knife, or any other material capable because of its shape or form of causing injury unless it is contained so as to prevent injury, damage or loss
- Any sharp object or material capable of puncturing the Approved Receptacle or material capable of being rendered so during collection, unless such material is properly and sufficiently contained so as to prevent injury, damage or loss
- Any putrescible waste, such as vegetable and meat kitchen scraps, unless it is contained so as to prevent nuisance or damage
- Any other material that may be determined as controlled by the Council.

Prohibited Waste

Prohibited Waste is:

- Any explosive material, flammable material, infectious material, radioactive material, corrosive material, oxidant, toxic material, or any other matter of any kind whatsoever that may endanger any person, animal or vehicle which may come into contact with the material at any time prior to, during or after disposal
- Liquids or containers containing liquids
- Hot ashes or other hot material
- Compressed-gas cylinders
- Asbestos containing materials. If you think that the material you are handling may contain asbestos please contact the Ministry of Business, Innovation and Employment. More information can be found on their website at http://www.dol.govt.nz.
- Hazardous waste which means containing substances defined in Section 2 of the Hazardous Substances and New Organisms Act 1996, which exceed the minimum degree of hazard specified by the Hazardous Substances (Classes 1 to 5 controls) Regulations 2001.

Schedule 2 - continued

Approved Diverted Material and Prohibited Diverted Material

Approved Diverted Material is Permitted Recyclables and Permitted Organic Waste

Permitted Recyclables

Kerbside Collection Containers:

- Plastics identified with recycling symbols and with a number 1-7. Washed, not squashed and lids off.
- Steel tins and aluminium cans (washed).
- Empty aerosol cans.
- Clean aluminium foil.
- Drinking glasses, glass bottles and jars. Washed with the lids off (the lids can also go in the recycling container).
- Clean paper and cardboard. For example office paper, magazines, newspaper, egg cartons, cereal boxes, envelopes.

Pines Resource Recovery Park:

- Whiteware and scarp metal
- Plastics with recycle numbers 1, 2 and 4. Washed, not squashed and lids off.
- Steel tins and aluminium cans (washed).
- Empty aerosol cans.
- Aluminium
- Polystyrene.
- Paint
- Clothing
- Yoghurt and milk cartons
- Drinking glasses, glass bottles and jars. Washed with the lids off (the lids can also go in the kerbside recycling containers).
- Clean paper and cardboard. For example office paper, magazines, newspaper, egg cartons, cereal boxes, envelopes.
- E-scrap. The Recovery Park will accept anything that is electronic or electrical waste (this is termed E-scrap). There is a charge to recycle old style TVs and computer monitors (Cathode Ray Tube – CRTs) and flat screen TVs and computer monitors.

Prohibited Recyclables

- Plastic wrap (e.g. Glad Wrap).
- Pesticides, oil or hazardous chemicals.
- Ceramics, crockery, porcelain and oven ware.
- Mirrors, window glass or broken glass.
- Light bulbs.
- Bubble wrap.
- Hot ashes.
- Polystyrene.
- Materials contaminated with food.

Please refer to the Council website for a comprehensive list of what can and cannot be recycled in the kerbside collection containers or at the Pines Resource Recovery Park.

Schedule 2 - continued

Approved Diverted Material and Prohibited Diverted Material

Permitted Organic Material:

- Food scraps.
- Other putrescible waste, such as vegetable and meat kitchen scraps, unless it causes nuisance.
- Garden waste, such as lawn clippings, hedge trimmings, etc.

Prohibited Organic Material:

- Sawdust.
- Soil.
- Stones and gravel.
- Flax and bamboo.
- Animal waste.
- Ash.
- Leather items.
- Clothing or fabric.
- Nappies.
- Any organic material contaminated with chemicals known to compromise the quality of compost (e.g. Imidacloprid).

Schedule 3 – Waste and Diverted Material Requiring a Licensed Collector

A collector is required to hold a Licence for the collection of the following Diverted Material:

- Glass,
- Plastic,
- Steel,
- Aluminium,
- Paper,
- Cardboard,
- Organic material.

Schedule 4 – Collection Times for Waste and Diverted Material

Approved Collection Containers must be put out for collection on the applicable collection day no later than the following times:

- Eligible Properties on State Highway 1 7.00am
- All other Eligible Properties 7.30am

Schedule 5 – Form of Application for a Licence

Application for Licence
Pursuant to Selwyn District Council Waste Management and Minimisation Bylaw 2012

Selwyn District Council
PO Box 90
Rolleston 7643
GST No 53 113 451

Phone 03 347 2800
Fax 03 347 2799
www.selwyn.govt.nz

Company name	
Contact person:	
Mailing address:	
Phone:	Email:

What are you intending to collect? (circle which applies below)

Approved Waste	Approved Diverted Material	NA
Other (please specify materials):		

Where and when do you intend to provide this service?

(Please supply a list of locations, frequency and collection day. A map may be helpful in identifying the area/s being serviced).

Describe the containers you intend using: *(Size, capacity, materials, security)*
Describe how your containers will be clearly identifiable: *(Please provide evidence that the containers are clearly different from others being used, including Council's service)*

Describe the vehicles and equipment you intend using and how they will be branded: *(Vehicles and equipment need to be fit for purpose)*
Describe the activities of your service, list the acceptance criteria and material quality control measures including the sources and final destinations of materials you will handle

Briefly describe your experience in offering the services for which this application is being made:	
How will you send your waste and diverted material information to Council? (Please tick)	
By filling in the spreadsheet as per Schedule 6	
By letting weighbridge operators at Transfer Stations and Recovery Parks provide electronic information to Council	
If you have ticked the option for weighbridge operators to provide electronic data to Council to you give your permission for this to happen?	
How will your customers contact you?	
Phone	Email
Other (please specify)	
Fee (Non-refundable)	
Licence Application Fee (Five Years)	$125.00
Signature of applicant	Date