

Waste Management and Minimisation Plan

PREPARED FOR CHATHAM ISLANDS COUNCIL | AUGUST 2022

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Revision schedule

Rev No	Date	Description	Signature of Typed Name (documentation on file)			
			Prepared by	Checked by	Reviewed by	Approved by
01	July 2022	Final Draft for Client Comment	P Landmark	K Halder	J Cocks	A McGaughran
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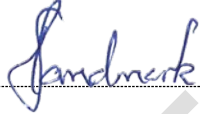

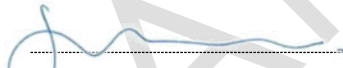
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Quality statement

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Foreword

Optional – to be written for Mayor or CEO, once Council has reviewed the WMMP document.

Acknowledgements

The following people have been involved in researching, contributing to, and drafting the WMMP document:

- Owen Pickles (CEO – Chatham Islands Council)
- Colette Peni – (Operations Manager – Chatham Islands Council)
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Executive Summary

Optional – to be written after draft has been reviewed by Council, if needed.

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Abbreviations

Enter Abbreviation	Enter Full Name
Council	Chatham Islands Council
FH	Fulton Hogan
HSNO	Hazardous Substances and New Organisms Act 1996
HSWA	Health and Safety at Work Act 2015
LTP	Long Term Plan
LF	Landfill
MPB	Materials processing building
MRF	Materials Recovery Facility
SWAP	Solid Waste Analysis Protocol
TAWLES	Territorial authority waste levy expenditure system
TS	Transfer Station
WA	Waste Assessment
WMA	Waste Management Act
WMF	Waste Minimisation Fund
WMMP	Waste Management and Minimisation Plan

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Glossary

Where available, definitions have been taken from the Waste Minimisation Act 2008 or the Ministry for the Environment publications.

Enter Term	Enter Definition
Cleanfill	Any landfill that accepts only cleanfill material.
Cleanfill material	<p>Material that when buried will have no adverse effect on people or the environment. Cleanfill material includes virgin natural materials such as clay, soil and rock, and other inert materials such as concrete or brick that are free of:</p> <ul style="list-style-type: none"> • Combustible, putrescible, degradable or leachable components • hazardous substances • products or materials derived from hazardous waste treatment, hazardous waste stabilization or hazardous waste disposal practices • materials that may present a risk to human or animal health such as medical and veterinary waste, asbestos, or radioactive substances • liquid waste
Dispose / Disposal	The final (or more than short term) deposit of waste into or onto land set apart for that purpose; or the incineration of waste.
Disposal facility	<p>A facility, including a landfill:</p> <ul style="list-style-type: none"> • at which waste is disposed of; and • at which the waste disposed of includes household waste; and • that operates, at least in part, as a business to dispose of waste; and • any other facility or class of facility at which waste is disposed of that is prescribed as a disposal facility.
Diverted material	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
Environment	<p>As defined in the Resource Management Act - the environment includes:</p> <ul style="list-style-type: none"> • ecosystems and their constituent parts, including people and communities; and • all natural and physical resources; and • amenity values; and • the social, economic, aesthetic, and cultural conditions which affect the matters stated in the first three bullet points, or which are affected by those matters.
Green material	Biodegradable vegetative material such as tree branches, tree stumps, grass, flowers, and hedge cuttings from gardening activity that is used to make compost or mulch, i.e., it is not waste
Hazardous waste	<p>Any waste that:</p> <ul style="list-style-type: none"> • contains hazardous substances at sufficient concentrations to exceed the minimum degrees of hazard specified by Hazardous Substances (Minimum Degrees of Hazard) Regulations 2000 under the Hazardous Substances and New Organism Act 1996, or • meets the definition for infectious substances included in the Land Transport Rule: Dangerous Goods 1999 and NZ Standard 5433: 1999 – Transport of Dangerous Goods on Land, or • meets the definition for radioactive material included in the Radiation Protection Act 1965 and Regulations 1982.



Household waste	Waste from a household that is not entirely from construction, renovation, or demolition of the house
Incineration	Incineration is a waste treatment process that involves the combustion of substances contained in waste materials.
Litter	The same as “waste”.
Long term plan	Long Term Plan, prepared by each council every three years and covering the next ten years funding priorities;
Materials Recovery Facility	A facility, which may be a conveyor with manual sorting or a fully mechanised facility with minimal manual input; also termed a materials processing centre.
Organic Material	Kitchen scraps, green waste and in some cases sludge from wastewater treatment processes
Product stewardship	When a producer, brand owner, importer, retailer, or consumer accepts responsibility for reducing a product’s environmental impact throughout its life cycle.
Pyrolysis	Pyrolysis is defined as a process of temperature decomposition of organic material in the absence of oxygen, that brings many industrial benefits.
Recover / Recovery	Extraction of materials or energy from waste or diverted material for further use or processing, and includes making waste or diverted material into compost
Recycle / Recycling	The reprocessing of waste or diverted material to produce new materials
Reduce / Reduction	Avoiding waste generation, including by using products more efficiently or by redesigning products; and in relation to a product, avoiding waste generation in relation to the product.
Transfer Station	Sites where diverted material and waste are collected, sorted, and transferred for disposal or further processing.
Reuse	The further use of waste or diverted material in its existing form for the original purpose of the materials or products that constitute the waste or diverted material, or for a similar purpose
Solid Waste Analysis Protocol (SWAP)	A method to facilitate the collection of consistent and reliable data on solid waste in New Zealand, defined by the Ministry for the Environment in 2002.
The community	Includes everyone individually and in groups – households, settlements, all sectors including the public sector, businesses, Not-for-Profit Organisations, Community Boards key agencies, and all residents living within the Chatham Islands
Treat / Treatment	Subjecting waste to any physical, biological, or chemical process to change its volume or character so that it may be disposed of with no or reduced adverse effect on the environment, not including dilution of waste
Waste	Anything disposed of or discarded; and includes a type of waste that is defined by its composition or source (for example, organic material, electronic waste, or construction and demolition waste), and to avoid doubt, includes any component or element of diverted material, if the component or element is disposed of or discarded.
Waste assessment (WA)	An assessment as defined by s51 of the Waste Minimisation Act 2008; it provides the background information for the waste plan by assessing the current situation in a defined area, in this case the Chatham Islands
Waste minimization	The reduction of waste, and the reuse, recycling, and recovery of waste and diverted material.
Waste disposal levy	A levy imposed under the Waste Management Act 2008 on waste disposed at a waste disposal facility
WMMP	Waste Management and Minimisation Plan as defined in s43 of the Waste Minimisation Act 2008.



Part A - Strategy

1 Introduction

1.1 Purpose of the plan

Chatham Islands Council (the Council) has a legal obligation under section 42 of the Waste Minimisation Act 2008 (WMA 2008) to "...*promote efficient and effective waste management and minimisation within its district...*"

Section 43 of the WMA 2008 requires us to adopt a waste management and minimisation plan (WMMP).

This WMMP has been prepared for the purpose of fulfilling our obligations under the WMA 2008 by providing:

- Objectives, policies, and methods for achieving effective and efficient waste management and minimisation within the Chatham Islands, including:
 - collection, recovery, recycling, treatment, and disposal services to meet current and future waste management and minimisation needs,
 - waste management and minimisation facilities and activities, including educational and public awareness activities,
- information on how we will fund implementing the WMMP.

1.2 Scope of plan

This WMMP sets out how we will promote efficient and effective waste management and minimisation on the Chatham Islands. It covers all aspects of solid waste and diverted materials.

Part A of the Plan (the Strategy) sets out:

- our waste situation, including a summary of the quantity and/or composition of waste or diverted materials, and an overview of existing waste management and minimisation infrastructure and services
- a summary of district-specific issues
- an overview of relevant guiding policies, plans, legislation, and statutory requirements that affect the WMMP
- our vision, goals, objectives, and targets
- Council's intended role and how it will protect public health
- a description of methods that we propose for achieving effective and efficient waste management and minimization,
- a summary of key waste and diverted material streams and how we currently manage them,
- options for the future,
- how we will fund implementation of the WMMP,
- how we will allocate grants and advances of monies,
- how we intend to spend our waste minimisation levy money,
- how we intend to monitor, evaluate and report on progress.

Part B of the Plan (the Action plan) sets out:

- our proposed funding structure,
- our action plans.

Part C of the Plan (the Appendices) provides additional information on:

- the waste assessment and review comments from the Canterbury Medical officer of Health
- review report of WMMP 2014,
- minutes of Special Council Meeting from 29 June 2022,
- the legislative and policy context,
- the waste hierarchy.

1.3 Status of the plan

This WMMP is a draft version of our WMMP and has been prepared following a review of our WMMP that was prepared in 2014, but which was not formally adopted.



1.4 When the plan is to be reviewed

Under Section 50 of the WMA 2008, we must review this WMMP at least every six years. Therefore, we need to review this WMMP no later than July 2028. Note that any review of this WMMP must be preceded by a waste assessment (WA) under section 51 of the WMA 2008. A copy of the WA is attached in Appendix A, including a copy of the Canterbury Medical Officer of Health's comments on the WA, together with notes on how we intend to act on the MoH's comments.

1.5 Review of previous WMMP

We have undertaken a review of the previous WMMP against the statutory requirements of the WMA 2008. A copy of the review report is attached as Appendix B.

The review identified that WMMP requirements are met in some instances, but changes in waste management and minimisation facilities and services that are provided in the Chathams have meant that other WMMP requirements are only partially met or are not met at all.

An outcome of the review is a recommendation to amend the existing WMMP. This recommendation was formally adopted at a Special Meeting of Council held on 29 June 2022. Refer to Appendix C.

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2 The waste situation

2.1 Summary of the quantity and/or composition of waste or diverted material

There are no weighbridges available for weighing waste or diverted material quantities in the Chatham Islands. This, coupled with the mode of disposal being to burn waste, which occurred up until recently when the Owenga Landfill was commissioned, has meant that we have limited information on waste and diverted material quantity (or tonnage), and limited information on the waste stream composition.

2.1.1 Quantity of waste

Since there have been no mass measurements of waste on the Chatham Islands, up until this year the amount of waste reported to MfE per annum has been calculated based on the average weight of levied waste disposed of in New Zealand per head of population multiplied by the permanent population of the Chatham Islands¹. In 2022 we estimated the amount of waste disposed of to be 534.7 tonnes per annum.

We collect household refuse in black bags which we initially estimated to be approximately 6 cubic metres a day (36 cubic metres general rubbish a week). In addition, we collect bulk waste such as wood, steel, and whiteware separately.

The reporting method using average waste per capita generation rates and population figures was allowed by the MfE in exceptional circumstances. In 2021 new regulations² were made under the WMA 2008 which require operators of disposal facilities to measure tonnages of waste and diverted materials by one of three methods. Whilst we presently do not have access to a weighbridge, the most practical method available to us is to measure by volume and convert to tonnages using conversion factors that are allowed under the regulations.

Our waste contractor, Fulton Hogan, has started to keep records of waste and recyclable materials being collected at Kaingaroa and Te One. Table 1 shows a summary of the waste information collected over the first half of this year. Note, we have only been estimating the volume of the bulk waste from June 2022. Given that we have half a year of data, we would expect our total waste tonnage to be close to $534.7/2 = 267.4$ tonnes. You can see that from the Table 1, we have a half year total of 156.3 tonnes which is ostensibly a shortfall of some 111.1 tonnes. This is likely to be made up of other bulk waste for which we have no records from Jan-22 to May-22. The value of this exercise underpins the importance of getting accurate waste records.

Table 1: Quantity of waste collected between January 2022 and June 2022

	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Year to Date
BLACK RUBBISH BAGS							
m³	168	144	162	132	19.5	46.6	672.1
tonnes	21.8	18.7	21.1	17.2	3.9	9.3	92.0
OTHER BULK WASTE							
m³						98.1	98.1
tonnes						64.3	64.3
TOTAL WASTE AS MEASURED							
m³	168	144	162	132	19.5	144.7	770.2
tonnes	21.8	18.7	21.1	17.2	3.9	73.6	156.3

¹ The calculation is: Tonnes/year = 0.6855 tonnes/person x 780 people = 534.7 tonne/year

² Waste Minimisation (Information Requirements) Regulations 2021



2.1.2 Quantity of recyclables

Table 2 has been compiled from our records and shows the number of bales of recyclables, and their estimated weight, that were made from May 2019 to April 2021, and from January 2022 to June 2022.

Table 2: Quantity of recyclables between May 2019 and April 2021

Diverted material type	May 2019 – April 2020	May 2020 – April 2021	January 2022 – June 2022 ³
Cardboard	153 bales (46 to 54 tonnes) ⁴	146 bales (44 to 51 tonnes)	96 bales (20.7 tonnes)
Plastic	10 bales (2.5 tonnes) ⁵	9 bales ⁶ (2.3 tonnes)	10 bales (2.2 tonnes)
Steel / aluminium cans	10 bales (3 to 3.5 tonnes)	8 bales (2.4 to 2.8 tonnes)	16 bales (3.4 tonnes)

2.1.3 Composition of waste

Until we have fully implemented a method of quantifying waste and diverted material, we consider that carrying out of Solid Waste Analysis Protocol study, (i.e., a SWAP, which is a waste composition study), will be somewhat fruitless. Once a baseline of waste and diverted material quantities has been established, a SWAP study will be useful and will form the foundation for implementing many of the objectives and methods contained within the WMMP.

Waste composition data was last collected at Te One dump site in 2014., which was the only dump site in operation at that time. It was noted that it was difficult to get accurate data on volumes of waste produced for the reasons outlined in the sections above.

The 2014 data showed that household waste was the largest single waste source on the Chatham Islands. Combining wastes sourced from the agricultural and fishing industries together as commercial wastes, however, would represent our largest source of waste being disposed of on the islands. Fish waste was sometimes from the commercial sector but in 2014 it mainly consisted of private Kaimoana gatherers.

As a single commodity, cardboard makes up a significant proportion of our waste stream but when the 2014 survey was done, much of the cardboard was being burnt and so this could not be accounted for in the survey.

2.2 Overview of our existing waste management and minimisation infrastructure and services

2.2.1 Existing Waste Services and Facilities

Council historically provided three “dumps” on Chatham Island (Rekohu / Wharekauri), located at Te One, Kaingaroa and Owenga. These were unmanned and have now been closed and mostly rehabilitated. There are other remote settlements in the Chatham Islands that have dealt with their own wastes, such as Pitt Island. The fishing industry now takes care of its own wastes which used to be buried in pits on farmland.

We replaced the three dumps with:

- waste transfer stations (TSs) at Kaingaroa and Owenga (we have since closed the Owenga TS),
- Materials Recovery Facility (MRF) at Te One to recover diverted and reusable materials, which is also a transfer station, and a
- new lined landfill at Owenga with a pilot leachate treatment plant. The landfill was commissioned in July 2022.

³ All 2022 bales weight are based on a volume of 0.675 m³/bale, with density of 0.320 tonnes/m³, as allowed for under regulations.

⁴ Bales of cardboard and metal cans are estimated to be between 300 and 350kg each.

⁵ Bales of mixed plastics are estimated to be 250kg each.

⁶ 9 bales of compacted mixed plastics took 162 fadges of loose mixed plastics



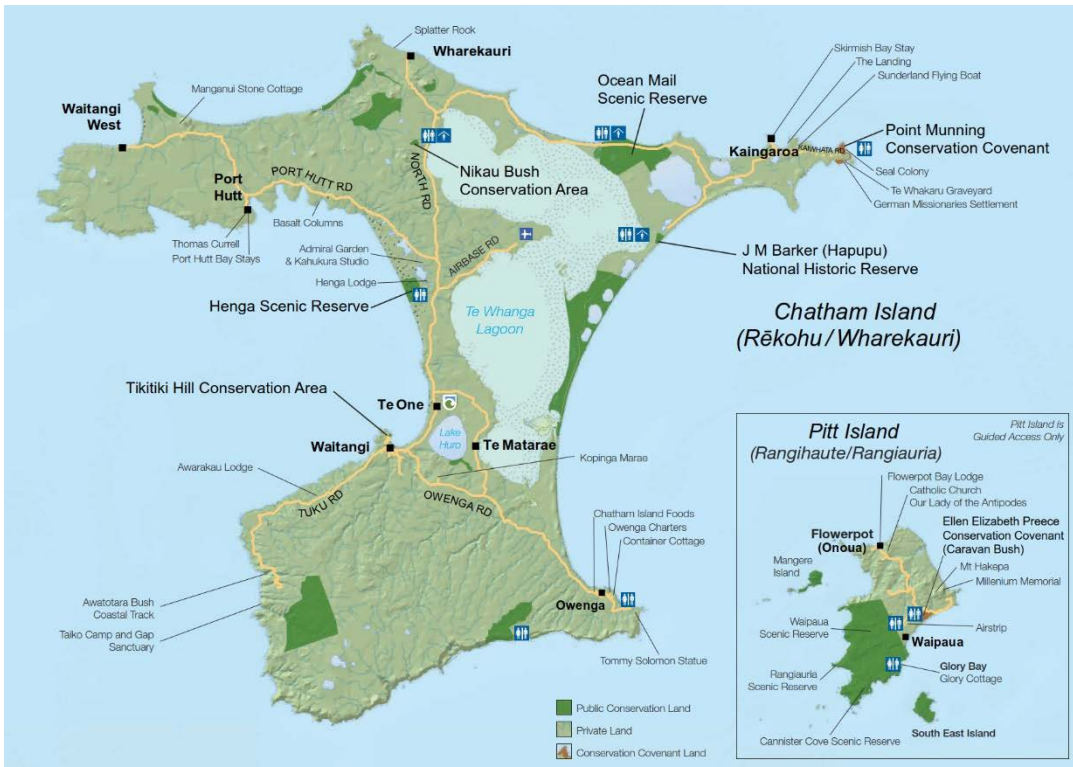


Figure 1 Chatham Islands Map (source Chathamislands.co.nz)

Council provides no waste management services currently on Pitt Island (Rangihau / Rangiauria).

2.2.2 Waste Collection and Transfer

Council has contracted Fulton Hogan (FH) to provide waste management services in the Chathams. FH manages the waste collection and transfer services, and refuse is disposed of in black bags and placed in a trailer at Kaingaroa TS and in skip bins at Te One by the public. It is transferred to a waste compactor truck for transporting. There is presently no kerbside collection service provided, although FH is investigating the feasibility of making changes to the waste collection and transfer activities on Chatham Island. The changes could include providing a kerbside collection of solid waste from all residential properties on Chatham Island, together with rationalizing the opening hours of Te One MRF and closing Kaingaroa TS.

2.2.3 Diverted Material Services

We provide waste diversion services through the collection of cardboard and paper, plastics, metal cans and glass.

Waste diversion from landfill is further increased through the seafood factories making their own arrangements for disposing of fish and shellfish wastes.

We intend to export recyclables from the Chatham Island to a convenient location, such as Timaru where they can be processed, but this is not yet occurring. There is an issue with transport of the recyclables, and Council is working with Timaru District Council's contractor to understand their requirements for receiving and processing the recyclables. Ultimately, we would need to agree a Memorandum of Understanding between Council and a suitable recycling processing partner. We have procured ISO containers to store the baled recyclables to maintain their quality.

It is noted that secured markets for diverted material is also a challenge for the wider waste management community within NZ.

Recyclable materials are brought to the Te One MRF for sorting and bailing. The MRF has been developed on the site of the old Te One dump which has been largely remediated. The site is approximately 100m long, measured along the road frontage, by about 65m wide.

Te One MRF consists of a large materials processing building, with office and staff amenities. A static baler compacts cardboard, plastics, and metal cans. Members of the public "post" recyclables through slots in the side of the MRF building and a reuse facility ("Mitre 12 store") exists in the form of ISO containers where used goods are stored and displayed. Existing plant consists of a hired front-end loader.

2.2.4 Waste Disposal

The new Owenga Landfill, which was constructed in 2014, was recently commissioned in July 2022.

Given the cost of the facility, we have been focusing on developing diverting material services and making sure that infrastructure is in place to support the diversion activities so as not to fill the landfill up with materials that could be usefully diverted.

Additionally, the landfill requires an operator who is skilled and experienced in working at a landfill. To this end, we have negotiated with FH to take over and manage our waste management and minimisation activities.

FH has been involved in commissioning the landfill which has entailed making sure the landfill, leachate pond, pilot leachate treatment plant and treated leachate disposal area have been fully prepared for when waste disposal operations commenced.

Crushed glass is taken to the landfill from Te One MRF for use as cover or road building materials. As for all wastes and other materials taken to the landfill, Council needs to ensure that its contractor records the quantities of all wastes and materials deposited at the landfill. FH records all waste and recycling materials that pass-through Te One on a spreadsheet provided by the MfE.

Prior to commissioning the Owenga Landfill, we have been stockpiling waste at Te One TS and have periodically burned the waste, as part of a local FENZ⁷ fire exercise.

2.2.5 Waste Reduction and Education

Waste education is important in changing behaviour and moving towards Zero Waste. Our waste management staff have spent considerable time in educating people coming into the Te One and Kaingaroa TSs and in assisting the community in improving recycling.

We use our monthly newsletter to keep reminding and encouraging all forms of recycling, fixing, reuse etc. The reuse facility is well supported and used for goods such as highchairs, baby clothes, men and women's clothes, shoes, kitchenware, books, toys etc.

All the wood, steel, paint, old bikes are kept separate and is also re-used by whoever needs it.

We are working with Te One School to assist with educating students.

Māori community services have been supported by us through providing bins, signs, fadges, and assistance on the day of the Chatham Island festival. The public has been encouraged to re-use their cups for planting seeds for the community garden, and recycling as much materials as possible at the events.

2.2.6 Other Waste Reduction Initiatives

The Hokotehi Moriori Trust has been working with Scion Research on a few waste-related initiatives.

A workshop was held on circular waste economy and a Hot Rot composting project has been initiated for turning organic waste to garden soils and growing media.

Hokotehi Moriori Trust are also exploring disposing of organic material through vermiculture (worm farming).

⁷ FENZ – Fire and Emergency New Zealand



2.3 Summary of district-specific issues

Issues relating to the waste management and minimisation activity were identified in the waste assessment. They are summarized in Table 3 below. Note that since the issues were identified and the first draft of the WA prepared in May 2021, many of the issues have been resolved. Comments to that extent have been provided in the text and footnotes.

Table 3: Summary of district-wide specific issues

Area identified	
Waste data	
<ul style="list-style-type: none"> We have very limited data available on waste quantities and composition. We presently have no means to weigh waste or diverted material. We are required by regulations to measure waste and diverted material quantities by other means (e.g., volume conversion). 	
Infrastructure	
Kaingaroa TS	<ul style="list-style-type: none"> Gantry bins were being used at the TS for collecting waste, cardboard/paper, plastics, and tin cans and were not suitable for emptying directly into the baler at Te One MRF. The gantry bins are suitable for other materials such as tyres, scrap metal, wood, and appliances. There are insufficient bins for all types of waste/recyclable materials, so materials get mixed up or left next to bins resulting in extra work for the Council staff. The bins are not stored undercover resulting in cardboard/paper becoming wet⁸. Loading of the gantry bins is cumbersome and unsafe. There is one bin for all grades of plastics which results in them all being baled together.
Te One MRF	<ul style="list-style-type: none"> The gantry bins cannot be picked up by a front-end loader (FEL) and the contents loaded into the baler, so both waste and recyclables were being tipped out onto the floor of the MPB from where they would need to be loaded by hand into the baler hopper⁹. Waste sorting was done by hand and staff have been cut through glass being in a plastic bag. Hospital medical waste (in yellow bags) was being dumped at Te One MRF which cannot handle and deal with this waste. The way medical waste is dealt with on the Chatham Islands needs to be documented. Steel and aluminium cans have been baled together which may make it difficult to separate the metals and may result in the bales not being accepted by a recyclables processor. The bales that are produced are extremely heavy and difficult to manhandle. They require a loader to lift them up.

⁸ This has been resolved more recently by providing a shipping container with slots cut in the sides through which the public can place various recyclables.

⁹ Waste is no longer loaded into the baler, but recyclables still need to be loaded by hand.



Area identified

- The glass crusher has been broken, apparently because rocks have been introduced into the glass stream by scraping the subgrade when loading by FEL. Concerns have been raised about the H&S aspects of operating the crusher and the suitability of the guards protecting the operator from the machine. The glass crusher is no longer being used because it is too under-powered for the task. It is to be donated to the Hokotehi Moriori Trust.
- The MPB is difficult to access because the roller doors have been damaged through high winds. They need replacing.
- Cardboard is not being flattened which causes the bins to be filled rapidly and can result in cardboard being blown around in strong winds. Slots will be provided at the MRF building to make sure cardboard is flattened before being placed into containers in the building.
- An area is needed for storing black refuse bags outside of the MPB where they cannot get blown away. A work-around is being devised to enable black bags to be placed directly and safely into the compactor truck.
- Reusables facility does not allow furniture and larger items to be dropped off because there is no access to an area where they could be stored safely and under cover. Extension of the reusables facility is planned which will accommodate larger items.
- A large volume of waste is scrap metal, including motor vehicles. At present there are no solutions for getting rid of the scrap metals, though a solution is being sought to secure funding through the Sustainable Management Fund.
- There is no inventory of the waste oils that are being stored on site.
- The hazardous ISO container is often close to capacity by weight (estimated to be 10 tonnes).
- The waste oil volume stored inside the hazardous ISO container can exceed the sump capacity.
- An ISO container of asbestos has been buried on site. It is not known to what extent its burial complies with the asbestos regulations.
- LPG containers that are being disposed of need to be stored in a separate secure facility where they are to be de-gassed and made safe before disposing of them as scrap. The facility is to comply with relevant HSNO regulations.
- Construction & Demolition wastes are increasing significantly as new development occurs in the Chathams. C&D wastes are difficult to recycle and there are presently no charges levied for these wastes.

Owenga Landfill

- The landfill operator needs to be suitably skilled and resourced to operate the landfill and pilot leachate treatment plant, in accordance with the resource consent conditions and associated documents. Fulton Hogan's appointment as the solid waste contractor has dealt with this issue.

Operations

- A Health & Safety audit was also undertaken at Te One MRF in 2019. The overall impression gained through doing the audit was that the Council had been exposing itself, its staff and members of the public to significant risks through not having the appropriate controls and measures in place. Contracting the waste management activities to FH has taken care of many of these risks.
- Our staff are enthusiastic and dedicated, but do not have the necessary training and skills to undertake all the tasks required to supervise and manage the MRF operations, including being familiar with H&S requirements and the need for record keeping. FH has taken on staff and have provided additional staff with experience to assist in getting waste management activities functioning appropriately.
- Ageing equipment is an ongoing issue with regular maintenance, and upgrades are required. Getting equipment to the Chatham Islands is very costly. Engaging FH gives Council access to its plant and maintenance resources.

Diverted material



Area identified

Green waste	<ul style="list-style-type: none">• Green waste is likely to be one of the single largest components of the present waste stream. Diverting green waste from the main waste stream, for example by home composting or green waste shredding, has the potential to reduce waste quantities. Council will be supporting an initiative of the Hokotehi Moriori Trust which has obtained funding for developing a green waste composting facility.
Recycling	<ul style="list-style-type: none">• The collection of recyclables such as glass, plastics, aluminium, card, and paper help to reduce the quantities of solid waste that would be disposed of to landfill. However, collected recyclables currently need to be exported to the mainland to be reprocessed and the Chatham Islands is a long distance from any markets.• Recyclables are not being well sorted into different bins by the public resulting in contamination of recycling commodities. All grades of plastics are currently being baled together and may result in the bales not being accepted at processing facilities.• The intention is for recyclables to be exported from the Chatham Island and sent to Timaru where they can be processed but this is not yet occurring. There is an issue with getting agreement from Chatham Island Shipping to transport the recyclables at a price that is affordable to Council. Council needs to sign a Memorandum of Understanding with a suitable partner, such as Timaru District Council, who will undertake processing of its recyclables in New Zealand.• Secured markets for diverted material are also a challenge for the wider waste management community within New Zealand and the cost of processing and shipping recyclables to a market is extremely high.

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2.4 Future Demand

In addition to addressing the current issues outlined in the section above, we need to ensure that the waste management system is suitable in the future. Factors that will influence the future demand for waste management and minimisation services are as follows:

- **Population.** The quantity of waste is proportional to the population. Generation factors vary for different population types and there is a correlation between higher socio-economic groups and higher waste generation factors. Our resident population in the Chatham Islands is nearly static and is expected to remain so in the near future.
- **Land Development.** Land development leads to land clearance and to construction waste that has the potential to increase waste quantities enormously. Whilst there is a relatively static residential population, which would imply that significant land development is unlikely, Ngati Mutunga anticipates a future Treaty settlement that potentially could influence future land development.
- **Tourist Population and Hospitality Industry.** Increased tourism and growth in the hospitality industry will increase waste generation. This is already evident with tourist and visitor numbers being significantly higher these past two seasons as the Chatham Islands offer New Zealanders an offshore destination whilst most of other overseas travel is limited. Extending the airport runway will allow larger aircraft to fly to the Chathams which will increase tourist numbers. This, in turn, will lead to an increase in services and facilities that we need to provide to meet the demand from tourists.
- **Rural Sector.** Our rural sector generates a wide range of solid waste (farm production waste including land clearance foliage, waste crops and dead stock, packaging, used machinery, used oil, household wastes, septic tank wastes, animal remedies waste).
- **Fisheries Sector.** Our fisheries sector generates a range of solid waste (from fish factories and fishing boats). Fish and shellfish waste are bio-degradable, and some is currently disposed of to land. Other waste includes used machine parts, rope, fishing nets, oil, and household wastes. We do not know what quantities of waste are disposed of on Chatham Islands and what quantities are taken back to the mainland.

Development in response to tourism or other growth areas may result in a demand for increasing levels of services (e.g., installation of water filters to improve water quality leads to greater waste due to on-going replacement of filters, increased power demand has an associated increase in waste oil generation).

We don't know what the combined impact of the above factors will have on the future composition and quantity of waste generated, diverted and disposed of on the Chatham Islands. However, our solid waste system must be such that all public health and environmental requirements are met now and continue to be met in the future.

In addition to this, future residents may require a greater level of solid waste management services, such as collection of solid waste or provision of a basic transfer station facility at Pitt Island.

3 Policies, plans and regulations

3.1 Summary of guiding policies, plans and legislation that affect the WMMP

Waste management and minimisation planning within NZ is guided by the following legislative and policy framework (see Appendix D for further details):

- Waste Minimisation Act 2008 (WMA) and associated Regulations (New, more comprehensive waste legislation is being developed and is expected to be introduced to Parliament later in 2022. Once adopted, the new legislation will replace the WMA 2008 and the Litter Act 1979. The new legislation will create the tools to deliver the waste strategy, which is to be updated, and ensure good use is made of funds generated by the expanded waste disposal levy. It will also reset the purposes, governance arrangements, and roles and responsibilities in legislation. and strengthen and clarify regulatory and enforcement powers).
- Local Government Act 2002 (LGA) and the 2014 Amendment Act, particularly with respect to consultation, bylaws, and service reviews.
- The New Zealand Waste Strategy 2010 (currently under review with final version expected in 2022).
- Resource Management Act 1991 (RMA), particularly in relation to land disposal (landfills and cleanfills).
- Climate Change Response Act 2002, Climate Change (Waste) Regulations 2010.
- Emissions Trading Amendment Act 2008 (ETAA) which has implications for some landfills.
- Climate Change Response (Emissions Trading Reform) Amendment Act 2020.
- Hazardous Substances and New Organisms Act 1996 (HSNO) where hazardous wastes are present in the solid waste stream.
- Health Act 1956 (Health Act), as solid waste management must consider the potential impacts on public health.
- Litter Act 1979 (Litter Act) which sets out provisions for prevention and enforcement of litter offences.



- Health and Safety at Work Act 2015 (HSWA).
- Heritage New Zealand Pouhere Taonga Act 2014.

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

- Various National Environmental Standards
- Waste Management Institute of New Zealand, (2007) Health and Safety Issues in the Solid Waste and Resources Industry.
- Waste Management Institute of New Zealand, (2008) The New Zealand Resource Recovery Park Design Guide.
- Ministry for the Environment, (2009), Waste Management and Minimisation Planning: Guidance for Territorial Authorities.
- Waste Management Institute of New Zealand, Technical Guidelines for Disposal to Land (updated August 2018).
- Waste Management Institute of New Zealand, Health & Safety Guides for the Solid Waste and Resource Recovery Sector Parts 1 to 5 (March 2017).
- International agreements.

The government has set a waste work programme to reduce waste and so help transition to a low-emissions circular economy. An overview of the work programme is given in the MfE website¹⁰. It broadly encompasses the following:

- setting the direction for waste reduction
- increasing investment in waste reduction initiatives and infrastructure
- making system-level change
- addressing problems with individual products and materials
- strengthening compliance, monitoring, and enforcement.

3.2 Statutory requirements

When you are preparing, amending, or revoking a WMMP, section 44 of the WMA 2008 has specific matters that must be either considered or given regard to.

The matters that we must consider are the waste hierarchy and nuisances from waste collection, transport, and disposal.

The waste hierarchy lists methods of waste management and minimisation in descending order of importance:

- Reduction
- Reuse
- Recycling
- Recovery
- Treatment
- Disposal

Appendix E provides definitions of the waste hierarchy list.

The matters that we must give regard to are the New Zealand Waste Strategy and the most recent WA.

Additionally, we must make use of the special consultative procedure set out in section 83 of the LGA 2002.

¹⁰ <https://environment.govt.nz/what-government-is-doing/areas-of-work/waste/work-programme-on-waste/#waste-work-programme>

4 Vision, goals, objectives, and targets

4.1 Vision

Our Vision is:

TOWARDS ZERO WASTE

Zero Waste is a way of thinking about waste. Another way of thinking about Zero Waste is: “Zero Waste – Waste Nothing”.

If there is a way we can reduce, re-use, recycle or recover the things we use rather than disposing of them to a landfill, then we should be choosing these options.

Other aspects of Zero Waste include:

- Council and community working together to have a positive impact on the local economy and the local environment.
- Cleaner production – businesses finding better ways to do things or make or process products that use less resources and therefore create less waste and other negative impacts on the environment.
- Reducing the amount of resources our community, as a whole, spends on waste management through waste reduction.

4.2 Goals and objectives

Our Goals are:

- A community which is committed to reducing, reusing and recycling products and materials.
- A community which is committed to the minimisation of waste sent to landfill for disposal.
- A community that is encouraged to minimize its waste through education, provision of information and through Council leadership and example.
- A community that is committed to reducing the risk of environmental damage resulting from waste management methods.
- A community that considers, and where appropriate, implements new initiatives and innovative ways to assist in reducing wastes and reusing and recycling materials.
- A community where illegal dumping activities are addressed

Our Objectives are:

- Objective 1** To promote, encourage and emphasise reduction, reuse and recycling.
- Objective 2** To develop and operate the Council's solid waste facilities in a manner that encourages the community to divert material while also accepting residual waste for disposal to landfill, all in a safe and efficient manner.
- Objective 3** To reduce material sent to landfill for disposal as waste.
- Objective 4** To provide educational information about waste reduction, reuse and recycling of products and materials and provision of resource recovery and diverted material waste services, so encouraging the community, including local businesses, to minimize their waste.
- Objective 5** To consider and seek to choose waste management options with the least overall harm to public health and the environment.
- Objective 6** To work with the community to evaluate and where appropriate develop new initiatives and innovative ways to address waste management.
- Objective 7** To empower Council to address illegal dumping and to seek funding for dealing with legacy dumped waste (e.g., scrapped vehicles).



4.3 Targets

Targets are best set when you have an accurate baseline from which to work. So, our first target will be to establish a baseline of waste disposed to landfill and diverted material recovered from the reuse facility and from recycling.

Because we have not been able to weigh our waste or diverted material, we do not have an accurate baseline on our waste and diverted material quantities.

In 2021 our annual waste and diverted material quantities were estimated to be:

- Waste – 567 tonnes
- Recyclables – 110 tonnes, consisting of:
 - Cardboard – 84 tonnes
 - Plastics – 3 tonnes
 - Metal cans – 12 tonnes
 - Glass – 11 tonnes

We divert material through our reuse shop (“Mitre 12 facility”) and will start keeping records so that we can quantify how much we are diverting from landfill through reuse.

We have recently obtained funding through the Waste Minimisation Fund which will be used to improve facilities and plant at Te One MRF and Kaingaroa TS. Under the project we have committed to the following targets, compared to the 2021 estimates:

- increase recycled cardboard by 5%, 20% and 30% after 1, 2 and 3 years, respectively,
- increase recycled plastics by 5%, 15% and 20% after 1, 2 and 3 years, respectively,
- increase recycled metal cans by 5%, 15% and 20% after 1, 2 and 3 years, respectively,
- increase recycled glass by 5%, 15% and 20% after 1, 2 and 3 years, respectively.

The net effect of increasing recycling will be to increase recyclables by the following amounts:

- After Year 1 (end of 2022), increase recycling by 5.5 tonnes (i.e., a total of 115.5 tonnes, and an increase of 5% on the baseline quantity)
- After Year 2 (end of 2023), increase recycling by 20.7 tonnes (i.e., a total of 130.7 tonnes, and an increase of 18.8% on the baseline quantity)
- After Year 3 (end of 2024), increase recycling by 30.4 tonnes (i.e., a total of 140.4 tonnes, and an increase of 27.6% on the baseline quantity).

Increasing recycling will reduce the amount of waste going to landfill, assuming there is no further increase in solid waste quantities.

Reducing solid waste by 30.4 tonnes by the end of 2024 will amount to a 5.4% reduction in waste going to landfill.

Taking the above into account and considering the targets that were set in the 2014 WMMP, our Targets are:

Target 1: By the end of 2022, establish a baseline for the quantity of waste being disposed to landfill, the quantity of recyclables (cardboard, plastics, metal cans and glass) recovered at Te One MRF, and the quantity of reusables recovered at the “Mitre 12” facility.

Target 2: Reduce the quantity of residual waste for disposal to landfill by 10% by 2028 over the estimated 2021 level of 567 tonnes.

Target 3: Increase the total quantity of recyclable cardboard, plastics, metal cans and glass materials collected at the Te One MRF by 30% by 2028 over the estimated 2021 level of 110 tonnes.

Target 4: Increase the quantity of recoverable and reusable resources collected at the “Mitre 12” reuse facility by 50% by 2028 over the 2022 level (which is to be established under Target 1).

4.4 Guiding principles

The following Guiding Principles underpin our waste management and minimisation activities:

Waste Management and Minimisation Priorities:

We will apply waste management and minimisation initiatives in the following order of priority:

- Reduction
- Reuse
- Recycling
- Resource Recovery
- Treatment
- Disposal

Education:

We are committed to educating the community, enabling, and encouraging them to attain the Island's waste minimisation goals and targets. The Community will be encouraged to take ownership of its waste and disposal.

Environment:

The actions and processes employed in implementing this WMMP will be carried out in a manner that minimises the risk to the environment and the health and safety of the community.

Funding:

We are supported by an annual Crown appropriation amount to fund this activity. This is supported by a targeted rate on all developed property and monies provided through the waste levy fund. We will also seek funding through contestable funds, such as the Waste Minimisation Fund, and will consider additional sources of funds, such as user charges.

Implementation:

For effective and efficient delivery of services, activities described in the WMMP shall be managed by us and we may choose to sub-contact the operations to a suitable contractor.

4.5 Our intended role

Given the limited scope of waste management and minimisation services required within the Chatham Islands, practically all the roles required to provide such services will be undertaken by Council, though the private sector has shown it is prepared to undertake some initiatives (e.g., composting initiatives being done by Hokotehi Moriori Trust). At a high-level, Council's roles could encompass:

- **Service provider.** Providing, or facilitating through contractual arrangements, the provision of waste management and minimisation services.
- **Governance.** Council further investigating a demand and a more detailed assessment of the options to meet the demand.
- **Regulator.** Council using a legal mechanism to facilitate or promote waste management and waste minimisation (e.g., Solid Waste bylaws and District Plan rules).
- **Community leader.** Providing information and promoting awareness and involvement in waste management and waste minimisation activities e.g., waste report, education activities in schools and events. Leading by example with the Council applying waste reduction initiatives to its own operations (e.g., internal recycling).
- **Advocate.** Promoting actions to address waste reduction and waste management issues which are outside the Council's direct control (e.g., lobby the Government for appropriate legislation, standards, and guidelines).
- **Financier.** Investing in initiatives and seeking funds from central government, which facilitate waste management and minimisation activities (e.g., grants and subsidies) and investigating implementing user charges.

We have established and will continue to develop and operate, through a contractor, TSs at Kaingaroa, and Te One, a MRF at Te One and a sanitary landfill at Owenga.

We will be a lead agency in delivering the action plans that meet the goals, objectives and targets set out in our WMMP.



We have set out below the main ways in which we believe we will be able to achieve our targets:

- We will develop a range of educational and promotional material that focus on reduction, reuse, recycling, recovery, and disposal of waste, including describing ways in which the harmful effects of waste on the environment and human health can be reduced.
- We will develop the “Mitre 12” reuse facility to decrease the amount of residual waste for disposal to landfill and increase the amount of recoverable and reusable materials.
- We will look for ways to continually improve our sorting and processing operations at the Te One MRF and at our TSs.
- We will support waste diversion and minimisation initiatives undertaken by others.

4.6 Protecting public health

The Council currently provides waste and diverted material services to the Chatham Islands. These ensure that public health is adequately protected. We will continue providing the existing solid waste services.

The Health Act 1956 requires us to ensure solid waste collection services are available for residents.

Our Long-Term Plan provides for the provision of waste management and minimisation services, and these contribute to a healthy environment.

We consider that the action plans within this WMMP will adequately protect public health.

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5 Proposed methods for achieving effective and efficient waste management and minimisation

5.1 Options to address issues

A variety of options are available to Council to achieve effective and efficient waste minimisation and move towards reaching our vision of a sustainable future for the Chatham Islands and its people. These are identified below.

Table 4: Summary of options available to Council

Waste Hierarchy	Options
Monitoring and Reporting and Tracking Progress towards Achievement of Targets	<ul style="list-style-type: none"> • Maintain and improve on existing waste data collection within the district, which has been implemented by FH. • Collect waste data in a consistent manner that complies with Regulations, and measure progress towards targets. • We will provide a means to weigh both waste and bales of recyclables at Te One. This will require additional external funding which has been secured.
Reduce – Communication and Education	<ul style="list-style-type: none"> • Continue existing education programmes. • Develop and deliver additional educational and promotional programmes. • Undertake regular community awareness programmes through Council's Panui. • Place signs and provide information at Council's TS and MRF. • Encourage businesses to recycle wastes through newsletters. • Provide regular information on our website.
Reuse – Encouraging Recovery of Reusable Materials	<ul style="list-style-type: none"> • We will expand the 'Mitre 12' facilities through external funding, which has been secured. • We will promote additional reuse opportunities by providing limited funding. • We will invest in infrastructure to allow materials such as glass to be reused within the local road network.
Recycling - Residual Waste Reduction and Increasing Recovery of Recyclable Materials	<ul style="list-style-type: none"> • We will continue current levels of collecting and sorting recyclable materials. • We will investigate and develop new markets and long-term transport options for recyclables, including signing a Memorandum of Understanding with a partner to accept and process our recyclables. • We will provide ISO containers at TS for collecting recyclables and ensuring that they remain dry, so maintaining quality. This has been largely achieved. • Better segregation of material to meet market requirements. • Arrange and participate in regional and national e-waste collections as a means of encouraging diversion of e-wastes from landfill. • Arrange and participate in regional and national organised hazardous waste collections. • Collections as a means of diversion of hazardous wastes from landfill. • We will provide suitable equipment (e.g., fadges and metal frames) to enable recyclables to be handled safely and efficiently.
Recovery - Collaboration, New Initiatives and Continuous Improvement	<ul style="list-style-type: none"> • Encourage the diversion of organic materials through regulation. • We will advocate on Product Stewardship Schemes.
Disposal	<ul style="list-style-type: none"> • We will dispose of all waste to Owenga Landfill that meets the waste acceptance criteria. • Landfill management to be undertaken by skilled operators using appropriate equipment, to optimize landfill capacity and minimise environmental harm.



Waste Hierarchy	Options
	<ul style="list-style-type: none"> • Reduce the potential for environmental harm from special waste within the Chatham Islands. • Provide additional hazardous waste services and facilities to manage hazardous or semi-hazardous wastes.

5.2 Options for the future

Options have also been considered for future waste management and waste minimisation infrastructure and services. We have progressed some of these options, but some are yet to be implemented when funding becomes available.

Table 5: Summary of options for the future

Waste Hierarchy	Options
Monitoring and Reporting and Tracking Progress towards Achievement of Targets	<ul style="list-style-type: none"> • Council to provide a means to weigh both waste and bales of recyclables at Te One. This will require additional external funding which has been secured through the WMF.
Reuse – Encouraging Recovery of Reusable Materials	<ul style="list-style-type: none"> • Council to expand the “Mitre 12” facilities through external funding. • Investment in infrastructure to allow materials such as glass to be reused within the local road network.
Recycling - Residual Waste Reduction and Increasing Recovery of Recyclable Materials	<ul style="list-style-type: none"> • Council to consider only collecting recyclable materials where sustainable markets exist. • Council to seek external funding for a project to collect scrap vehicles and other large scrap machinery, crush, consolidate and transport it back to New Zealand for processing. • Council to provide suitable equipment (fidges) and plant to enable recyclables to be handled safely and efficiently. • Council to seek alternative funding sources to pay for ongoing services such as transport of recyclables to New Zealand and processing of such recyclables. • Council to advocate for implementation of a subsidized container recycling scheme to be introduced to the Chatham Islands alongside the national initiative.
Recovery - Collaboration, New Initiatives and Continuous Improvement	<ul style="list-style-type: none"> • Council to consider alternative waste treatment and energy recovery options to reduce the amount of waste disposed of to landfill and make best use of available resources. • Council to support local initiatives that are seeking to minimise waste and reuse resources (e.g., composting initiative undertaken by Hokotehi Moriori Trust).

6 Funding the plan

6.1 Plan implementation funding

Council is supported by an annual Crown appropriation of \$450,000 to fund the solid waste activity. Additional funding to the value of just over \$84,000 comes from a targeted rate on all developed property.

Presently, we receive funding to the value of \$10,000. from the Government as part of our share of the distribution of waste levy money collected by the Government. With waste levy charges increasing and being progressively extended to other classes of landfill, the Government will be able to share out significantly larger amounts of monies to TLAs. How this will be done is still to be determined but it is almost certain that we will receive additional waste levy funding in the future. We will need to ensure that we have complied with our relevant obligations under the WMA to qualify for receipt of the waste levy funding.

Section 32 of the WMA 2008 states the requirements that TLAs must follow in spending levy monies. The money must be spent on matters that promote or achieve waste minimisation and must be in accordance with the TLA's WMMP.

We have recently formalised Deeds of Funding with the MfE as Crown agents for two projects which will provide \$300,000 for the installation of a weighbridge, and improvements to the infrastructure and plant at Te One MRF and Kaingaroa TS, including expanding the "Mitre 12" facility. Our contributions to these projects are approximately \$122,000.

We are also planning to consider issues and options for implementing user charges for the disposal of waste. The process will follow the necessary legislative and regulatory process.

6.2 Grants and advances of monies

Section 47 of the WMA allows a territorial authority, if authorised to do so by its WMMP, to make grants or advances of money to any person, organisation, group, or body of persons for the purpose of promoting or achieving waste minimisation.

Under the WMMP, we are authorised to make such grants or advances of money on any terms and conditions we think fit and provided that any application for a grant or an advance of money is supported by a description of the proposed activity for which the money would be used and a budget.

We will identify funding of any grants or advances of money for waste minimisation in the Annual Plan.

6.3 Waste levy expenditure

Section 32 of the WMA 2008 says that TLAs may spend the money it receives from the government as part of its share of the national waste disposal levy, only on matters to promote or achieve waste minimisation, and in accordance with its WMMP.

We have identified services and support activities that may be funded by the income we receive from the national waste disposal levy. These are not exhaustive and will be reviewed on an on-going basis. The services or support activities are:

- the gathering of information about waste and waste minimization, including waste surveys
- programmes designed to engage the community in waste reduction and services provided for the diversion of waste
- encouraging private operators to provide waste minimisation services in areas where no such services are provided by Council
- encourage schools and community groups to implement waste minimisation initiatives
- providing resources to support the diversion of materials from becoming waste
- promotion of home composting
- the collection, processing and consolidation, transport, and marketing of recyclable material
- the collection and processing of compostable organic material that may otherwise become waste.

Information about the service delivery costs and sources of funding for any year will be included in Council's Long-Term Plan and Annual Plan.



7 Monitoring, evaluating, and reporting progress

This section describes how we will monitor and evaluate the WMMP, and how progress will be reported. Good practice is to link monitoring and evaluation requirements of the WMMP to those in our LTP. The LTP monitoring and evaluation programmes set for waste should be relevant to the goals, objectives, and targets in the WMMP.

7.1 Monitoring and evaluation

This section states how we will monitor our progress towards our goals and targets. Table 6 sets out the requirements.

Table 6: Monitoring framework

Priority area	Parameter	Purpose	Frequency
Reduction	Number of educational programmes undertaken in schools	To increase awareness of practices that assist in waste reduction, increase harmful effects on human health and the environment	Quarterly
	Quantity of residual waste disposed of to landfill		
Recycling	Quantity of recycling	Monitor reduction in waste in accordance with this Plan's targets	Quarterly
	Quantity of diverted material	Measure the quantities of materials being diverted from the waste stream by volume ¹¹ and convert to a tonnage.	Records to be posted to the MfE's OWL system at the frequency required.
Disposal	Quantity of waste disposed to landfill, and diverted material stockpiled at landfill	To record the amount of waste being disposed of and to record how much diverted material (e.g., glass) is being stockpiled at the landfill. This information is used to calculate waste levy payments.	All waste disposed of at the landfill needs to be measured, as does all diverted material stockpiled at the landfill. Records are to be provided in the MfE's OWL system, at the frequency required.
General	Resource Recovery Centre Number of complaints lodged with Council's service request system	Monitor whether RRC is in good condition and remains fit for purpose and measure level of customer satisfaction	Quarterly
	Illegal dumping and fly tipping incidents lodged with Council's service request system	Record number of incidents brought to Council's attention	Quarterly
	Closed landfills	Measure compliance with resource consent conditions	Annually

¹¹ Quantity to be measured by tonnage when a weighbridge is installed and commissioned.



Priority area	Parameter	Purpose	Frequency
	Owenga Landfill	Measure compliance with resource consent conditions	Quarterly for environmental monitoring Annually for annual report

7.2 Reporting

This section states how we propose to report progress on WMMP implementation, as required in section 86 of the WMA. Table 7 sets out the requirements.

Table 7: Reporting framework

Reporting Authority	Parameter	Purpose	Frequency
Council	All parameters in Table above	Measure performance	As per Table 6 above
Council	New initiatives and continuous improvement	Improvement of operations	When implemented
MfE	Solid waste quantities	To meet requirements set by legislation for calculating waste levy payments	Monthly through MfE's OWL system
MfE	Diverted material quantities	To meet requirements set by legislation for calculating waste levy payments	Monthly through MfE's OWL system
MfE	Milestone reporting	Required under Deeds of Funding for various projects funded through the Waste Minimisation Fund	On completion of project milestones
MfE	Spending of waste levy money	To meet legislative requirements under s.86(1)(c)(i) of WMA 2008	Annually through MfE's TAWLES
MfE	Performance in achieving waste minimisation in accordance with the WMMP	To meet legislative requirements under s.86(1)(c)(ii) of WMA 2008	Annually through MfE's TAWLES
Consent Authority	Reporting under condition 12 of DP CIC/2013/02 for	To summarise the performance of the landfill.	Annually by 30 September each year
Consent Authority	Records of vehicles accessing landfill and wastes and types disposed of at the landfill.	Required under condition 11 of the Specific Conditions to Discharge Solid waste to Land.	Required with Annual Report
Consent Authority	Leachate treatment	Monitor the performance of the pilot leachate treatment plant, required under condition 18 of the Specific Conditions to Discharge Stormwater and Treated Leachate onto Land	Required within 3 months of the second anniversary of starting the trial, i.e., by April 2024

Part B – Action Plan

8 Introduction

The action plan sets out our programme of action for achieving the vision, goals, objectives, and targets of the WMMP, as described in Part A – Strategy, and should be considered in conjunction with that part of the WMMP. The introduction to the action plan should comment on the term of the action plan and when and how it will be updated and formally reviewed.

9 Action plan

Action plans have been developed to describe the specific actions to be undertaken for each of our objectives identified in the WMMP strategy in Part A and the overall funding structure/policy and mechanisms to be used to deliver the programme. They cover the following areas:

- Waste reduction and increasing recovery of recyclable and reusable materials
- Improvement of Council's facilities
- Monitoring and reporting and tracking progress towards achievement of targets
- Communication and education
- Adopt environmentally acceptable waste and diverted material management options
- Collaboration, new initiatives and continuous improvement
- Clean up of illegal dumping sites on the Chatham Islands

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9.1 Action planning tables

The following tables contain our proposed actions, implementation timeframes, and funding sources for each of our proposed actions.

Table 8: Action Plan 1: Waste reduction and increasing recovery of recyclable and reusable materials

Objective	Specific actions	New or existing action?	Implementation timeframe	Funding source	Hierarchy position
To promote, encourage and emphasise reduction, reuse and recycling.	Method 1: Continue to develop the MRF at Te One.	Existing	Ongoing	Grant through WMF	Recovery
	Method 2: Continue to develop Transfer Stations at Kaingaroa and Te One.	Existing	Ongoing	Grant through WMF	Recovery
	Method 3: Participate in regional and national e-waste collections, where possible, as a means of encouraging diversion of e-wastes from landfill.	New	When e-waste collections are arranged	Grant through WMF	Recovery
	Method 4: Participate in regional and national organised hazardous waste collections, where possible, as a means of diversion of hazardous wastes from landfill.	New	When hazardous waste collections are arranged	Grant through WMF	Recovery
	Method 5: Continue participation in Cloth Nappy Programme	Existing	Ongoing	Rates/Crown appropriation	Reduction/Reuse
	Method 6: Council to engage with other TLAs and/or waste contractors and sign a Memorandum of Understanding to accept and process recyclables from Chatham Islands.	New	2022	Rates/Crown appropriation	Recycling

Table 9: Action Plan 2: Improvement of Council facilities

Objective	Specific actions	New or existing action?	Implementation timeframe	Funding source	Hierarchy position
To develop and operate the Council's solid waste facilities in a manner that encourages the community to divert materials while also accepting residual waste for disposal to landfill, all in a safe and efficient manner.	Method 7: Provide clear, unambiguous signage at the TSs that makes it clear what needs to be placed where.	New	In 2022/2023	Grant through WMF	Recycling
	Method 8: Provide suitable receptacles at the TSs so that waste and diverted materials can be separately collected in appropriate receptacles that allow for separation of material types and maintains the quality of the materials in a safe and efficient manner.	New	In 2022/2023	Grant through WMF	Recycling
	Method 9: Investigate methods for dealing with problem wastes such as LPG cylinders, used oil and batteries, including evaluating existing infrastructure available for hazardous wastes.	New	In 2022/2023	Rates/Crown appropriation	Recycling
	Method 10: Provide suitable equipment and plant for lifting and unloading receptacles of waste and diverted materials.	New	In 2022/2023	Grant through WMF	Recycling
	Method 11: Ensure waste management infrastructure is kept in good repair, to function efficiently and safely.	New	Ongoing	Waste Levy / Grant through WMF	Recycling



Objective	Specific actions	New or existing action?	Implementation timeframe	Funding source	Hierarchy position
	Method 12: Extend the reuse facility to allow more materials, goods and items to be collected, stored and recovered.	New	In 2022/2023	Grant through WMF	Reuse
	Method 13: Council to engage suitably qualified contractors for undertaking solid waste management and minimisation activities.	Existing	Ongoing	Rates/Crown appropriation	Covers all

Table 10: Action Plan 3: Monitoring and Reporting and Tracking Progress towards Achievement of Targets

Objective	Specific actions	New or existing action?	Implementation timeframe	Funding source	Hierarchy position
To reduce the amount of waste sent for disposal to landfill.	Method 14: Establish a baseline for waste and diverted material quantities by collecting data in a consistent manner, as required by the WMA Regulations, and measure progress towards targets (refer to section 7.1).	New	In 2022/2023	Rates/Crown appropriation	Recovery
	Method 15: Report on performance in achieving waste minimisation targets (refer to section 7.2).	New	In 2022/2023	Rates/Crown appropriation	Recovery

Table 11: Action Plan 4: Communication and Education

Objective	Specific actions	New or existing action?	Implementation timeframe	Funding source	Hierarchy position
To provide educational information about waste reduction, reuse and recycling of products and materials and provision of waste services, so encouraging the community, including local businesses, to minimise their waste	Method 16: Develop and deliver educational and promotional programmes <ul style="list-style-type: none"> • Continuing educational visits at schools • Regular community awareness programmes through Council's Panui • Encourage business to establish best practice methods for minimising their waste • Provide information on Council's website 	Existing	Ongoing	Waste Levy / Rates / Crown appropriation	Recovery

Table 12: Action Plan 5: Adopt Environmentally acceptable waste and diverted material management options

Objective	Specific actions	New or existing action?	Implementation timeframe	Funding source	Hierarchy position
To consider and seek to choose waste management options with the least overall harm to public health and the environment.	Method 17: Adopt the best practical option for dealing with wastes and diverted materials.	Existing	Ongoing	Rates/Crown appropriation/Grant through WMF	Recovery and Disposal
	Method 18: Use "best practice" guidelines (e.g., WasteMINZ Disposal Guidelines) for adopting and implementing technical solutions.	Existing	Ongoing	Rates/Crown appropriation/Grant through WMF	Recovery and Disposal



Table 13: Action Plan 6: Collaboration, new Initiatives and continuous improvement

Objective	Specific actions	New or existing action?	Implementation timeframe	Funding source	Hierarchy position
To work with the community to evaluate and where appropriate develop new initiatives and innovative ways to address waste management.	Method 19: Investigate and where appropriate implement new procedures and processes for sorting recyclable materials from residual waste at the TSs and at the MRF	New	When funds are available	Waste Levy / Grant through WMF	Recycling
	Method 20: Investigate opportunities for the separation of kitchen wastes and recyclable materials from residual wastes	New	When funds are available	Waste Levy / Grant through WMF	Recycling
	Method 21: Investigate issues and options for implementing additional solid waste charges as a tool for encouraging material diversion.	New	2022	Rates/Crown appropriation	Recovery
	Method 22: Advocate at a national level on schemes (e.g., container deposit scheme, product stewardship for farm chemicals and plastic wrap) which could be of benefit to the community.	Ongoing	2022/2023/2024	Rates/Crown appropriation	Recovery
	Method 23: Seek funding through appropriate funds (e.g., Waste Minimisation Fund) for projects that can increase waste diversion (e.g., recover scrap metal) and/or use fractions of the waste stream for alternative resource use or energy provision (e.g., waste pyrolysis).	New	As projects are identified and grants approved	Grant through WMF	Recovery
	Method 24: Council to support community initiatives, such as the composting trial and operations initiated by the Hokotehi Moriori Trust.	New	As projects are identified	Waste Levy, if funds are available	Recovery

Table 14: Action Plan 7: Clean-up of Illegal dumping sites on the Islands

Objective	Specific actions	New or existing action?	Implementation timeframe	Funding source	Hierarchy position
To empower Council to address illegal dumping and to seek funding for dealing with legacy dumped waste (e.g., scrapped vehicles).	Method 25: The Council will clear any illegal dumping, including the removal of abandoned vehicles, and undertake prosecution action where appropriate.	Existing	Ongoing	Rates/Crown appropriation	Recovery and Disposal
	Method 26: Council to consider implementing a Solid Waste Bylaw as part of its waste management "toolkit".	New	2022/2023	Rates/Crown appropriation	Recovery and Disposal
	Method 27: Council to investigate issues and options for dealing with legacy potentially problematic wastes.	New	When funds are available	Rates/Crown appropriation	Disposal



Part C – WMMP appendices

DRAFT



Appendix A Waste Assessment and Comments from the Canterbury Medical Officer of Health

DRAFT



Waste Assessment

PREPARED FOR THE CHATHAM ISLANDS COUNCIL | JULY 2022
FINAL VERSION

We design with community in mind

Revision Schedule

Rev No.	Date	Description	Signature or Typed Name (documentation on file)			
			Prepared by	Checked by	Reviewed by	Approved by
01	13/05/21	Draft for Client Comment	K Halder	P Landmark		A McGaughran
02	23/03/22	Draft for Client Comment	K Halder	P Landmark	P Landmark	A McGaughran
03	21/07/22	Final	K Halder	P Landmark	P Landmark	A McGaughran



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Abbreviations

AMP	Activity or Asset Management Plan
the Council	Chatham Islands Council
C & D	Construction and demolition waste
ECan	Environment Canterbury
EPA	Environmental Protection Authority
FEL	Front end loader
FH	Fulton Hogan
HSNO	Hazardous Substances and New Organisms Act 1996
HSW	Health and Safety at Work Act 2015
IBC	Intermediate bulk container (approximately 1,000 litres)
LDMP & STFMP	Landfill Development and Management Plan and Sludge Treatment Facility Management Plan.
LF	Landfill
LOTO	Lock-out tag-out
LTP	Leachate Treatment Plant
MPB	Materials processing building
MRF	Materials Recovery and Processing Facility
PPE	Personal Protective Equipment
RC	Resource consent
SOP	Standard Operating Procedure
SWM	Solid Waste Management
TS	Transfer Station



Glossary

Where available, definitions have been taken from the Waste Minimisation Act 2008 or the Ministry for the Environment publications.

Cleanfill	Any landfill that accepts only cleanfill material.
Cleanfill material	<p>Material that when buried will have no adverse effect on people or the environment. Cleanfill material includes virgin natural materials such as clay, soil and rock, and other inert materials such as concrete or brick that are free of:</p> <ul style="list-style-type: none">• Combustible, putrescible, degradable or leachable components• hazardous substances• products or materials derived from hazardous waste treatment, hazardous waste stabilization or hazardous waste disposal practices• materials that may present a risk to human or animal health such as medical and veterinary waste, asbestos or radioactive substances• liquid waste
Dispose / Disposal	<p>(a) the final (or more than short term) deposit of waste into or onto land set apart for that purpose; or</p> <p>(b) the incineration of waste</p>
Disposal facility	<p>(a) A facility, including a landfill:</p> <ol style="list-style-type: none">at which waste is disposed of; andat which the waste disposed of includes household waste; andthat operates, at least in part, as a business to dispose of waste; and <p>(b) Any other facility or class of facility at which waste is disposed of that is prescribed as a disposal facility.</p>
Diverted material	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
Environment	<p>As defined in the Resource Management Act - the environment includes:</p> <ol style="list-style-type: none">ecosystems and their constituent parts, including people and communities; andall natural and physical resources; andamenity values; and



	(d) the social, economic, aesthetic, and cultural conditions which affect the matters stated in paragraphs (a) to (c) or which are affected by those matters.
Green waste	Biodegradable material such as tree branches, tree stumps, grass, flowers, and hedge cuttings from gardening activity
Hazardous waste	<ul style="list-style-type: none"> • Any waste that: • contains hazardous substances at sufficient concentrations to exceed the minimum degrees of hazard specified by Hazardous Substances (Minimum Degrees of Hazard) Regulations 2000 under the Hazardous Substances and New Organism Act 1996, or • meets the definition for infectious substances included in the Land Transport Rule: Dangerous Goods 1999 and NZ Standard 5433: 1999 – Transport of Dangerous Goods on Land, or • meets the definition for radioactive material included in the Radiation Protection Act 1965 and Regulations 1982
Household waste	Waste from a household that is not entirely from construction, renovation, or demolition of the house
Incineration	Incineration is a waste treatment process that involves the combustion of substances contained in waste materials.
Litter	The same as “waste”.
LTP	Long Term Plan, prepared by each council every three years and covering the next ten years funding priorities;
MRF	A Materials Recovery Facility, which may be a conveyor with manual sorting or a fully mechanized facility with minimal manual input; also termed a materials processing centre.
Organic Material	Kitchen scraps, green waste and in some cases sludge from wastewater treatment processes
Product stewardship	When a producer, brand owner, importer, retailer, or consumer accepts responsibility for reducing a product’s environmental impact throughout its life cycle.
Pyrolysis	Pyrolysis is defined as a process of temperature decomposition of organic material in the absence of oxygen, that brings many industrial benefits.
Recover / Recovery	<ul style="list-style-type: none"> (a) extraction of materials or energy from waste or diverted material for further use or processing, and (b) includes making waste or diverted material into compost
Recycle / Recycling	The reprocessing of waste or diverted material to produce new materials



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Reduce / Reduction	<ul style="list-style-type: none">(a) avoiding waste generation, including by using products more efficiently or by redesigning products; and(b) in relation to a product, avoiding waste generation in relation to the product.
Transfer Station	Sites where diverted material and waste are collected, sorted, and transferred for disposal or further processing.
Reuse	The further use of waste or diverted material in its existing form for the original purpose of the materials or products that constitute the waste or diverted material, or for a similar purpose
Solid Waste Analysis Protocol (SWAP)	A method to facilitate the collection of consistent and reliable data on solid waste in New Zealand, defined by the Ministry for the Environment in 2002.
The community	Includes everyone individually and in groups – households, settlements, all sectors including the public sector, businesses, Not-for-Profit Organisations, Community Boards key agencies, and all residents living within the Chatham Islands
Treat / Treatment	Subjecting waste to any physical, biological, or chemical process to change its volume or character so that it may be disposed of with no or reduced adverse effect on the environment, not including dilution of waste
Waste	<ul style="list-style-type: none">(a) anything disposed of or discarded; and(b) includes a type of waste that is defined by its composition or source (for example, organic material, 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.
Waste assessment (WA)	An assessment as defined by s51 of the Waste Minimisation Act 2008; it provides the background information for the waste plan by assessing the current situation in a defined area, in this case the Chatham Islands
Waste minimization	<ul style="list-style-type: none">(a) the reduction of waste; and(b) the reuse, recycling, and recovery of waste and diverted material.
Waste disposal levy	A levy imposed under the Waste Management Act 2008 on waste disposed at a waste disposal facility
WMMP	Waste Management and Minimisation Plan as defined in s43 of the Waste Minimisation Act 2008.



1.0 INTRODUCTION

The Chatham Island Council (the Council) has a statutory responsibility under section 43 of the Waste Minimisation Act 2008 (WMA) to promote effective and efficient waste management and minimization and to protect public health. The Council's current Solid Waste Management Plan (SWMP) was prepared in 2014 to fulfil Council's obligations, though it was not formally adopted by Council.

The Council's current vision, objectives, goals, policies and targets (i.e., those stated in the 2014 SWMP) for waste management and minimization are as follows:

Our Vision

Towards Zero Waste

Our Goals

- A community which is committed to reducing, reusing, and recycling products and materials.
- A community which is committed to the minimisation of waste sent to landfill for disposal.
- A community that is committed to reducing the risk of environmental damage resulting from waste management methods.
- A community that considers, and where appropriate implements new initiatives and innovative ways to assist in reducing, reusing, and recycling wastes.
- A community where illegal dumping activities are addressed.

Our Objectives

- Objective 1: To promote, encourage and emphasize reduction, reuse, and recycling.
- Objective 2: To reduce the amount of waste sent for disposal to landfill.
- Objective 3: To operate the Council's Resource Recovery Centre in a manner that encourages the community to reuse and recycle materials while accepting residual waste for disposal to landfill.
- Objective 4: To encourage local businesses to minimise their waste.
- Objective 5: To provide educational information about waste reduction, reuse and recycling of products and materials and provision of waste services.
- Objective 6: To consider and seek to choose waste management options with the least overall harm to public health and the environment.
- Objective 7: To work with the community to evaluate and where appropriate develop new initiatives and innovative ways to address waste management.

Our Targets

- Target 1: Reduce the volume of residual waste for disposal to landfill by 10% by 2018 over the 2014 level.
- Target 2: Increase the volume of recyclable materials collected at Council's Resource Recovery Centre by 10% by 2018 over the 2014 level.
- Target 3: Increase the volume of recoverable and reusable resources collected at Council's Resource Recovery Centre by 50% by 2018 over the 2014 level.

Under section 50 of the WMA Council must review its waste management and minimization plan (WMMP) at intervals or not more than 6 years after the last review.

It is also a legal requirement under section 51 of the WMA (see Appendix A) for councils to conduct a waste assessment and have regard to it in the review and preparation of their WMMPs.

The purpose of this WA is to provide a description of the Council's current collection, recycling, recovery, treatment, and disposal services, forecast future demands for waste management and minimisation services in the Chatham Islands, and to provide a statement of the Council's role in meeting these demands. The WA assists the Council with its statutory responsibility to promote effective and efficient waste management and minimisation.



Thus, this WA reviews previous work undertaken, and provides an update of work that has been completed since the 2014 WMMP was prepared.

2.0 LEGISLATIVE AND POLICY FRAMEWORK

The Chatham Islands, a small group of islands about 800km east of Christchurch in the Pacific Ocean, is part of New Zealand. Waste management and minimisation planning within NZ is guided by the following legislative and policy framework:

- The New Zealand Waste Strategy 2010 (as of July 2022 it is currently under review with the final version expected around mid-2022).
- Waste Minimisation Act 2008 (WMA) and associated Regulations¹.
- Local Government Act 2002 (LGA) and the 2014 Amendment Act, particularly with respect to consultation, bylaws and service reviews.
- Resource Management Act 1991 (RMA), particularly in relation to land disposal (landfills and cleanfills).
- Climate Change Response Act 2002, Climate Change (Waste) Regulations 2010.
- Emissions Trading Amendment Act 2008 (ETAA) which has implications for some landfills.
- Climate Change Response (Emissions Trading Reform) Amendment Act 2020.
- Hazardous Substances and New Organisms Act 1996 (HSNO) where hazardous wastes are present in the solid waste stream.
- Health Act 1956 (Health Act), as solid waste management must consider the potential impacts on public health.
- Litter Act 1979 (Litter Act) which sets out provisions for prevention and enforcement of litter offences.
- Health and Safety at Work Act 2015 (HSWA).
- Heritage New Zealand Pouhere Taonga Act 2014

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

- Various National Environmental Standards.
- Waste Management Institute of New Zealand, (2007) Health and Safety Issues in the Solid Waste and Resources Industry.
- Waste Management Institute of New Zealand, (2008) The New Zealand Resource Recovery Park Design Guide.
- Ministry for the Environment, (2009), Waste Management and Minimisation Planning: Guidance for Territorial Authorities.
- WasteMINZ Technical Guidelines for Disposal to Land (updated August 2018).
- WasteMINZ H&S Guides for the Solid Waste and Resource Recovery Sector Parts 1 to 5 (March 2017)

2.1 WASTE MINIMISATION ACT 2008 (WMA)

The WMA provides the following definitions which are used for the purpose of this waste assessment.

“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.

“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.

¹ New, more comprehensive waste legislation is being developed and is expected to be introduced to Parliament later in 2022. Once adopted, the new legislation will replace the WMA 2008 and the Litter Act 1979.



The WMA also sets out the matters which Council must consider in assessing how it will provide for waste management and minimisation within the district and in a way that considers the waste hierarchy shown in Figure 1.

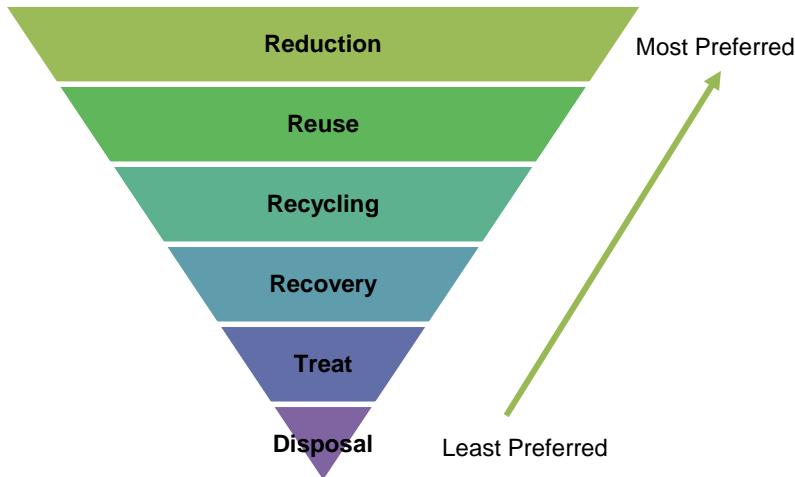


Figure 1 Waste Hierarchy of methods for waste management and minimization

The WMA contains a mechanism for the accreditation and monitoring of product stewardship schemes to minimise waste from products. Product stewardship relates to a process through which those involved in the life cycle of a product or service are involved in identifying and managing the health, safety and environmental impacts from the development and manufacture of a product through to its use and final disposal. Ideally, product stewardship schemes will be designed to promote reduction of waste at the source, as well as make recycling, treatment, and disposal safer and more efficient.

Another key provision of the WMA is the imposition of a levy on each tonne of waste to landfill, to be paid by landfill operators. The levy is used to fund waste minimisation projects. Some of it is distributed directly to councils, and the remainder goes into a contestable Waste Minimisation Fund. Increases in waste levy costs kicked in from 1 July 2021 (prior to that they were \$10 per tonne of municipal solid waste) and are set to increase further over the next few years, as shown below.

Timeline	1 July 2021	1 July 2022	1 July 2023	1 July 2024
Waste levy per tonne of municipal solid waste	\$20	\$30	\$50	\$60

Along with the changes to waste levy charges, there are new regulations that require operators of disposal facilities (i.e., this includes all classes of landfill and transfer stations) to record waste and diverted material quantities by specific measurement methods, including either by weighing or volume conversion. This has implications for the way in which Council must record waste and diverted material quantities. Council can no longer rely on using a calculation of population figures x average weight of waste generated per head of population.

2.2 CLIMATE CHANGE RESPONSE ACT

The Climate Change Response Act 2002, Climate Change (Waste) Regulations 2010 and Amendments to the Climate Change (Unique Emissions Factors) Regulations are implemented through the New Zealand Emission Trading Scheme (NZ ETS) and Climate Change Response (Emissions Trading Reform) Amendment Act 2020.

The NZ ETS is part of the government's response to climate change and requires those emitting greenhouse gases to pay for increases in emissions, whilst rewarding emission reductions. The waste sector is affected by the ETS, as those who operate landfills are required to participate in the scheme and report emissions.



According to the Climate Change (General Exemptions) Order 2009, ETS obligations do not apply to landfills that:

- dispose of less than 1,000 tonnes of waste per year and are located at least 150 km away from the nearest modern landfill by land; or
- dispose of less than 500 tonnes of waste per year and are located at least 75 km away from the nearest modern landfill by land; or
- are located at least 25 km away from the mainland for offshore islands

It is most likely that landfills within the Chatham Islands will meet the requirements for exemption.

3.0 THE WASTE SITUATION

3.1 EXISTING WASTE SERVICES AND FACILITIES

To manage and minimise waste into the future it is important to understand the way in which waste is currently managed, the services provided and the quantity and type of waste which is produced. This section of the Waste Assessment sets out the services and facilities provided by Council. Photos showing Council’s waste management and minimization infrastructure are also provided in Appendix B.

The Council historically provided three “dumps” located around Chatham Island (Rekohu / Wharekauri), these being at Te One, Kaingaroa and Owenga. The dumps were used for the disposal of all waste and were unmanned. These have now been closed and have been largely rehabilitated.

The three dumps were replaced with:

- Waste transfer stations (TSs) at Kaingaroa and Owenga (Owenga TS has since been closed),
- Materials Recovery Facility (MRF) at Te One to recover diverted materials, which is also a transfer station, and
- A new, modern-lined landfill at Owenga, with a pilot leachate treatment plant. The landfill was commissioned at the start of July 2022.

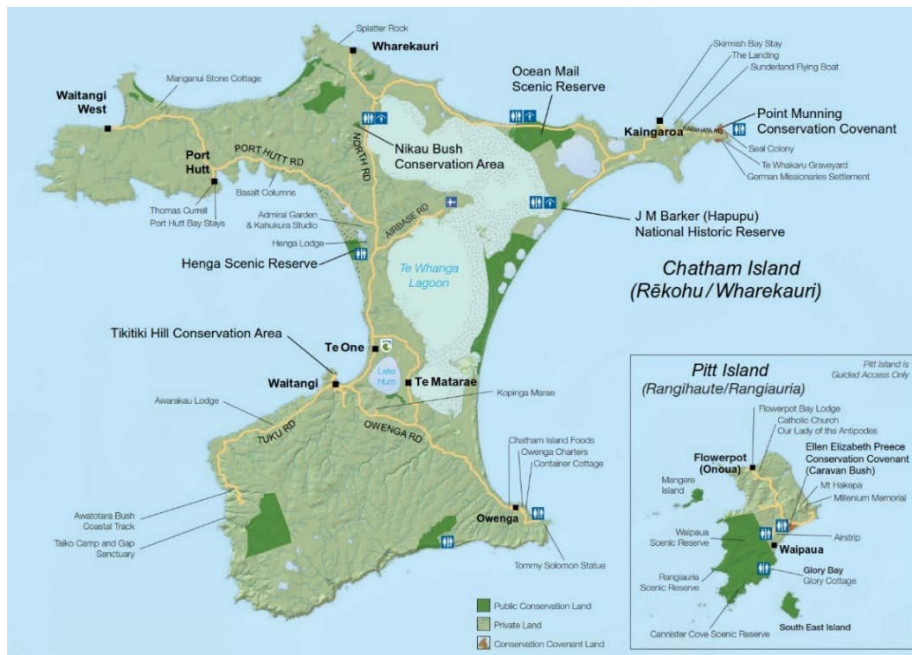


Figure 2 Chatham Islands Map (source Chathamislands.co.nz)

There are no Council-operated waste management services currently provided on Pitt Island (Rangihau / Rangiauria).



3.1.1 Waste Collection and Transfer

Council has contracted Fulton Hogan to provide all waste management services in the Chathams. Fulton Hogan manages the waste collection and transfer services, and household refuse is disposed of in black bags and placed in a trailer at Kaingaroa TS and in skip bins at Te One by the public. Black bags are transferred to a waste compactor truck for transporting. Bulk waste is currently brought to Kaingaroa TS and Te One MRF by the public.

There is currently no kerbside collection service provided on Chatham Island, however, Fulton Hogan has proposed changes to the waste collection and transfer activities on Chatham Island, which Council is considering. If accepted by Council, the changes would include providing a kerbside collection of solid waste from all residential properties on Chatham Island, together with rationalizing the opening hours of Te One MRF and closing Kaingaroa TS.

A waste transfer station where diverted material and waste are collected, sorted, and transferred for disposal or further processing is provided at Kaingaroa as detailed below (refer to Appendix B.1 for photographs).

Kaingaroa Transfer Station

Kaingaroa TS is located on a slightly elevated site, next to the old Kaingaroa dump site, off the Kaingaroa Road. The site is not permanently manned.



Figure 3 Location of Kaingaroa TS (source Google Earth)

The site has been built up using wooden retaining walls to create a roughly rectangular platform that has been metalled. Gantry skips have been placed around it for the collection of various recyclables and wastes. Receptacles are also provided for waste oil and batteries.

The Kaingaroa TS consists of:

- Open gantry skips (3m³ and 6 m³ capacity)
- ISO container with slots cut into it for “posting” recyclables.

Waste transfer facilities are also provided at the Te One MRF described further in section 3.1.2.



3.1.2 Diverted Materials

Waste diversion services are provided by Council through the collection of the following recyclable materials.

- Cardboard (and paper), but cardboard is by far the largest component because most groceries and consumables etc. that come to the islands are brought in boxes.
- Plastics
- Metals cans
- Glass

Waste diversion from landfill is further reduced through the seafood factories making their own arrangements for disposing of fish and shellfish waste.

The intention is for recyclables to be exported from the Chatham Island and sent to a convenient location, such as Timaru, where they can be processed. This is not yet occurring since there is an issue with arranging transport of the recyclables and a Memorandum of Understanding needs to be agreed between Council and a suitable partner who would receive and process the recyclables. The Council has procured ISO containers to store the baled recyclables to maintain their quality.

It is noted that secured markets for diverted materials is also a challenge for the wider waste management community within NZ.

Te One MRF

Recyclable materials are brought to the Te One MRF for sorting and bailing. The MRF has been developed on the site of the old Te One dump which has been largely remediated. The site is approximately 100m long, measured along the road frontage, by about 65m wide.

Te One MRF has the following infrastructure and plant (refer also to the photographs in Appendix B.2):

- Large Materials Processing Building (MPB), with office and staff amenities.
- Static baler (compactor) for baling cardboard, plastics, and metal cans².
- Recyclables are “posted” through slots in the side of the MRF building.
- ISO containers are used to store, and display used goods - “Mitre 12” store.
- General purpose loader that is being hired.

Figure 4 below is an annotated aerial Google Earth photograph of the Te One MRF showing the location of various facilities.



Figure 4 Annotated Aerial Photograph of Te One MRF.

² It was intended to be used for baling waste, but this proved problematic with sludges being squeezed out of the waste and so another method is to be adopted.



Ground levels vary throughout the MRF area. The MPB is located approximately 1.2m below the level of the public access road and the space in front of the MPB is limited for manoeuvring large vehicles. The public access is at the northern-most corner with the access road sweeping around the MPB and exiting the site in the eastern-most corner.

A reusables drop-off facility is located close to the public entrance, and it presently consists of three ISO containers.

Slots have been installed along the north-western side of the MPB through which members of the public place dry recyclables (cardboard and paper, cans and mixed plastics) into fadges held in frames. Gantry bins are provided next to the MPB for disposing glass and black refuse bags.

There is a small glass crusher at Te One, but it is too small and under-powered to cope with the amount of glass received and to deal with the occasional stones that get picked up when glass is transferred from stockpile for crushing. The glass crusher will be donated to Hokotehi Moriori Trust for use in crushing paua shells for inclusion in composting materials.

Glass is being stockpiled at Te One, where it can be crushed by riding the loader over it and it is intended that this material will then be taken to New Owenga Landfill where it can be used for cover purposes.

There are also stockpiles of glass (not shown), scrap metal, wood and tyres located on the site.

A half ISO container has been obtained for storing of hazardous materials (waste oils) which has an internal bund.

A further ISO container has been converted into a facility for storing books and items of clothing which the public can access freely.

It is understood that an ISO container filled with asbestos has been buried on site at the approximate location shown in the aerial photograph.

3.1.3 Waste Disposal

The new Owenga Landfill was commissioned at the beginning of July 2022. This has involved Fulton Hogan making sure the landfill, leachate pond, pilot leachate treatment plant and treated leachate disposal area are fully prepared for waste disposal activities.

Given the cost of the facility, Council has been focusing on diverting materials from the waste stream and making sure that infrastructure is in place to support the diversion activities so as not to fill the landfill up with materials that could be usefully diverted.

Since the closure of the dump sites and up until recently (July 2022) when the landfill was commissioned, the Council has been stockpiling waste at Te One TS and has periodically burned the waste, as part of a local FENZ³ fire exercise.

Owenga Landfill Site

Construction of the Owenga Landfill was completed in April 2014. It consists of the following facilities (refer also to the photographs in Appendix B.3):

- Metalled access road
- Site office and composting toilet
- Open drains
- Stage 1 landfill lined with HDPE geomembrane
- Leachate pond
- Pilot leachate treatment plant
- Treated leachate application area
- Cover stockpile

³ FENZ – Fire and Emergency New Zealand



The following additional facilities have been added to the site since the landfill was constructed in 2014:

- Sludge pond
- Groundwater monitoring bores (G5, G6, G8a, G8b, G8c and G8d)

Figure 5 below is an annotated aerial Google Earth photograph of the Owenga Landfill showing the location of various facilities.



Figure 5 Annotated Aerial of the Owenga Landfill showing site features

Also shown on the aerial photograph is the approximate extent of Stage 2 and the proposed area within Stage 2 footprint where crushed glass will be stockpiled on site for use as cover within the landfill.

3.1.4 Waste Reduction and Education

Waste education is important in changing behaviour and moving towards Zero Waste. Council have spent considerable time in educating people coming into the Te One and Kaingaroa TSs and in assisting the community in improving recycling.

Council use their monthly newsletter to keep reminding and encouraging all forms of recycling, fixing, reuse etc. The recycling shop (known as 'Mitre 12') it is well supported and used for goods such as highchairs, baby clothes, men and women's clothes, shoes, kitchen ware, books, dvds toys etc.

All the wood, steel, paint, old bikes are kept separate and is also re-used by whoever needs it.

Council is working with Te One School to assist with educating students.

Maori community services have been supported by Council through providing bins, signs, fadges and assistance on the day of the Chatham Island festival. The public has been encouraged to re-use their cups for planting seeds for the community garden, and recycling as much materials as possible at the events.



3.1.5 Other Waste Reduction Initiatives

The Hokotehi Moriori Trust has been working with Scion Research on several waste-related initiatives.

A workshop was held on circular waste economy and a Hot Rot composting project has been initiated for turning organic waste to garden soils and growing media.

3.2 WASTE QUANTITIES

This section of the Waste Assessment provides data on the quantity and the composition of waste stream produced within the Chatham Islands.

3.2.1 Quantity of Waste

The Chatham Islands have a population of 734 people (2020 estimate). Since, until very recently, there has been no measuring of waste on the Chatham Islands, the amount of waste reported to MfE per annum has been calculated on the amount of levied waste disposed of in New Zealand per head of population. On average, this is 0.773 tonne per person and therefore the annual waste tonnages calculated for the Chatham Island has been estimated to be 567⁴ tonnes per annum.

Refuse is collected in black bags, and it was initially estimated that approximately 6 cubic metres of black bags are being disposed of per day (36 m³ general rubbish a week). In addition, wood, steel, bottles and whiteware are collected separately. More recently, Fulton Hogan has been keeping better records of waste and recyclables being disposed. The following table records the waste disposal estimates from January 2022 to June 2022.

The balance of waste (i.e., total waste estimate minus black bags) is assumed to be brought in bulk to the transfer stations. This waste has been measured only from June 2022, as is shown in the table below.

	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Year to Date	Estimate for Year
BLACK BAGS								
m³	168	144	162	132	19.5	46.6	672.1	1,344.2
No. of bags	2,800	2,400	2,700	2,200	325	777	11,202	22,404
tonnes	21.8	18.7	21.1	17.2	3.9	9.3	92.0	184.0
OTHER BULK WASTE								
m³						98.1	98.1	196.2
tonnes						64.3	64.3	128.5
TOTAL WASTE AS MEASURED (BLACK BAGS + BULK)								
m³	168	144	162	132	19.5	144.7	770.2	1,540.4
tonnes	21.8	18.7	21.1	17.2	3.9	73.6	156.3	312.6
Total Estimated Waste tonnes (for Waste Levy purposes in 2021)								567.0
Shortfall assumed to be Bulk Waste tonnes								254.4

⁴ The total tonnage estimates in 2020 and 2021 were 567 tonnes. In 2022, this has been revised down to 534.7 tonnes, based on a population of 780 people with an average waste generation rate of 0.6855 tonnes/person/year.



Measuring of the volume of black bags only started from May 2022. As can be seen in the table above, the estimated volume of black bags dropped significantly from April 2022 to May 2022. This implies that the volume of black bags may have been over-estimated from January 2022 to April 2022.

Fulton Hogan has been making a concerted effort to get more accurate records of recycling and waste quantities and so it is expected that better data will become available soon.

3.2.2 Composition of Waste

Data was collected on the composition of waste at the Te One dump site as part of the 2014 WMMP. With there being no means to weigh waste and, with tips being unmanned and unofficial burning of waste occurring, it was difficult to get accurate data on volumes of waste produced. Figure 6 shows the information presented in 2014 for Te One.

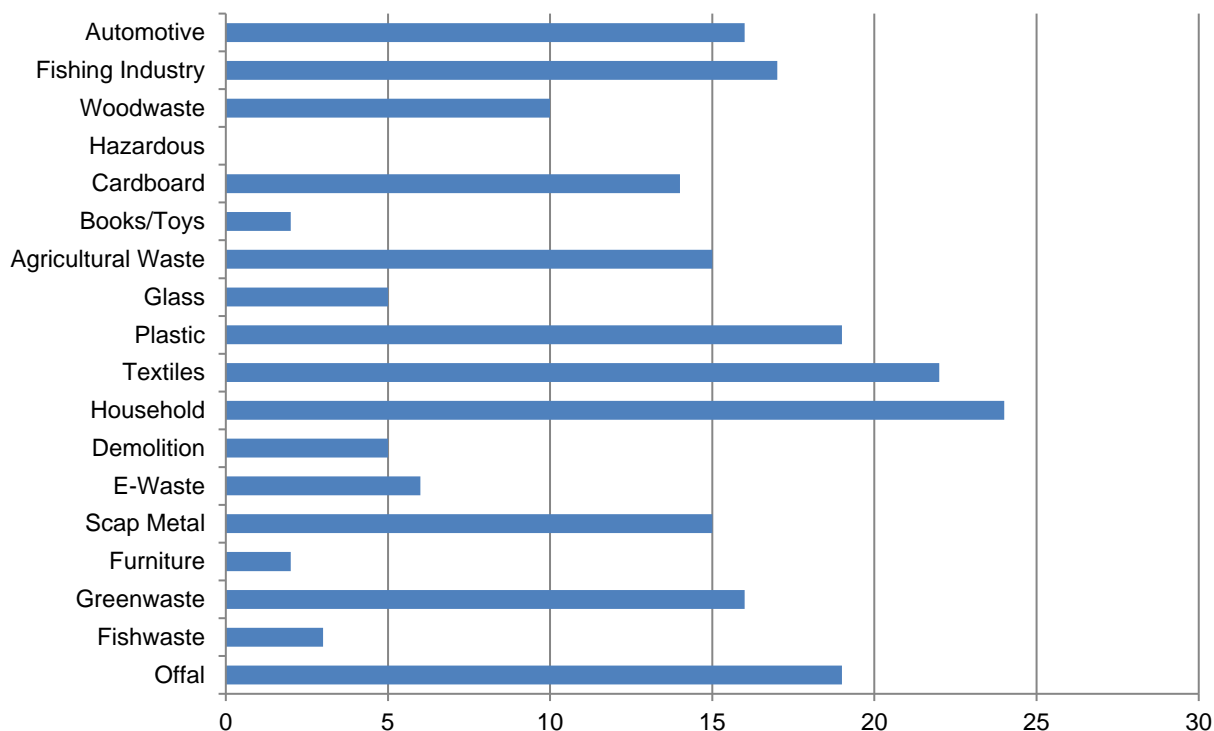


Figure 6 Te One dump site waste quantities 2014 (estimate in tonnes)

The 2014 data showed that household waste was the largest waste stream on the Chatham Islands. This data has not been updated. Agricultural and Fishing Industry waste streams were separated to show how much is commercial waste, if these two waste streams are put together commercial waste was the largest waste stream being disposed at Te One dump. It is understood that the cardboard waste stream was larger than the data indicates, as it is regularly burnt and was not counted in the data collection process. Fish waste was sometimes from the commercial sector but in 2014 it mainly consisted of private Kaimoana gatherers. Note that whilst a fairly large proportion of waste in 2014 consisted of offal, this is no longer the case. Indeed, much of the data presented above for 2014 is likely to have changed, which stresses the need to re-do this exercise again.

With Fulton Hogan managing the solid waste activities and improving the collecting of data, Council will be better placed to assess to undertake assessments of the composition of the solid waste stream.



3.2.3 Quantity of Recyclables

As noted with the section on waste quantities, there are limited records available on recycling quantities. Council has records that show that the number of bales of recyclables that were made between April 2019 and April 2021, as shown in the table below.

April 2019 – April 2020	April 2020 – April 2021
<ul style="list-style-type: none"> 153 bales cardboard (46 to 54 tonnes)⁵ 10 bales plastic (2.5 tonnes)⁶ 10 bales steel / aluminium cans (3 to 3.5 tonnes) 	<ul style="list-style-type: none"> 146 bales cardboard (44 to 51 tonnes) 9 bales plastic⁷ (2.3 tonnes) 8 bales steel / aluminium cans (2.4 to 2.8 tonnes)

Fulton Hogan has started keeping a more accurate record of recyclables from January 2022. The table below shows the estimates of recycling materials collected between January 2022 and June 2022.

	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Year to Date	Estimate for Year
CARDBOARD								
No. of Bales	10	11	10	5	5	7	48	96
tonnes	2.16	2.44	2.16	1.08	1.08	1.51	10.43	20.86
PLASTICS								
No. of Bales	1		3		1		5	10
tonnes	0.22		0.65		0.22		1.09	2.18
METAL CANS								
No. of Bales	2	2	2		2		8	16
tonnes	0.43	0.43	0.43		0.43		1.72	3.44
Total Estimated Recycling tonnes								26.48

Note that to date, tonnage estimates are based on a density of 0.320 tonnes/m³ and this is applied to all bales. This is because the bales are classed as “compacted material” and the density value is that which is provided through the regulations. In future, measurements will be taken of different bale materials to get a more accurate assessment of weights.

4.0 ISSUES AND FUTURE DEMANDS

4.1 WASTE DATA

There is limited data available for the quantity and composition of waste generated within the Chatham Islands. There is no weighing of waste or recyclables currently. Fulton Hogan have recently begun keeping records of waste and recyclables collected at the transfer stations, but the records are limited and currently only provide a snapshot of the waste and recyclables.

No waste composition assessments have been done on the Chatham Islands since 2014.

⁵ Bales of cardboard and metal cans are estimated to be between 300 and 350kg each.

⁶ Bales of mixed plastics are estimated to be 250kg each.

⁷ 9 bales of compacted mixed plastics took 162 fadges of loose mixed plastics



4.2 INFRASTRUCTURE

A solid waste management review audit was prepared by Stantec for the Chatham Island Council in October 2019. The audit review included site visits, with Council staff, to Te One MRF, Owenga Landfill (LF), and Owenga⁸ and Kaingaroa Transfer Stations (TSs). The main observations and issues identified for each of the facilities are provided below. An Issues and Actions Log was developed because of this audit and the Council have been working through the issues, as budget allows, on a priority basis. The Issues and Actions Log is periodically updated. The latest version is attached as Appendix C to this WA.

Note that since the issues were identified and the first draft of this WA prepared in May 2021, many of the issues have been resolved. Comments to that extent have been provided in the text and footnotes.

4.2.1 Kaingaroa TS

Issues Identified

- The gantry bins being used at the TS for collecting waste, cardboard/paper, plastics, and tin cans are not suitable for loading directly into the baler at Te One MRF. The gantry bins are suitable for other materials such as tyres, scrap metal, wood, and appliances.
- There are insufficient bins for all types of waste/recyclable materials, so materials get mixed up or left next to bins resulting in extra work for the Council staff.
- The bins are not stored undercover resulting in cardboard/paper becoming wet⁹.
- Loading of the gantry bins is cumbersome and unsafe.
- There is one bin for all grades of plastics which results in them all being baled together.

4.2.2 Te One MRF

Issues Identified

- The gantry bins cannot be picked up by the front-end loader (FEL) and the contents loaded into the baler, so both waste and recyclables were tipped out onto the floor of the MPB from where they would need to be loaded by hand into the baler hopper¹⁰.
- Waste sorting was done by hand and staff have been cut through glass being in a plastic bag.
- Hospital medical waste (in yellow bags) was being dumped at Te One MRF which cannot handle and deal with this waste. The way medical waste is dealt with on the Chatham Islands needs to be documented.
- Steel and aluminium cans have been baled together which may make it difficult to separate the metals and may result in the bales not being accepted by a recycling processor.
- The bales that are produced are extremely heavy and difficult to manhandle. They require a loader to lift them up.
- The glass crusher has been broken, apparently because rocks have been introduced into the glass stream by scraping the subgrade when loading by FEL. Concerns have been raised about the H&S aspects of operating the crusher and the suitability of the guards protecting the operator from the machine. The glass crusher is no longer being used because it is too under-powered for the task. It is to be donated to the Hokotehi Moriori Trust.
- The MPB is difficult to access through the roller doors because of the location of the fence and bank.
- There are traffic conflicts on site because the public drop-off bins are in an area which needs to be accessed during working hours.
- Cardboard is not being flattened which causes the bins to be filled rapidly and can result in cardboard being blown around in strong winds. Slots will be provided at the MRF building to make sure cardboard is flattened before being placed into containers in the building.

⁸ Note that since the audit was carried out, Owenga TS has been closed.

⁹ This has been resolved more recently by providing a shipping container with slots cut in the sides through which the public can place various recyclables.

¹⁰ Waste is no longer loaded into the baler, but recyclables still need to be loaded by hand.



- An area is needed for storing black refuse bags outside of the MPB where they cannot get blown away. A work-around is being devised to enable black bags to be placed directly and safely into the compactor truck.
- The current site layout leads to conflicts between the public and the site operator. It is suggested that the eastern side of the site be given over to the public so that the rest of the site can be used for operations and storing materials with minimal conflicts. Storage areas will be made “fit for purpose”, e.g., with concrete bases.
- Reusables facility does not allow furniture and larger items to be dropped off because there is no access to an area where they could be stored safely and under cover. Extension of the reusables facility is planned which will accommodate larger items.
- A large volume of waste is scrap metal, including motor vehicles. At present there are no solutions for getting rid of the scrap metals, though a solution is being sought to secure funding through the Sustainable Management Fund.
- There is no inventory of the waste oils that are being stored on site.
- The hazardous ISO container is often close to capacity by weight (estimated to be 10 tonnes).
- The waste oil volume stored inside the hazardous ISO container can exceed the sump capacity.
- An ISO container of asbestos has been buried on site. It is not known to what extent its burial complies with the asbestos regulations.
- LPG containers that are being disposed of need to be stored in a separate secure facility where they are to be de-gassed and made safe before disposing of them as scrap. The facility is to comply with relevant HSNO regulations.

4.2.3 Owenga LF

Issues Identified

- The landfill operator needs to be suitably skilled and resourced to operate the landfill and pilot leachate treatment plant, in accordance with the resource consent conditions and associated documents. Fulton Hogan’s appointment as the solid waste contractor has dealt with this issue.
- Before waste can be disposed of in the Owenga LF there are various tasks that need to be done to ensure that the LF and pilot leachate treatment plant are ready. Fulton Hogan has been addressing the issues needed to commission the landfill, ready for waste disposal at the start of July 2022.

4.3 OPERATIONS

A Health & Safety audit was also undertaken at Te One MRF in 2019. The checklist was based on documents obtained from WorkSafe’s website, supplemented with information from the WasteMINZ Health and Safety Guidelines which have a focus on solid waste activities. The overall impression gained through doing the audit was that the Council is exposing itself, its staff and members of the public to significant risks through not having the appropriate controls and measures in place.

The Council staff are enthusiastic and dedicated, but do not have the necessary training and skills to undertake all the tasks required to supervise and manage the MRF operations, including being familiar with H&S requirements and the need for record- keeping.

Council and Fulton Hogan negotiated an agreement for FH to take over the waste management activities on behalf of the Council and this will provide the site supervision and training required.

Ageing equipment is an ongoing issue with regular maintenance, and upgrades required. Getting equipment to the Chatham Islands is very costly. This is being mitigated through the new solid waste contract Council has with Fulton Hogan, whereby suitable equipment is hired, and the cost paid through the contract.



4.4 RECYCLABLES

4.4.1 Green Waste.

Green waste is likely to be one of the single largest components of the present waste stream. Diverting green waste from the main waste stream, for example by home composting or green waste shredding, has the potential to reduce waste quantities.

Hokotehi Moriori Trust has been successful in obtaining funding for developing a greenwaste composting facility and Council will be supporting this initiative.

4.4.2 Recycling

The collection of recyclables such as glass, plastics, aluminium, card, and paper help to reduce the quantities of solid waste that would be disposed of to landfill. However, collected recyclables currently need to be exported to the mainland to be reprocessed and the Chatham Islands is a long distance from any markets.

Recyclables are not being well sorted into different bins by the public resulting in contamination of recycling commodities. All grades of plastics are currently being baled together and may result in the bales not being accepted at a processing facility.

The intention is for recyclables to be exported from the Chatham Island and sent to Timaru where they can be processed but this is not yet occurring. There is an issue with getting agreement from Chatham Island Shipping to transport the recyclables at a price that is affordable to Council. Also, the Council still needs to sign a Memorandum of Understanding with a party such as Timaru District Council, to accept its recyclables.

Secured markets for diverted materials are also a challenge for the wider waste management community within New Zealand and the cost of processing and shipping recyclables to a market is extremely high.

4.5 FUTURE DEMAND

In addition to addressing the current issues outlined above, the Council needs to ensure that the waste management system is suitable in the future. Factors that will influence the future demand for waste management and minimisation services are as follows:

- **Population.** The quantity of waste is proportional to the population. Generation factors vary for different population types and there is a correlation between higher socio-economic groups and higher waste generation factors. The resident population of the Chatham Islands is static and is expected to remain so in the near future.
- **Land Development.** Land development leads to land clearance and to construction waste that has the potential to increase waste quantities enormously. Whilst there is a relatively static residential population, which would imply that significant land development is unlikely, Ngati Mutunga anticipates a future Treaty settlement that potentially could influence future land development.
- **Tourist Population and Hospitality Industry.** Increased tourism and growth in the hospitality industry will increase waste generation. This is already evident with tourist and visitor numbers being significantly higher these past two seasons as the Chatham Islands offer New Zealanders an off-shore destination whilst most of other overseas travel is limited.
- **Rural Sector.** The rural sector generates a wide range of solid waste (farm production waste including land clearance foliage, waste crops and dead stock, packaging, used machinery, used oil, household wastes, septic tank wastes, animal remedies waste).
- **Fisheries Sector.** The fisheries sector generates a range of solid waste (from fish factories and fishing boats). Fish and shellfish waste are bio-degradable, and some is currently disposed of to land. Other waste includes used machine parts, rope, fishing nets, oil and household wastes. It is unknown what quantities of waste are disposed of on Chatham Islands and what quantities are taken back to the mainland.

Development in response to tourism or other growth areas may result in a demand for increasing levels of services (e.g., installation of water filters to improve water quality leads to greater waste due to on-going replacement of filters, increased power demand has an associated increase in waste oil generation).



It is unknown what the combined impact of the above factors will have on the future composition and quantity of waste generated, diverted and disposed of on the Chatham Islands. However, the solid waste system must be such that all public health and environmental requirements are met now and continue to be met in the future.

In addition to this, future residents may require a greater level of solid waste management services, such as collection of solid waste or provision of a basic transfer station facility at Pitt Island.

5.0 OPTIONS TO ADDRESS ISSUES AND MEET FUTURE DEMANDS

A variety of options are available to the Council to achieve effective and efficient waste minimisation and move towards reaching its vision of a sustainable future for the Chatham Islands and its people. These are identified below.

Waste Hierarchy	Options
Monitoring and Reporting and Tracking Progress towards Achievement of Targets	<ul style="list-style-type: none"> • Maintain and improve on existing waste data collection within the district, which has been implemented by FH. • Collect waste data in a consistent manner and measure progress towards targets • Council to provide a means to weigh both waste and bales of recyclables at Te One. This will require additional external funding which has been secured.
Reduce – Communication and Education	<ul style="list-style-type: none"> • Continue existing education programmes. • Develop and deliver additional educational and promotional programmes. • Undertake regular community awareness programmes through Council's Panui. • Place signs and provide new information at Council's TS and MRF. • Encourage businesses to recycle wastes through newsletters. • Provide regular information on Council's website.
Reuse – Encouraging Recovery of Reusable Materials	<ul style="list-style-type: none"> • Council to expand the 'Mitre 12' facilities through external funding, which has been secured. • Council to promote additional re-use opportunities by providing limited funding. • Investment in infrastructure to allow materials such as glass to be reused within the local road network.
Recycling - Residual Waste Reduction and Increasing Recovery of Recyclable Materials	<ul style="list-style-type: none"> • Council to consider only collecting recyclable materials where sustainable markets exist. • Council to continue current levels of collecting and sorting recyclable materials. • Investigate and develop new markets and long-term transport options for recyclables. • Council to seek external funding for a project to collect scrap vehicles and other large scrap machinery, crush, consolidate and transport it back to New Zealand for processing. Council is to establish what quantities of scrap metal are available for collection. • Council to provide ISO containers at TS for collecting recyclables and ensuring that they remain dry, so maintaining quality. This has largely been achieved. • Better segregation of material to meet market requirements.



Waste Hierarchy	Options
	<ul style="list-style-type: none"> • Arrange and participate in regional and national e-waste collections as a means of encouraging diversion of e-wastes from landfill. • Arrange and participate in regional and national organised hazardous waste collections. • Collections as a means of diversion of hazardous wastes from landfill. • Encourage participation in cloth nappy programmes. • Investment in new infrastructure (ISO containers and storage areas) to keep bales of recyclables dry. • Council to provide suitable equipment (fidges) and mobile loading plant to enable recyclables to be handled safely and efficiently.
Recovery - Collaboration, New Initiatives and Continuous Improvement	<ul style="list-style-type: none"> • Encourage the diversion of organic materials through regulation. • Council to consider alternative waste treatment and energy recovery options to reduce the amount of waste disposed of to landfill and make best use of available resources. • Council to provide advocacy on Product Stewardship Schemes.
Disposal	<ul style="list-style-type: none"> • Council to dispose of all waste to Owenga Landfill. • Landfill management to be undertaken by skilled operators using appropriate equipment, to optimize landfill capacity and minimise environmental harm. • Reduce the potential for environmental harm from special waste within the Chatham Islands. • Provide additional hazardous waste services and facilities to manage hazardous or semi-hazardous wastes.

6.0 ROLES TO BE UNDERTAKEN BY THE COUNCIL

Given the limited scope of waste management and minimization services required within the Chatham Islands, practically all the roles required to provide such services will be undertaken by the Council, though the private sector may be prepared to undertake some initiatives. Such roles encompass:

- **Service provider.** Providing or facilitating the provision of solid waste management and minimisation services.
- **Governance.** The Council further investigating a demand and a more detailed assessment of the options to meet the demand.
- **Regulator.** Council uses a legal mechanism to facilitate or promote waste management and waste minimisation (e.g., bylaws and District Plan rules).
- **Community leader.** Providing information and promoting awareness and involvement in waste management and waste minimisation activities e.g., waste report, education activities in schools and events. Leading by example with the Council applying waste reduction initiatives to its own operations (e.g., internal recycling).
- **Advocate.** Promoting actions to address waste reduction and waste management issues which are outside the Council's direct control (e.g., lobby the Government for appropriate legislation, standards, and guidelines).
- **Financier.** Investing in initiatives and seeking funds from central government, which facilitate waste management and minimisation activities (e.g., grants and subsidies).



7.0 STATEMENT OF PROPOSALS

The Council's proposals for meeting forecast future demands, including proposals for new and replacement infrastructure, are included in its existing WMMP which is largely considered to be valid.

These proposals will be reviewed as part of the statutory review of the current WMMP and the Council's decision on whether or not to renew this plan.

8.0 STATEMENT OF EXTENT

In accordance with section 51(f), a WA must include a statement about the extent to which the proposals will

- (i) ensure that public health is adequately protected,
- (ii) promote effective and efficient waste management and minimisation.

Protection of Public Health

The Council currently provides waste and diverted material services to the Chatham Islands. These ensure that public health is adequately protected. The existing Council-provided solid waste services will continue.

The Health Act 1956 requires the Council to ensure solid waste collection services are available for residents.

The Long-Term Plan provides for the provision of waste management and minimisation services, and these contribute to a healthy environment.

The WA has been issued to the regional Medical Officer of Health for comment and comments have been received back which will help inform the WMMP. It is considered that the proposals, with account being taken of the Medical Officer of Health's comment, would adequately protect public health.

Effective and Efficient Waste Management and Minimisation

The WA has investigated current and future quantities of waste and diverted material services provided in the Chatham Islands, future demands for waste and diverted material services, options to meet these demands and the Council's role in meeting these demands.

It is considered that the Council's intended role in meeting these demands is appropriate in the context of the overall statutory planning framework for the Council and for promoting effective and efficient waste management and minimisation.

Therefore, it is considered that the proposals would promote effective and efficient waste management and minimisation.



9.0 IMPACT OF COSTS, RESOURCES AND DIFFICULTY IN PROVIDING INFORMATION

Section 51(4) of the WMA requires the WA to indicate whether, and if so, to what extent the cost of, and difficulty in, obtaining information and the extent of the Council's resources have impacted materially on the completeness of the WA.

As has been described in this WA, the above aspects have impacted on the following matters.

- Limited knowledge of waste quantities and waste composition. Until a method of weighing waste and diverted materials has been implemented, it is considered that carrying out of Solid Waste Analysis Protocol study, (i.e., a waste composition study), will be somewhat fruitless. Once a baseline of waste and diverted material quantities has been established, a SWAP study will be useful and will form the foundation for implementing many of the objectives and methods contained within the existing WMMP, most of which are still considered to be valid, but which are still to be reviewed.
- Full and Complete Compilation of the WA. Ordinarily a WA document is more extensive than this document, but, given the Council's limited resources, a decision has been made to present information in brief and, where possible, to refer to the existing WMMP where it is still considered valid.



10.0 FUNDING

At the time of preparing this WA, Council is engaged in two projects supported through two separate government funds, which will do the following:

- Procure and install a mobile weighbridge at Te One which will enable both waste and recyclable quantities to be weighed.
- Construct a permanent "Mitre 12" reuse facility, approximately 24m x 6m, consisting of 6 bays, three of which will be fully enclosed. This will accommodate the existing reuse activities and allow it to be expanded to include larger, bulkier items.
- Purchase metal frames and fadges which will be placed in the ISO containers at Kaingaroa TS. Plastics and metals are to be placed into the fadges that sit in frames within the containers. Black refuse bags would also be placed into fadges to make them easier to man-handle.
- Install new sliding doors at Te One MRF building because the existing have been badly damaged by the wind.

The need for funding to address the issues identified within this WA and meet future demand will be assessed further as part of the statutory review of the current WMMP.



Appendices

We design with community in mind



Appendix A SECTION 51 WASTE MANAGEMENT ACT 2008



51 Requirements for waste assessment

- (1) A waste assessment must contain—
 - (a) a description of the collection, recycling, recovery, treatment, and disposal services provided within the territorial authority's district (whether by the territorial authority or otherwise); and
 - (b) a forecast of future demands for collection, recycling, recovery, treatment, and disposal services within the district; and
 - (c) a statement of options available to meet the forecast demands of the district with an assessment of the suitability of each option; and
 - (d) a statement of the territorial authority's intended role in meeting the forecast demands; and
 - (e) a statement of the territorial authority's proposals for meeting the forecast demands, including proposals for new or replacement infrastructure; and
 - (f) a statement about the extent to which the proposals will—
 - i. ensure that public health is adequately protected:
 - ii. promote effective and efficient waste management and minimisation.
- (2) An assessment is not required to contain any assessment in relation to individual properties.
- (3) Information is required for an assessment to the extent that the territorial authority considers appropriate, having regard to—
 - (a) the significance of the information; and
 - (b) the costs of, and difficulty in, obtaining the information; and
 - (c) the extent of the territorial authority's resources; and
 - (d) the possibility that the territorial authority may be directed under the Health Act 1956 to provide the services referred to in that Act.
- (4) However, an assessment must indicate whether and, if so, to what extent, the matters referred to in subsection (3)(b) and (c) have impacted materially on the completeness of the assessment.
- (5) In making an assessment, the territorial authority must—
 - (a) use its best endeavours to make a full and balanced assessment; and
 - (b) consult the Medical Officer of Health.



Appendix B PHOTOGRAPHS OF CURRENT WASTE MANAGEMENT AND MINIMISATION SERVICES

B.1 KAINGAROA TRANSFER STATION



Figure B1-1: Diverse wastes and other materials disposed at Kaingaroa TS.



Figure B1-2: IBC used for storage of waste oil, with 3m³ gantry bins.



Figure B1-3: 3m³ gantry bins for diverse materials including rope nets.



Figure B1-4: 3m³ gantry bins for mixed glass and mixed plastics.



B.2 THE ONE MATERIALS RECOVERY FACILITY



Figure B2-1: North-western side of the MPB.



Figure B2-2: Slots installed for placing dry recyclables into fadges.



Figure B2-3: "Mitre 12" facility for reusables.



Figure B2-4: Hazardous waste store, tyre and scrap metal stockpile.



Figure B2-5: Hazardous wastes container.

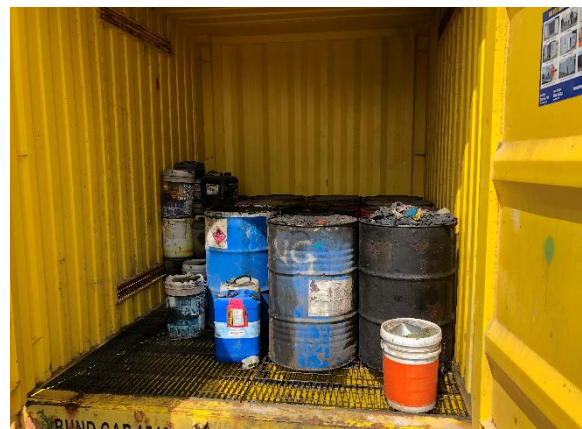


Figure B2-6: View inside the hazardous wastes container.



Appendix B Photographs of Current Waste Management and Minimisation Services



Figure B2-7: Inside the MPB.



Figure B2-8: Inside the MPB showing recycling “slots” and fadges.



Figure B2-9: Inside the MPB showing the baler.



Figure B2-10: Inside the MPB.



B.3 OWENGA LANDFILL



Figure B3-1: Owenga Landfill Stage 1.



Figure B3-2: Leachate pond.



Figure B3-3: Leachate pond outlet structure.



Figure B3-4: Outlet pipe with single hole outlet (other holes are filled with silicon).



Figure B3-5: Overflow flout to discharge leachate to the pilot plant.



Figure B3-6: Pilot leachate treatment plant.



Appendix B Photographs of Current Waste Management and Minimisation Services



Figure B3-7: Treated leachate disposal area.



Figure B3-8: Groundwater bore.



Appendix C ISSUES AND ACTIONS LOG



Issue Number	Date Identified	Issue Identified	Proposed Action	Priority High/Medium/Low	Actions Completed / Comments	Status	Owner
KAINGAROA AND OWENGA TRANSFER STATIONS							
TS1A	Audit Review 31-10-19	Oil is being spilled around the IBC containers which are not banded. The IBC used for waste oil at Kaingaroa TS is not banded and the two IBCs at Owenga TS are damaged. If waste oil is to be accepted at the TSs then the collection containers need to meet the requirements of the HSNO regulations, which includes being banded and having an acceptance procedure. Photographs of small waste oil facilities used elsewhere in New Zealand are given in Appendix A of the Audit Review Report.	Stantec to identify specific HSNO regulation requirements for collecting, storing and disposal of waste oil.	Medium (2 to 4 months)	Stantec has investigated the HSNO requirements and summarised these in a short report issued to CIC on 27/11/19. CIC to consider report and decide on a course of action for used oil. Stantec to ask FH to consider report.	Open	Stantec
TS1B	Audit Review 31-10-19		CIC to provide facilities with bunding if waste oil is to be collected at the TSs.	Medium (2 to 4 months)	Stantec to discuss with FH and CIC.	Open	Council
TS2	Audit Review 31-10-19	The waste oil facilities are not covered and so rainwater is mixing with the oil. If waste oil is to be accepted at Kaingaroa and Owenga TSs then a suitably roofed facility needs to be provided. See Appendix A of the Audit Review Report for photographs of examples.	CIC to decide if suitable facilities are to be provided.	Medium (2 to 4 months)	Stantec to discuss with FH and CIC.	Open	Council
TS3	Audit Review 31-10-19	There is no control over the type of waste oil which is being placed in the container. This could result in different types of waste oil being mixed together, eg. oil from motor sumps and transmission fluid.	Two possible options are (assuming they meet with HSNO regulations): (a) Accept that the waste oil from Kaingaroa and Owenga TSs could become mixed. (b) Stop accepting waste oil at these TSs and require the public to drop waste oil off at Te One MRF where it will be done under staff supervision. CIC to decide on a course of action.	Medium (2 to 4 months)	Stantec to discuss with FH and CIC.	Open	Council
TS4	Audit Review 31-10-19	Large items (mattresses and furniture) are being dropped off at the TSs where there is no facility for these materials, which could be reused.	There are several options: (a) Require the public to take large reusable items to Te One MRF. This will also require further education and improved signage to encourage the public to comply. (b) Provide a suitable bin (with cover) that can accommodate large items of reusable materials such as furniture and beds. (c) Provide communities with set days where the public can bring large unwanted items for collection by CIC on the flatbed truck. This could be between two to four Saturday mornings each year at each of the outlying communities. These days will need to be well publicised. CIC to decide on a course of action.	Low (4 to 6 months)	All large reusable items are required to be dropped off at Te One MRF (Mitre 12) and available to the public to re-home.	Closed	Council
TS5	Audit Review 31-10-19	Bins are not provided for all waste/recyclable materials, such as tyres, wood, whiteware and appliances. This results in these materials either being mixed in with other wastes/recyclables or placed on the ground next to bins. In both cases, it results in extra work for the CIC staff. It is not known if CIC has adopted any specific waste acceptance criteria, as proposed by MWH.	Assuming CIC wishes to continue accepting these materials at the TSs, then additional suitable bins need to be provided. Gantry type bins are probably the most suitable. When the bins for the black bags and recyclables are swapped for more suitable bins (this is discussed elsewhere), there will be surplus gantry bins available for use. CIC to confirm if it has adopted any particular waste acceptance criteria.	Medium (2 to 4 months)	Appendix B of the Audit Review Report is a draft paper prepared by MWH on waste acceptance criteria options.	Open	Council
TS6A	Audit Review 31-10-19	Even when bins are provided, waste/recyclables are occasionally placed outside of bins which requires staff to double handle the materials.	Kaingaroa TS is tidier than Owenga TS. One reason for this, and it may be the main reason, is that Kaingaroa TS is looked after by a local resident. Appointing a "local champion" for Owenga TS may help improve its state.	Medium (2 to 4 months)	Owenga Transfer Station has been closed.	Closed	Council
TS6B			Improving the quality and consistency of the signage, coupled with further education of the public (eg. through Council newsletters), may also help to improve the state of the TSs. Refer to Appendix C for information on standard waste/recycling signs, as well as examples of signage developed for Tasman District Council RRCs. CIC to use standardised signage at TSs, with assistance	Low (4 to 6 months)	See Appendix C of the Audit Review Report for examples of recycling signs. Stantec have obtained a quote from RTL for 12 signs at each of the TSs and MRF and sent a report to CIC to consider. CIC to respond to report. Signs have been purchased and installed.	Closed	Stantec
TS7A	Audit Review 31-10-19	Sorting of recyclables is not done well, particularly at Owenga. This results in contamination of individual recycling commodities and increased double-handling of recyclables for CIC staff.	CIC to improve signage at the TSs with assistance from Stantec.	Low (4 to 6 months)	See Appendix C of the Audit Review Report for examples of recycling signs. Stantec have obtained a quote from RTL for 12 signs at each of the TSs and MRF and sent a report to CIC to consider. CIC to respond to report. Owenga Transfer Station has been closed.	Closed	Stantec
TS7B	Audit Review 31-10-19		CIC to provide magnetic separator for sorting steel and aluminium cans.	High (0 to 2 months)	See Appendix D of the Audit Review Report. C Butt is to consider purchasing a magnetic wand, as proposed. Stantec to discuss with FH.	Open	Council
TS8	Audit Review 31-10-19	Signage at Owenga is missing in places (for different waste types).	CIC to improve signage at the TSs, with assistance from Stantec.	Low (4 to 6 months)	See Appendix C of the Audit Review Report for examples of recycling signs. Stantec have obtained a quote from RTL for 12 signs at each of the TSs and MRF and sent a report to CIC to consider. CIC to respond to report. Owenga Transfer Station is closed, signage also available, if/when reopened.	Closed	Stantec
TS9	Audit Review 31-10-19	Kaingaroa signage is still in place but is quite temporary (plastic covered signs).	CIC to improve signage at the TSs, with assistance from Stantec.	Low (4 to 6 months)	See Appendix C of the Audit Review Report for examples of recycling signs. Stantec have obtained a quote from RTL for 12 signs at each of the TSs and MRF and sent a report to CIC to consider. CIC to respond to report. Signage has been installed.	Closed	Stantec
TS10A	Audit Review 31-10-19	Loading of the gantry bins is difficult onto the flat-bed truck and the chains provided are unsafe. The type of bins being used are not suitable for loading the baler at Te One MRF. In order to avoid double handling of waste/recyclable materials, as discussed later in this report, a different type of bin is being proposed for use at the TSs for collecting waste and most of the recyclable commodities	CIC, with Stantec assistance, to seek guidance on suitable lifting chains for the gantry bins and then provide them in line with the advice received.	High (0 to 2 months)	CIC to provide a photograph of the chains in use. Flat bed truck no longer being used.	Closed	Stantec
TS10B	Audit Review 31-10-19		Stantec and CIC to assess further the requirements for new bins.	High (0 to 2 months)	Stantec has obtained approximate prices ex factory for bins. Most suitable sizes appear to be 1.5 and 2.5m ³ . CIC has provided information on loose quantities of materials/waste needed to make up bales. CIC (Leon Goomes) has provided approximate information on quantities of waste and materials received weekly from the TSs and MRF. Stantec has provided a report on 17/02/20 which discusses different types of receptacles. CIC are to consider and provide feedback. It has been agreed that FIBCs will be used for black refuse bags, cans, and plastics. Proposal underway with MFE for funding through SMF.	Closed	Stantec
TS10C	Noted in email dated 10 Dec 2019.	In order to be able to size the bins appropriately, and also know how many bins are needed for different types of diverted materials and waste, it is important to know the approximate loose quantities (volume) of diverted materials and waste being received at the TSs and MRF. Additionally, information on how often the TSs are visited would be useful to know.	CIC to assess diverted material and waste volumes (loose) at the TSs and MRF on a weekly basis. CIC also to provide information on how often the TSs are visited and bins at the MRF emptied.	High (0 to 2 months)	CIC (Leon Goomes) has provided approximate information on quantities of waste and materials received weekly from the TSs and MRF.	Closed	Council
TS11A	Audit Review 31-10-19	All grades of plastics are loaded into one bin and are presently being baled together. There is unlikely to be sufficient quantities of plastic for separate bins to be provided for all grades, though if they can be split into two or possibly three grades, then separate bins could be provided.	It is not known if Timaru District Council will accept bales of mixed plastics at its MRF. CIC is to determine what Timaru's requirements are.	High (0 to 2 months)	C Butt to discuss this with C Clearwater. Stantec agreed on 10/02/20 to discuss this with Timaru DC. Email received from R. Clarke on 12/02/20. Stantec to follow up with Waste Management. L Goomes has been in contact with WMNZ about this matter. C Peni has made contact with Timaru DC.	Open	Council
TS11B	Audit Review 31-10-19		If the plastics can be baled together, then continue collecting as is being done. If not, then options are: (a) Provide separate bins for different grades of plastic and educate the public on identifying the different grades. (b) CIC staff to sort plastic at Te One MRF.	Medium (2 to 4 months)	To discuss with FH when decision is received from Timaru DC on state of plastics required for processing.	Open	Council
TS12A	Audit Review 31-10-19	The appearance of the TSs can be messy which detracts from their appeal and does not encourage the public to take pride in using them. Providing suitable bins and receptacles and signage for the waste/recyclable materials will go a long way to help neatening up the TSs, in conjunction with increased public education.	Stantec and CIC to assess further the requirements for new bins.	High (0 to 2 months)	See TS10B for progress update. This matter has been progressed and agreement reached on use of FIBCs.	Closed	Stantec
TS12B	Audit Review 31-10-19		CIC to improve signage at the TSs, with assistance from Stantec.	Low (4 to 6 months)	See Appendix C of the Audit Review Report for examples of recycling signs. Stantec have obtained a quote from RTL for 12 signs at each of the TSs and MRF and sent a report to CIC to consider. CIC to respond to report. Signs have been purchased and installed.	Closed	Stantec

Issue Number	Date Identified	Issue Identified	Proposed Action	Priority High/Medium/Low	Actions Completed / Comments	Status	Owner
TS12C	Audit Review 31-10-19	The appearance of the TSs can be messy which detracts from their appeal and does not encourage the public to take pride in using them. An additional measure is to hide bins behind a façade, eg. made from corrugated sheeting, with holes and signage strategically placed in the façade to inform the public of where waste/recyclable materials need to be disposed.	Stantec has provided a concept layout of the space required at the TSs together with an estimate number of bins needed. CIC to decide on course of action.	Low (4 to 6 months)	Refer to Appendix F of the Audit Review Report which is a copy of the concept layout for the RRC. CIC has accepted the proposal. A "windowed" shipping container for separating the recyclables has been installed at Kaingaroa. Additional containers are proposed for Te One and another one for Kaingaroa.	Closed	Council
TS13A	Audit Review 31-10-19	The public have become used to not flattening cardboard which means that bins become fuller more quickly, with potential for cardboard to be blown away by the wind.	The public can be encouraged to flatten cardboard by continued education (eg. through Council newsletters) and improved signage. CIC to improve signage at the TSs with Stantec assistance.	Low (4 to 6 months)	Slots provided at ISO containers and at MRF building encourages public to flatten cardboard.	Closed	Stantec
TS13B	Audit Review 31-10-19		Additionally, requiring the public to "post" flattened cardboard through a slot in a façade will achieve this purpose. CIC to decide on course of action.	Low (4 to 6 months)	See TS10B for progress update. The proposal with MFE (SMF) is to provide a shipping container at Kaingaroa in which slots have been placed and allows cardboard to be deposited in the container where it will be under cover.	Closed	Council
TE ONE MATERIALS RECOVERY FACILITY							
MRF1A	Audit Review 31-10-19	Waste and recyclable materials are brought into the MPB in gantry bins placed on the back of the flat bed. The gantry bins cannot be picked up by the FEL and the contents loaded into the baler, so both waste and recyclables are tipped out onto the floor of the MPB from where they need to be loaded by hand into the baler hopper.	The type of bins that are used both at the TSs and at the MRF for waste and recyclable materials that are to be baled need to be changed so that double handling of waste and recyclables can be avoided. CIC to provide information on clearance dimensions.	High (0 to 2 months)	See TS10B for progress update. Decision made to use FIBCs.	Closed	Council
MRF1B	Audit Review 31-10-19		Bins must be suitably sized so that they can contain several days of waste/recyclable materials, based on the frequency at which the TSs are visited. CIC to indicate how often the TSs are visited.	High (0 to 2 months)	Refer to TS10C which provides more information on the action required by CIC. Information provided by L. Goomes.	Closed	Council
MRF1C	Audit Review 31-10-19		Bins should be sufficiently sized so that one or two full bins provide enough material for a single bale. This avoids the need to have full bins stored at the MRF waiting for enough materials to make up a bale of the waste/recyclable materials. CIC to determine by trials what loose volume of waste/different recyclables is needed to make up a bale of each waste/recyclable material type.	High (0 to 2 months)	CIC has provided information on loose quantities (see email from C Butt on 6 Dec 2019). - For plastics and tins, 20 bags of loose materials = 1 compacted bale - For cardboard and black refuse bags, between 10 to 15 bags of loose materials = 1 compacted bale. - 1 bag = 0.9m wide x 0.9m deep x 0.8m high = 0.65m ³ .	Closed	Council
MRF2	Audit Review 31-10-19	There is limited storage area available at Te One MRF for black bags and recyclables that have been collected from the TSs or dropped off directly at Te One by the public.	Until the new bins have been provided CIC will need to continue working with the existing gantry bins. Facilities need to be provided for the storage of different types of waste/recyclable materials so that they do not need to be dumped onto the floor of the MRF. Stantec to work with CIC to decide on a course of action for this matter, as an interim solution.	Medium (2 to 4 months)	CIC staff have created areas next to the Te One MRF facility out of bales of recyclables where different materials can be dropped off.	Closed	Stantec
MRF3	Audit Review 31-10-19	Backlog built up with staff being away, being short-staffed and FEL down for maintenance. This has resulted in wastes (black bags) being mixed with recyclables (mainly cardboard) and baled together.	All bales that include waste ultimately need to go to the landfill. CIC to separate out the bales that include waste and store them separately so that they can be sent to landfill when it is commissioned.	Medium (2 to 4 months)	The FEL has been serviced and is back at the MRF. CIC staff reported that bales can be accommodated at Te One in the interim, though the public have commented that the facility looks untidy. Old bales have been used at the landfill. New bales being stored in containers and MRF building.	Closed	Council
MRF4	Audit Review 31-10-19	The current waste collection method using gantry bins requires double handling of waste.	The system is inefficient and needs to be changed, as noted above (see TS10B).	High (0 to 2 months)	See TS10B for progress update.	Closed	Stantec
MRF5A	Audit Review 31-10-19	Sorting is done by hand and staff have been cut through glass being in a plastic bag. It is noted that staff have been vaccinated for Tetanus and Hepatitis.	The gloves that staff are using have proven to be ineffective for protecting hands from glass and sharps. CIC is to provide staff with appropriate PPE and gloves, recognising that handling of waste will be needed as an interim measure until bins are changed and probably from time to time thereafter. CIC to provide suitable PPE.	High (0 to 2 months)	CIC has provided additional PPE to staff.	Closed	Council
MRF5B	Audit Review 31-10-19		CIC to ensure that staff vaccinations are kept current and that any new staff are also vaccinated appropriately.	High (0 to 2 months)	Staff are now administered through FH.	Closed	Council
MRF5C	Audit Review 31-10-19		Staff are also to be given First Aid Training and the First Aid Box is to be reviewed and updated. CIC to organise training and updating of First Aid box.	High (0 to 2 months)	First aid training of a staff member has happened, further training of other staff is on the program. New 1st aid kits and fire extinguishers have been purchased and installed.	Closed	Council
MRF5D	Audit Review 31-10-19		The public need to be reminded about the dangers facing staff at the MRF and to be instructed to wrap broken glass in newspaper or cardboard to limit the potential for cutting workers. CIC to educate the public about the dangers of disposing of glass.	Medium (2 to 4 months)	This matter has been added to public education plan.	Closed	Council
MRF6	Audit Review 31-10-19	Medical waste from the hospital (identified through yellow bags) is being dumped at Te One MRF. There is no facility at Te One to handle and deal with this waste – it cannot be put through the baler.	General medical waste is classed in the LDMP as a "Difficult Waste" that is to be "Controlled" and which requires a Special Waste Permit. Only when the landfill is operational can it be placed directly into the landfill under controlled conditions. Until then it needs to be dealt with by the hospital staff. CIC management staff to discuss this matter with the hospital staff.	High (0 to 2 months)	C Butt has discussed this matter with the Hospital Manager and has been advised that all sensitive hospital waste is being dealt with appropriately.	Closed	Council
MRF6A	Teleconference of 20/12/19	The Hospital manager has advised that medical waste is being dealt with appropriately.	CIC to confirm that no hospital waste is being received at Te One facility.	High (0 to 2 months)	C Butt to check with Te One MRF staff to see if further hospital wastes (in yellow plastic bags) has been dropped off at Te One. C Peni to find out what happens to hospital wastes.	Open	Council
MRF7A	Audit Review 31-10-19	Bales of waste and recyclables are being stored on the old landfill. There is a potential for leachate	CIC staff to sort waste bales from recyclable material bales.	Medium (2 to 4 months)	Old Te One dump no longer being used.	Closed	Council
MRF7B	Audit Review 31-10-19	("contaminated" stormwater that has contacted waste) to leak from the bales.	CIC staff to provide designated areas for different bale types.	Medium (2 to 4 months)	Old Te One dump no longer being used.	Closed	Council
MRF7C	Audit Review 31-10-19	It is proposed that bales be sorted into those destined for landfill, and those that can be recycled. A large hole can be excavated into the ground and filled with crushed glass to act as a soakage sump with the ground being	CIC staff to construct a soakage hole using crushed glass and shape the ground over a section of the old landfill to soak any "contaminated" stormwater into the soakage hole.	Medium (2 to 4 months)	Old Te One dump no longer being used.	Closed	Council
MRF8	Audit Review 31-10-19	There are many bales made up of cardboard that are being stored out in the open where the cardboard can get wet. Bales of cardboard need to be stored under cover to maintain the quality of the cardboard. Options include: (a) Storing the cardboard bales in ISO containers. (b) Storing the bales within the MPB, taking note of the height limitations for storage of materials within the building (yellow line painted around the inside of the building). (c) Wrapping bales in plastic to make them waterproof (though this may not suit Timaru DC requirements which could result in bales being rejected and sent to landfill, with associated costs passed on to CIC). (d) Covering cardboard bales with a water-proof tarpaulin that is suitable weighed down to prevent it being blown around in the wind. Provide an additional roofed area on site for storing the bales.	CIC to determine an appropriate course of action.	Medium (2 to 4 months)	A course of action has been agreed and proposed to MFE through the SMF. Cardboard (unbaled) to be stored in shipping containers and under cover at Te One. Baled cardboard to be stored in shipping containers. Funding has yet to be approved. Funding has been approved. ISO shipping containers have been procured and bales can be stored under cover.	Closed	Council
MRF9	Audit Review 31-10-19	Recyclables have been mixed with waste – need to go to landfill	As noted above, all bales that include any waste will need to be disposed of in the landfill. CIC to separate out bales with waste and arrange for disposal to landfill.	Medium (2 to 4 months)	Ongoing. No bales of waste being stored at Te One anymore.	Closed	Council
MRF10A	Audit Review 31-10-19	Steel and aluminium cans are frequently mixed by the public, despite different bins being provided for the two types of can.	Improved signage that shows photographic examples of different types of cans could help inform the public of the different metal types. Additionally, the public should be reminded from time to time of the need to separate recyclables carefully. CIC to improve signage with assistance from Stantec.	Low (4 to 6 months)	Stantec have obtained a quote from RTL for 12 signs at each of the TSs and MRF and sent a report to CIC to consider. CIC to respond to report. New signs to be procured through SMF project. Mock-ups have been prepared, quotes to be finalised.	Open	Stantec
MRF10B	Audit Review 31-10-19		A magnetic separator would assist CIC staff to separate out steel and aluminium cans. Stantec to investigate options for such equipment.	High (0 to 2 months)	Appendix D of the Audit Review Report provides an example of a hand-held magnetic separator that would assist staff in separating steel cans from aluminium cans. C Butt to consider purchasing of a magnetic wand. Stantec to discuss with FH.	Open	Council
MRF11A	Audit Review 31-10-19	Steel and aluminium cans have been baled together. This may create problems for a scrap metal dealer wanting to separate the metals and may also mean that Timaru DC will not accept the bales.	CIC to investigate if Timaru DC can accept those bales that have both steel and aluminium cans	High (0 to 2 months)	Stantec agreed at a meeting on 10/02/20 to approach Timaru DC. Email received from R. Clarke on 12/02/20 advises that Waste Management be approached directly. Stantec to do this. L. Goomes has been in contact with WMNZ about this matter. C Peni has approached Timaru DC. Matter in progress.	Open	Council

Issue Number	Date Identified	Issue Identified	Proposed Action	Priority High/Medium/Low	Actions Completed / Comments	Status	Owner
MRF11B	Audit Review 31-10-19		In future steel and aluminium cans are to be baled separately. Until a magnetic separator, or similar equipment, is purchased, CIC staff need to hand-sort cans to reduce contamination levels of each type.	High (0 to 2 months)	Information on Magnetic separator has been received, CIC to consider. Stantec to discuss with FH.	Open	Council
MRF12	Audit Review 31-10-19	The baler has not been positioned over the sump as designed.	The reasons why the baler has not been positioned, as designed are unknown. Stantec to investigate reasons for this.	High (0 to 2 months)	This matter has been addressed in a short report issued to CIC on 27 November 2019.	Closed	Stantec
MRF13	Audit Review 31-10-19	The drain grating is under the belly of the baler and is inaccessible. This makes it very difficult to access the grating and clean it, which has resulted in blockages occurring in the drain.	Until the baler can be shifted (see below) or a new drain constructed, CIC staff need to do what they can to reduce the discharge of solids to the drain.	High (0 to 2 months)	Stantec has issued a follow up report on 17/02/20 to address issues with the baler. CIC to consider the report and provide feedback to Stantec. Decision has been made to avoid using the baler for baling refuse because of the H&S issues and clogging of drain.	Closed	Council
MRF14	Audit Review 31-10-19	There is no basket within the grating to trap solids.	Once access to the drain is obtained, either by shifting the baler (including the option of turning it around), or by constructing a new drain, a debris basket needs to be inserted into the drain sump to stop solids from discharging into the drain. Stantec is to investigate the possibility of turning the baler around (see below) and devise improvements to the existing drain and gully trap.	High (0 to 2 months)	This matter has been addressed in a short report issued to CIC on 27 November 2019. At this stage it is considered that modifications can be made without having to have a basket in the sump. No modifications to the sump are now being proposed.	Closed	Stantec
MRF15	Audit Review 31-10-19	The baler is not bolted down and shifts when bales are being pulled out.	The baler is to be bolted when once it has been either shifted into a new position, or it has been determined that it cannot be moved and a new drain needs to be installed. Stantec to advise final position of the baler once the investigations have been completed regarding the feasibility of moving the baler.	High (0 to 2 months)	This matter has been addressed in a short report issued to CIC on 27 November 2019. The baler can be fixed in position when it is re-positioned. The baler will not be re-positioned but it can still be bolted down in its current location. Baler to remain in place.	Closed	Council
MRF16	Audit Review 31-10-19	Waste squirts over the operators when pressing waste and a skirt is needed to protect the operators.	CIC staff have devised a skirt that is placed over the baler chamber when the bales of waste are being compacted. Staff report that it has improved the situation. Stantec to investigate permanent solution.	High (0 to 2 months)	Engineering Repairs has provided a quote which includes a bespoke "skirt" and drip trays for collecting liquid squeezed out of the waste bales. This matter has been addressed in a short report issued to CIC on 27 November 2019. Quote from Engineering Repairs has been sent to CIC on 18/02/20 for CIC consideration and action. No longer required.	Closed	Council
MRF17	Audit Review 31-10-19	Is it possible to turn the baler around?	Stantec to discuss the feasibility of turning the baler around with the manufacturer and provide recommendations.	High (0 to 2 months)	This matter has been addressed in a short report issued to CIC on 27 November 2019. It is considered technically feasible, but will require a new hopper. An updated report has been sent to CIC on 17/02/20 for consideration and feedback. No longer required - this matter has been closed.	Closed	Council
MRF18	Audit Review 31-10-19	The operator panel is right next to the loading area which makes it unsafe for the operator to be next to the machine when it is being loaded up.	If the baler can be turned around it will place the operator panel on the opposite of the baler to where the FEL needs to access the hopper. This will provide a much safer location for the operator to work from and will protect the panel from damage by the FEL operations. Stantec to investigate, as above.	High (0 to 2 months)	This matter has been addressed in a short report issued to CIC on 27 November 2019. This matter is no longer an issue since the baler will not be turned around.	Closed	Stantec
MRF19	Audit Review 31-10-19	The bales that are produced are extremely heavy and difficult to manhandle. They require either the Hiab or FEL to lift them up	It is suggested that a trolley be constructed onto which bales are loaded and enabling them to be moved turned so that the bale can be picked up using a scissor-hook attached to the FEL or Hiab crane. CIC is to investigate the manufacture of a trolley and purchase of a scissor lift attachment.	High (0 to 2 months)	Engineering Repairs has provided C Clearwater with a quote for a scissor lift device. CIC to take action on the quote. Bales could be made smaller to make easier handling and to deal with smaller amounts of recyclables. Use being made of FEL.	Closed	Council
MRF20	Audit Review 31-10-19	Loading of the hopper could be done using a rotating forklift attachment on the FEL if there is sufficient clearance between the edge of the baler hopper and the roof.	CIC to provide information on clearance dimensions.	High (0 to 2 months)	Appendix G of the Audit Review Report provides details of the clearances sought. CIC has provided a sketch plan of the clearances.	Closed	Council
MRF21A	Audit Review 31-10-19	The glass crusher is broken, apparently because rocks have been introduced into the glass stream by scraping the subgrade when loading by FEL.	CIC are to arrange for the glass crusher to be fixed.	Medium (2 to 4 months)	The glass crusher is not considered fit for purpose since it is too small for the current operations. Glass is to be used as cover at the landfill.	Closed	Council
MRF21B	Audit Review 31-10-19		CIC staff are sure to ensure that when loading glass into the FEL bucket that the FEL does not scrape the pavement subgrade.	High (0 to 2 months)	No longer an issue since it is not intended to continue using the glass crusher.	Closed	Council
MRF21C	Audit Review 31-10-19		CIC to consider a permanent solution which is to provide a bunker for glass storage which has a concrete base.	Low (4 to 6 months)	Glass being taken to the landfill for use as cover.	Closed	Council
MRF22	Audit Review 31-10-19	The glass crusher hopper has been constructed out of plywood boards and has become damaged. It needs to be replaced.	Given the wear and tear expected within the glass crusher hopper, and potential damage from loading the hopper using the FEL, it is recommended that the hopper be replaced with a metal hopper. Stantec to contact Engineering Repairs to determine if they can manufacture a hopper for the glass crusher.	Medium (2 to 4 months)	Engineering Repairs has provided a quotation for changing the baler hopper into a hopper for the glass crusher. Funding will be required. Stantec to investigate funding through the M&E Sustainable Fund. This matter is no longer an issue since the glass crusher will not be used further.	Closed	Stantec
MRF23A	Audit Review 31-10-19	Concerns have been raised about the H&S aspects of operating the crusher and the suitability of the guards protecting the operator from the machine. The glass crusher supplier has a responsibility under the HSW Act to ensure that the machine is appropriately guarded.	CIC are to contact the glass crusher supplier for confirmation that the machine is appropriately guarded and meets all applicable H&S regulations.	High (0 to 2 months)	No longer an issue since it is not intended to continue using the glass crusher.	Closed	Council
MRF23B	Audit Review 31-10-19		CIC are also to develop SOPs for the glass crusher.	High (0 to 2 months)	No longer an issue since it is not intended to continue using the glass crusher.	Closed	Council
MRF24	Audit Review 31-10-19	Whilst the risk of silica-related issues is minor because of the amorphous structure of the glass, there are other H&S aspects that need to be considered such as its abrasiveness and ability to cut, and so PPE and suitable clothing needs to be worn when using the crusher.	CIC to provide suitable PPE for the operator of the glass crusher and to ensure that appropriate signage is posted for use of this PPE.	High (0 to 2 months)	No longer an issue since it is not intended to continue using the glass crusher.	Closed	Council
MRF25	Audit Review 31-10-19	Suggested that FH crush the glass bottles with a FEL and then load and transport it to the landfill for use as cover material and roading aggregate.	Stantec to identify where glass can be stockpiled at the landfill for use as cover.	High (0 to 2 months)	Stantec has identified an area at the landfill where glass can be stockpiled for use as cover - see Figure 4-1.	Closed	Stantec
MRF26	Audit Review 31-10-19	The flashings around the office windows and door of the MPB are still a problem - easterly wind drives rain around the door frame and windows in the office.	Stantec is to discuss this with Morris & Bailey and suggest that an amount be deducted off the remaining retention monies so that CIC can arrange for this to be fixed.	High (0 to 2 months)	This matter was raised with M&B in an email dated 22 October 2019. B Peters of Stantec is on the island in the week of 11 Nov - 15 Nov and he will inspect the flashings and make recommendations. B Peters has made an inspection. He suspects water is being "sucked in" through the drainage holes in the window frame due to unequal pressure outside and inside of the building when the easterly blows. CIC staff to conduct tests when the next easterly event occurs. Stantec has advised M&B of this information. This matter has been resolved.	Closed	Stantec
MRF27A	Audit Review 31-10-19	The channels at the side of the roller doors have had to be braced against the support columns to stop them from flexing in the wind. This was done by John Day.	Stantec is to discuss this matter with Morris & Bailey.	High (0 to 2 months)	This matter was raised with M&B in an email dated 22 October 2019. Channels have been braced.	Closed	Stantec
MRF27B	Audit Review 31-10-19		CIC is to arrange copies of the invoice detailing this work, and the cost of it is to be subtracted from the remaining retention monies.	High (0 to 2 months)	Information received back from CIC on 22/11/19. Stantec to forward to Morris & Bailey. Final payment has been made with deductions for the cost of the work.	Closed	Council
MRF28A	Audit Review 31-10-19	The operators are finding it to be very congested around the building area with the restricted fence and differences in height around the site.	CIC are to arrange for ECan to get in touch with Stantec about using the drone for survey purposes.	Medium (2 to 4 months)	Stantec to discuss survey needs with FH.	Open	Council
MRF28B	Audit Review 31-10-19	Ideally the site needs to be opened up in front of the MPB building. This will require looking at the levels on site.	Stantec is to develop a new concept layout incorporating the public access to the eastern side of the site.	High (0 to 2 months)	Refer to Appendix F of the Audit Review Report which is a copy of the concept layout for the RRC. The proposal for funding from the SMF has adopted a new layout at Te One, which works with the slots created in the side of the building.	Closed	Stantec
MRF29	Audit Review 31-10-19	The public drop-off in bins that are located next to the peripheral access road, and which need to be replaced during working hours which causes conflicts with the public	Until a new site layout is configured the public drop off bins need to be located below the drop off retaining wall. CIC staff to action.	High (0 to 2 months)	Building now has recycling slots in the wall just in from the entrance. This is a safer all-weather area for the staff to work.	Closed	Council
MRF30A	Audit Review 31-10-19	It is understood that the bins have been placed at various locations around the site which causes confusion for the public. Public drop off bins are to be maintained in one position with appropriate signage placed next to them.	CIC staff to locate bins below the retaining wall.	High (0 to 2 months)	CIC staff have created areas next to the Te One MRF facility out of bales of recyclables where different materials can be dropped off. Building now has recycling slots in the wall just in from the entrance. This is a safer all-weather area for the staff to work.	Closed	Council
MRF30B	Audit Review 31-10-19		CIC to make up new signage with assistance from Stantec.	Low (4 to 6 months)	See Appendix C of the Audit Review Report for examples of recycling signs. Stantec have obtained a quote from RTL for 12 signs at each of the TSs and MRF and sent a report to CIC to consider. CIC to respond to report. Signs purchased and installed.	Closed	Stantec
MRF31	Audit Review 31-10-19	Bins are gantry type bins that are difficult to manoeuvre into the RRC.	Stantec to work with CIC staff to determine best type of bins to be used.	High (0 to 2 months)	See TS10B for progress update. Solution worked out with FH. Use being made of a compactor truck.	Closed	Stantec
MRF32A	Audit Review 31-10-19	Cardboard is not being flattened. There are no signs to	CIC to educate the public on an ongoing basis.	Low (4 to 6 months)	This has been added to public education plan.	Closed	Council

Issue Number	Date Identified	Issue Identified	Proposed Action	Priority High/Medium/Low	Actions Completed / Comments	Status	Owner
MRF32B	Audit Review 31-10-19	indicate that this is required but the open bin does not encourage this. People will follow whatever has been done before. Improved signage and further public education is needed to get people to understand why flattening of cardboard is important.	CIC to provide new signage with assistance from Stantec.	Low (4 to 6 months)	See Appendix C of the Audit Review Report for examples of recycling signs. Stantec have obtained a quote from RTL for 12 signs at each of the TSs and MRF and sent a report to CIC to consider. CIC to respond to report. Signs to be procured through SMF project. Mock-ups have been made and quotes needed.	Open	Stantec
MRF32C	Audit Review 31-10-19		The design of new bins should facilitate flattening of cardboard by creating a "slot" for cardboard to be "posted" through, which requires the cardboard to be flattened. Stantec to work with CIC on a new bin design.	High (0 to 2 months)	See TS10B for progress update. Slots have been created in the side of the Te One MRF building.	Closed	Stantec
MRF33	Audit Review 31-10-19	Until the new bin system is in place, a facility is needed outside of the MPB for storing black rubbish bags where they can be easily loaded by FEL for carting to the baler. This facility must ensure that the bags are secured in the event of strong winds.	Stantec to work with CIC to devise a new system for storing and loading black bags (other than manually) until the new bin system is in place.	High (0 to 2 months)	CIC staff have created areas next to the Te One MRF facility out of bales of recyclables where different materials can be dropped off. No black bags being stored at Te One, all going to landfill.	Closed	Stantec
MRF34	Audit Review 31-10-19	The current site layout leads to conflicts between the public and the site operator. It is suggested that the eastern side of the site be given over to the public so that the rest of the site can be used for operations and storing materials with minimal conflicts. This will require moving the reusables facility and the container library and reconfiguring the site entrance for the public.	Stantec is to compile a concept layout to prove (or otherwise) the feasibility of shifting the public operations to the eastern side of the MRF site.	High (0 to 2 months)	Stantec has prepared a concept layout - see Appendix F of the Audit Review Report. CIC to confirm its acceptance, or otherwise, of the proposed concept. A new layout has been adopted with recycling dropped off at the slots in the side of the MRF building. The proposed infrastructure under the MFE SMF new application will be located on the western side of the site. CIC and FH have determined new layout.	Closed	Stantec
MRF35	Audit Review 31-10-19	Reusables facility does not allow furniture and larger items to be dropped off because there is no access to an area where they could be stored safely.	This could be done if the facility was positioned and used as originally intended, ie. large covered area between two ISO containers. Need to locate for prevailing wind direction. Stantec is to include a layout of the reusables facility in the concept plan.	High (0 to 2 months)	Stantec has prepared a concept layout - see Appendix F of the Audit Review Report. Mitre 12 (a new 40ft container) has been purchased and utilised as a drop off centre.	Closed	Stantec
MRF36	Audit Review 31-10-19	Presently, plastics are being collected together with no separation of type (ie. No. 1 to 7). There is a need to identify what Timaru's requirements are for plastics so that the collection and baling of plastics can be done to suit. If bales are sent to Timaru which do not meet with TDC's requirements then those bales may be rejected and could be sent to landfill at CIC's cost.	CIC to contact Timaru DC and determine whether they are able to accept bales of mixed plastics or not.	High (0 to 2 months)	Stantec agreed at a meeting on 10/02/20 to approach Timaru DC. Email received from R. Clarke on 12/02/20 advises that Waste Management be approached directly. Stantec to do this. L & S Goomes have met with Timaru and have been advised of the required acceptable recyclables.	Closed	Stantec
MRF37A	Audit Review 31-10-19	A fairly significant volume of waste is scrap metal, particularly when scrap motor vehicles are also considered. At present there are no solutions for getting rid of the scrap metals.	CIC to determine if collecting scrap metal at Te One meets its waste acceptance protocol.	High (0 to 2 months)	Stantec to determine if funding can be got for collecting scrap metal around the Chatham Islands.	Open	Council
MRF37B	Audit Review 31-10-19	Possible suggestions include: (a) Working with Chatham Shipping to fill open 6m containers which the company ships back to the mainland.	CIC to re-investigate (a) and Stantec to investigate (b).	Low (4 to 6 months)	FH is bringing a barge to the Chatham Islands and there is an opportunity to load it with scrap metal for the return trip. This is being investigated by L. Goomes. Not a possibility.	Closed	Council
MRF37C	Audit Review 31-10-19	(b) Getting a scrap metal dealer over to advise on requirements and costs for doing a bulk scrap metal collection across the island, as has been done in the past.	CIC to re-investigate (a) and Stantec to investigate (b).	Low (4 to 6 months)	Stantec has contacted Sims Pacific Metals who may be interested in working with CIC, as reported in email dated 12 Dec 2019. Timaru Metal recyclers also keen to work with CIC. L & S Goomes have met with them.	Closed	Stantec
MRF37D	Email dated 12 Dec 2019	Sims Pacific Metals require information to be able to work out if it is profitable for them to collect scrap metal from the Chatham Islands.	- Sims to contact Chatham Island Shipping about scrap metal requirements and quotes for getting plant to and from the island. - Sims to consider options for various shredding and baling plant.	Low (4 to 6 months)	Stantec to ask various metal recyclers for quotes to remove scrap metal.	Open	Stantec
MRF37E	Email dated 12 Dec 2019		Stantec to find out if the scrap metal collection can be funded through the Waste Minimisation Fund administered by MFE.	Low (4 to 6 months)	Ongoing project by Stantec.	Open	Stantec
MRF37F	Email dated 12 Dec 2019		CIC to do an estimate of the number of vehicles available for scrapping on the Chatham Islands.	Medium (2 to 4 months)	L. Goomes is working on this. C. Peni is finding this out for CIC.	Open	Council
MRF38	Audit Review 31-10-19	Advice is needed on what must be done to motor vehicles to make them suitable for recycling. For instance, in Tasman District all vehicles are drained of fluids, but there may be additional requirements, depending on who will accept the motor vehicles as scrap.	Stantec to investigate this, assuming collecting scrap motor vehicles meets with CIC's waste acceptance protocol.	Low (4 to 6 months)	Sims Pacific Metals have provided some advice on this - see email dated 12 Dec 2019. Take out fuel tank and empty; Drain all other fluids such as engine oils, gearbox oils and transmission fluids; If possible, cut vehicles up but may not be needed if a car crusher is going to be sent over.	Closed	Stantec
MRF39A	Audit Review 31-10-19	There is no inventory of the waste oils that are being stored on site. CIC to comply with HSNO regulations for collecting and storing waste oil.	CIC is to prepare a logbook to record quantities and types of waste oil that are being disposed of at Te One.	High (0 to 2 months)	To be discussed with FH.	Open	Council
MRF39B	Audit Review 31-10-19		The existing oils of unknown type could be placed in IBCs and shipped off the island as "contaminated waste oil". CIC is to investigate the possibility of doing this with FH.	Medium (2 to 4 months)	FH have provided an IBC for waste oil, supervision when waste oil is dropped off is needed as waste oil needs to be non contaminated. To be discussed with FH.	Open	Council
MRF40	Audit Review 31-10-19	The bund incorporated within the hazardous waste ISO container contains waste oil/dirty stormwater. This liquid needs to be decanted into an IBC as "contaminated waste oil".	CIC to arrange for this to be done.	Medium (2 to 4 months)	To be discussed with FH.	Open	Council
MRF41	Audit Review 31-10-19	Drums and other containers of waste oil are being stored outside of the hazardous ISO container where there is potential for the waste oil to spill. There are several possible suggestions: (a) CIC to purchase an additional hazardous ISO container for storing waste oils in. (b) Decant the additional waste oil into IBCs and get rid of it through FH, assuming this can be done (see comments above). (c) Provide another facility with bunding for storage of waste oil.	CIC to determine best course of action.	Medium (2 to 4 months)	To be discussed with FH.	Open	Council
MRF42	Audit Review 31-10-19	The hazardous ISO container is probably close to capacity by weight (10 tonnes?)	CIC to determine the capacity of the hazardous ISO container (it is written on the side and is suspected to be 10 tonnes, but this needs to be confirmed).	High (0 to 2 months)	To be discussed with FH.	Open	Council
MRF43	Audit Review 31-10-19	The volume of the waste oil stored inside the hazardous ISO container should not exceed the capacity of the sump built into the base of the container. This volume needs to be estimated and the volume of the contents checked to ensure it does not exceed this.	CIC to estimate the sump volume under the base of the hazardous ISO container and the volume of waste oil presently being stored.	High (0 to 2 months)	To be discussed with FH.	Open	Council
MRF44	Audit Review 31-10-19	Batteries are located on a pallet. There may be HSNO regulation requirements for storing batteries that need to be met. It is likely that the storage method used by the Tasman DC, or a similar method, will need to be adopted. Layers of batteries need to be separated with a wooden pallet, or similar, to prevent short-circuiting of the batteries.	Stantec to investigate HSNO regulation requirements for storing batteries and other hazardous wastes.	Medium (2 to 4 months)	Stantec has investigated the HSNO requirements and summarised these in a short report issued to CIC on 27/11/19. CIC to consider report and decide on a course of action for used oil. To be discussed with FH.	Open	Stantec
MRF45A	Audit Review 31-10-19	Container of asbestos has been buried on site. It is not known to what extent its burial complies with the asbestos regulations. At the very least its location needs to be demarcated and closed off so that it cannot be disturbed in the future.	Stantec to identify any relevant asbestos regulations that CIC may need to meet for this one-off disposal.	Low (4 to 6 months)		Open	Stantec
MRF45B	Audit Review 31-10-19		CIC to identify the area where the container has been buried and note its location in appropriate records, as well as by placing a sign on-site within the vicinity of the container so that it is not uncovered in the future.	High (0 to 2 months)	CIC and FH to work together to identify location of the container.	Open	Council
MRF46A	Audit Review 31-10-19	There are many instances of unwanted farm chemicals existing on the Chatham Islands.	Stantec to provide contact details.	Low (4 to 6 months)	Stantec has contacted AgRecovery. Its website is: https://www.agrecovery.co.nz	Closed	Stantec

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MRF46B	Audit Review 31-10-19		CIC is to investigate if the AgRecovery programme could be extended to the Chatham.	Low (4 to 6 months)	P Landmark has contacted AgRecovery by email and is awaiting a response back. Stantec has discussed the possibility of AgRecovery being involved in the Chatham (see email dated 12 Dec 2019). AgRecovery will need confirmation that the chemicals being disposed of are all agri-chemicals and are from the participating brand owners. This may be too much of a hurdle to overcome and it may be better to do a collection via another avenue, such as tapping into the Waste Minimisation Fund	Open	Stantec
MRF46C	Email dated 12 Dec 2019		CIC is to organise an estimate of quantities of how much unwanted agri-chemicals and containers exist on the Chatham.	Low (4 to 6 months)		Open	Council
MRF46D	Email dated 12 Dec 2019		Stantec to investigate if a collection of unwanted agri-chemicals could be funded through the Waste Minimisation Fund.	Low (4 to 6 months)		Open	Stantec
MRF47A	Audit Review 31-10-19	Wood could be used as a resource for firewood and spare lumber, but it would need to be separated between treated wood and un-treated wood, because treated wood should not be used as firewood. The wood needs to be placed in one area where it can be stored neatly, and small off-cuts could be included with the baled waste.	CIC staff to demarcate an area for disposal of wood using spare tyres.	Medium (2 to 4 months)	To be discussed with FH.	Open	Council
MRF47B	Audit Review 31-10-19		CIC to provide signage with assistance from Stantec.	Medium (2 to 4 months)	See Appendix C of the Audit Review Report for examples of recycling signs. Stantec have obtained a quote from RTL for 12 signs at each of the TSs and MRF and sent a report to CIC to consider. CIC to respond to report.	Open	Stantec
MRF48	Audit Review 31-10-19	Gib board – suggest the quantities are too small to worry about – bale and landfill.	Gib board is to be included with black refuse bags and baled.	Medium (2 to 4 months)	Black bags not being baled but to be disposed of in the landfill, as agreed.	Closed	Council
MRF49	Audit Review 31-10-19	Polystyrene – also suggest the quantities are too small to worry about – bale and landfill.	Polystyrene is to be included with black refuse bags and baled.	Medium (2 to 4 months)	Black bags not being baled but to be disposed of in the landfill, as agreed.	Closed	Council
MRF50	Audit Review 31-10-19	There is currently no place where bulky reusable items such as furniture and mattresses can be stored on site because the reusables drop-off facility does not have doors wide enough to enable bulky items to be carried into the facility.	Stantec to reconfigure the arrangement of the reusables drop-off facility so that there is a large opening where bulky materials can be brought in under shelter. This could be done when the site is reconfigured.	Low (4 to 6 months)	Mitre facility has been designed and funding obtained through SMF project.	Open	Stantec
MRF51	Audit Review 31-10-19	Fridges and freezers need to be de-gassed by a suitably qualified person and a system needs to be put in place to identify those appliances that have been dealt with and those still awaiting de-gassing.	CIC to investigate who could undertake this work.	Low (4 to 6 months)	To discuss with FH.	Open	Council
MRF52A	Audit Review 31-10-19	LPG containers that are being disposed of need to be stored in a separate secure facility where they are to be de-gassed and made safe before disposing of them as scrap. The facility is to comply with relevant HSN0 regulations.	Stantec to identify relevant HSN0 regulations for storage or disposing of scrap LPG cylinders.	High (0 to 2 months)	To discuss with FH.	Open	Stantec
MRF52B	Audit Review 31-10-19		CIC to provide a secure facility for scrap LPG cylinders.	High (0 to 2 months)	To discuss with FH.	Open	Council
MRF52C	Audit Review 31-10-19		CIC to arrange for cylinders to be made safe.	Low (4 to 6 months)	To discuss with FH.	Open	Council
MRF53	Audit Review 31-10-19	There is no collection of Agri-chemicals in the Chatham and no facility at Te One MRF to safely store them.	CIC to investigate the possibility of getting the Ag-Recovery programme to be extended to the Chatham.	Low (4 to 6 months)	P Landmark has contacted AgRecovery by email and is awaiting a response back. See item MRF46 for further details.	Open	Council
MRF53	Audit Review 31-10-19		CIC to investigate what facilities are needed for storing Agri-chemicals.	Low (4 to 6 months)	To discuss with FH.	Open	Council
MRF54A	Audit Review 31-10-19	Currently, there is no site supervisor appointed at the MRF site. Staff do not have the necessary training and skills to undertake all the tasks required to supervise and manage the MRF operations, including being familiar with H&S requirements and the need for record-keeping.	CIC to approach FH about their willingness to take on the MRF and TS operations. Included would be negotiated transfer of the current waste management staff to FH, if the staff are willing to accept these arrangements.	High (0 to 2 months)	O Pickles has contacted FH who have indicated interest at a high-level (upper management), but at an operational level there is limited interest. CIC staff have progressed discussions with FH who indicate a willingness to undertake further work as a variation to the current contract. FH has indicated a willingness to be involved in all aspects of SW work. C. Burr has been working at Te One to fill in for Josh. CIC and FH have agreed on terms for Solid Waste Management work. A contract is to be drawn up by Stantec and it is likely that FH will take over the SW Management work in July. Contract is agreed and running.	Closed	Council
MRF54B	Audit Review 31-10-19		CIC management to find out about procurement requirements, and need, or otherwise for the operations to be tendered on open market.	High (0 to 2 months)	FH to be appointed for the SW Management work.	Closed	Council
MRF54C	Audit Review 31-10-19		CIC to advise Stantec of the outcome and depending on it and procurement requirements, Stantec to prepare a contract specification and/or an RFT.	High (0 to 2 months)	No RFT needed but Stantec to prepare a contract agreement based on FH's proposal. Contract agreement signed.	Closed	Stantec
MRF55	Baler Modification Report_27-11-19	A person needs to be responsible for re-positioning the baler.	CIC to appoint a person (Council staff / contractor / Engineering Repairs staff) to be responsible for the re-positioning of the baler.	High (0 to 2 months)	No longer needed since the baler will remain in the current position.	Closed	Stantec
MRF56	Email correspondence 29 Nov 2019	The amount of sludge being produced appears to be excessive. It would be useful to get information from other operators who use the same baler.	Stantec to contact Engineering Repairs to ask for contact details of other operators and get their response to this.	High (0 to 2 months)	Engineering Repairs have obtained feedback from Opolki DC (Ian Castles) who provided comment on how they have dealt with sludge. This information has been passed on to Leith Weitzel.	Closed	Stantec
MRF57	Email correspondence 10 Dec 2019	Leith Weitzel has visited the site with a plumber and has identified that there is a significant amount of sludge being produced. He has suggested options for dealing with this sludge. This has raised various questions which require a response.	Stantec to work with Leith to devise an appropriate system to deal with the sludge.	High (0 to 2 months)	Stantec sent an email to Leith on 10 Dec 2019 asking for additional information (see below). Information has been received from L. Goomes suitable for informing the report Stantec are pulling together.	Closed	Stantec
MRF58	Email correspondence 10 Dec 2019	In order to resolve the sludge issue, some information is needed to optimise the design.	Leith Weitzel to provide information on the following questions: 1. How much sludge would you estimate is being generated per bale of waste produced? (This is to get a handle on this so that the drip trays and receiving tank can be sized appropriately). 2. Did you get an idea of how many bales are being produced on a daily basis? (This may be a question more for Leon or Josh to answer). 3. The septic tank has filled up very rapidly. What is the nature of the material that is flowing in that is causing it to fill up? Is it, for instance, plastic bags and other "solids" that could be screened out? 4. Can you recall if there is sufficient space at the back of the Te One shed for installing an additional sump? 5. If there is space, how would you see it being serviced?	High (0 to 2 months)	Stantec sent an email to Leith on 10 Dec 2019 asking for additional information. Stantec to follow up on this email and C Butt also to get in contact with Leith. Information has been received from L. Goomes suitable for informing the report Stantec are pulling together.	Closed	Leith Weitzel
MRF59	Meeting between CIC and Stantec on 10/02/20	The improvements to the Te One MRF and TSs (change in receptacles and baler modifications) will cost a significant amount of money.	Stantec to identify if funding can be obtained for the various mini-projects through the MFE Sustainable Management Fund.	High (0 to 2 months)	Application has been made to the SMF for funding for various waste and diverted material projects. Phase II of the MRF project is still under consideration. Stantec has prepared a Draft Budget and Project Plan that needs CIC approval. Project approved and running.	Closed	Council
OWENGA LANDFILL							
LF2A	Audit Review 31-10-19	The landfill operator needs to be suitably skilled and resourced in order to operate the landfill and pilot leachate treatment plant, in accordance with the resource consent conditions and documents that are required by the conditions.	CIC to approach FH about their willingness to undertake the Owenga Landfill operations.	High (0 to 2 months)	O Pickles has discussed this with FH and there is interest at a high-level and an operational level to undertake the landfill operations. CIC staff have progressed discussions with FH who indicate a willingness to undertake further work as a variation to the current contract. An agreement has been reached with FH about the scope of work and cost of undertaking SW Management work, including running the landfill. A contract agreement is to be drawn up by Stantec. Agreement drawn up and signed.	Closed	Stantec
LF2B	Audit Review 31-10-19		CIC management to find out about procurement requirements, eg. could this be done as a variation to the existing contract, or would the operations need to be tendered on the open market.	High (0 to 2 months)	CIC to check procurement policies. See LF2A. Variation to existing contract.	Closed	Council
LF2C	Audit Review 31-10-19		CIC to advise Stantec of the outcome and depending on it and procurement requirements, Stantec to prepare a contract specification and/or an RFT which references the stated documents.	High (0 to 2 months)	Stantec awaiting go-ahead to prepare contract documentation. See LF2A. Contract agreement prepared, signed and being acted on.	Closed	Stantec
LF3	Audit Review 31-10-19	Glass that has been crushed, for instance, under the wheels of a FEL, can be used for cover purposes at the landfill, provided it is not placed directly on the HDPE geomembrane liner.	CIC to arrange for FH to load and transport crushed glass from Te One MRF to Owenga LF and stockpile it in the location shown on Figure 4-1 in the Audit Review Report.	Medium (2 to 4 months)	Done.	Closed	Council
LF4	Audit Review 31-10-19	There are several survey pegs established at the base of the cover material stockpile (accessible through vertical ducts) and within the base of the landfill. They were placed in 2015 in order to determine the rate of settlement of the in-situ soils through loading by fill material. Survey measurements are needed before the pegs are removed through use of the cover material, and waste is placed in the landfill.	Stantec is to arrange for a survey to be done of the pegs within the stockpile.	Medium (2 to 4 months)	Nigel Lister of Stantec is to survey the pegs in the week of 11/11/19 to 15/11/19. Survey completed and information sent to P Landmark. There were no pegs located within the landfill area.	Closed	Stantec

Issue Number	Date Identified	Issue Identified	Proposed Action	Priority High/Medium/Low	Actions Completed / Comments	Status	Owner
LF6A	Audit Review 31-10-19	The flow to the leachate treatment plant needs to be restricted to 770L/day. This is achieved through a 4mm hole which has been drilled in the pipe outlet with the pipe being set at 1cm below the pond level. It is important to check daily that the hole is clear of any debris and is set at the correct depth. It is important to ensure that the hole remains open and the others are kept blocked.	CIC to check there is no clogging of the leachate pond outlet pipe, and no accumulation of debris that could cause future clogging, and that pipe is set at the right depth.	High (0 to 2 months)	Needed before waste is disposed to landfill. Landfill has been commissioned and is running.	Closed	Council
LF6B	Audit Review 31-10-19		CIC to check that there is only one hole that is open and the others remain blocked.	High (0 to 2 months)	Needed before waste is disposed to landfill. Done.	Closed	Council
LF7	Audit Review 31-10-19	A depth gauge is needed in the leachate pond to record the level of the leachate on a weekly basis (see Checklist 7 in Appendix F of the Leachate Treatment Plant Manual).	CIC to install a depth gauge next to the leachate pond outlet. It is proposed that it consists of a 1.1m length of H5 treated wood (100mm x 100mm), with gradations of 0.1m marked on it, and cast with concrete into a motor car tyre, and placed next to the leachate pond outlet chamber structure.	High (0 to 2 months)	Needed before waste is disposed to landfill. Done.	Closed	Council
LF8	Audit Review 31-10-19	The flexi-pipe in the leachate pond outlet chamber will float up and requires a weight to keep it in the correct position, together with the rope used for tying it up.	The pipe has a weight on it but it hangs down and needs to be strapped firmly to the pipe to allow the pipe to be depressed to the floor of the outlet chamber, if needed. CIC to action this.	High (0 to 2 months)	Needed before waste is disposed to landfill. Done.	Closed	Council
LF9	Audit Review 31-10-19	The rate of flow from the leachate pond to the dosing chamber needs to be measured and adjusted to a steady flow of 770L/day (0.53 L/min). See LF6A.	This has been checked by Stantec in 2018, but a repeat check should be done by CIC prior to disposing of waste in the landfill. Refer to Check lists 3 and 4 in Appendix F of the Leachate Treatment Manual.	High (0 to 2 months)	Needed before waste is disposed to landfill. Done.	Closed	Council
LF10	Audit Review 31-10-19	Vegetation has become overgrown on the surface of the peat filter bed which could affect the even distribution of leachate across the top of the filter bed.	CIC to remove vegetation from the peat filter bed, taking care not to damage the pipes. Do not spray the vegetation with herbicide to kill it.	High (0 to 2 months)	Needed before waste is disposed to landfill. Done.	Closed	Council
LF11	Audit Review 31-10-19	The leachate pond needs to be as empty as possible on the day in which waste bales are first brought and placed into the landfill.	CIC to empty the leachate pond by pumping the stormwater to the adjacent drain and by lowering the outlet pipe to force additional flow through to the leachate treatment plant.	High (0 to 2 months)	Needed before waste is disposed to landfill. Done.	Closed	Council
LF12	Audit Review 31-10-19	The depth of peat in the leachate treatment plant needs to be sufficient to provide treatment.	If depth of peat is less than 0.8m, CIC to fill up the filter bed with additional suitable peat.	High (0 to 2 months)	Needed before waste is disposed to landfill.	Open	Council
LF13	Audit Review 31-10-19	Vegetation has become overgrown over the treated leachate application pipe, and the whole application area of 50m x 100m needs to be mulched to enable the pipe to be moved regularly.	CIC to clear vegetation from around the pipe by mulching it, taking care not to damage the groundwater bores located within the area.	High (0 to 2 months)	Needed before waste is disposed to landfill.	Open	Council
LF14	Audit Review 31-10-19	The treated leachate application pipe must be laid level to ensure treated leachate can be distributed over the whole of the application area.	CIC to make sure the pipe is laid level by avoiding humps and hollows.	High (0 to 2 months)	Needed before waste is disposed to landfill. Done.	Closed	Council
LF15	Audit Review 31-10-19	The labelling on the groundwater bores (G5, G6, G8a, G8b, G8c and G8d) for the treated leachate application area has faded and needs to be re-done.	CIC to mark the groundwater bores with a permanent marking pen – see Figure 4-1 in the Audit Review Report for the correct bore labels.	High (0 to 2 months)	Needed before waste is disposed to landfill.	Open	Council
LF16	Audit Review 31-10-19	Groundwater, surface water and leachate sampling need to be done in accordance with the resource consent conditions. Refer to Appendix G of the LDMP & STFMP.	CIC to ensure ECan are undertaking the required groundwater, surface water and leachate samples.	High (0 to 2 months)	Needed before waste is disposed to landfill.	Open	Council
LF17	Audit Review 31-10-19	The subsoil pipe for distributing treated leachate to the application area has become separated from the conveying pipe at the valve location.	CIC to re-connect the distribution pipe to the valve.	High (0 to 2 months)	Needed before waste is disposed to landfill. Done.	Closed	Council
LF18A	Audit Review 31-10-19	From time to time the leachate pond may fill up and overflow in a high-intensity rainfall event.	An overflow pipe is to be installed to allow overflow when the level of the pond reaches within 100mm of the top of the pond. Stantec to provide overflow pipe details.	Medium (2 to 4 months)	Stantec has prepared a draft report which is awaiting review by J Cocks. Short report has been sent to CIC on 14/01/20.	Closed	Stantec
LF18B	Audit Review 31-10-19		CIC is to install the overflow pipe.	Medium (2 to 4 months)		Open	Council
LF19	Audit Review 31-10-19	There is a concern that the waste bales may be unstable for driving the truck onto them.	The waste bales are to be accessed by the FEL initially until a reasonable depth of waste and cover have been placed on the landfill to ensure that the Hiab can access the landfill safely. CIC to work with the landfill contractor to determine when it is safe to access the waste pile.	Medium (2 to 4 months)		Open	Council
LF20	Audit Review 31-10-19	Waste bales will need to be covered with crushed glass and/or cover material to provide a decent running surface.	Cover material has been stockpiled within the future Stage 2 area for this purpose. Crushed glass is to be brought to the landfill, as has been discussed. Landfill operator to cover waste bales and provide a reasonable roading surface on the landfill.	Medium (2 to 4 months)	Crushed glass is being brought to the landfill.	Closed	LF Operator
LF21	Audit Review 31-10-19	All waste has the potential to generate leachate, especially when they are rained upon. Leachate needs to be captured and directed to the leachate pond.	Do not store waste bales outside of the landfill footprint. Any waste bales brought to the landfill need to be placed within the landfill footprint straight away and covered with cover material once all necessary matters have been addressed for getting the landfill ready for waste acceptance. CIC to work with landfill contractor to achieve this.	Medium (2 to 4 months)	Done.	Closed	Council
LF22	Audit Review 31-10-19	The fence standards used for the electric fence around Stage 1 landfill and the leachate pond are no longer needed.	The fence standards are to be removed and given back to A. Preece. CIC to work with landfill contractor to achieve this.	Medium (2 to 4 months)		Open	Council
HEALTH AND SAFETY MATTERS (there may be a double-up with other issues identified for the Solid Waste Management facilities)							
H&S1	Audit Review 31-10-19	The Te One MRF site has numerous hazards, but there is a lack of documentation for identifying, managing and mitigating the hazards.	A Safety Plan needs to be developed for the Te One site and other solid waste management facilities.	High (0 to 2 months)	A solution is seen to be the appointment of a contractor with suitable resources and skills. CIC are pursuing this with FH and also need to confirm the procurement process against CIC's requirements. A Site Safety Plan will be a priority for the new contractor. FH responsible for Safety Plan.	Closed	Council
H&S2	Audit Review 31-10-19	The Te One site has no site supervisor. This person needs specific skills to understand the need for record-keeping and also have knowledge of various H&S processes that should be in place.	CIC to determine if it to procure a site supervisor through contracting out the Te One site work, or appoint one as an employee of CIC.	High (0 to 2 months)	O Pickles has contacted FH who have indicated interest of a high-level (upper management), but at an operational level there is limited interest. C Butt to pursue this further. In the meantime, Leon has been appointed as a site supervisor. FH are to take over the running of the Te One site. L. Goomes is the Site Manager.	Closed	Council
H&S3	Audit Review 31-10-19	Under the HSW Act 2015 there is a line of responsibility for H&S matters that extends to CIC. CIC are to identify who is responsible for the H&S of people employed to do the solid waste management work, and the public who use the SWM system.	CIC to ensure that responsibilities are clearly demarcated and assigned.	High (0 to 2 months)	FH are responsible at Te One and Owenga.	Closed	Council
H&S4	Audit Review 31-10-19	SOPs are not documented for the site operations at Te One (or other sites).	CIC to document SOPs for all site operations, especially those that involve equipment and plant.	High (0 to 2 months)	FH's responsibility now.	Open	Council
H&S5	Audit Review 31-10-19	There are ways of operating on site that introduce additional hazards, such as manual handling of wastes.	CIC and Stantec to determine an appropriate system of bins that eliminates double-handling of waste.	High (0 to 2 months)	See TS10B for progress update.	Open	Council
H&S6A	Audit Review 31-10-19		CIC to arrange for First Aid training through St. Johns.	High (0 to 2 months)	One staff member has completed training, other staff members to be trained next opportunity (on the training plan).	Closed	Council
H&S6B	Audit Review 31-10-19		CIC to discuss with FH about getting site personnel trained in using the excavator ("wheels and tracks" certificate).	High (0 to 2 months)	CIC has discussed this with FH and agreement reached about collaborating on staff training. FH's responsibility.	Closed	Council
H&S6C	Audit Review 31-10-19		Stantec to provide details of its on-line service provider for fire-fighting training.	High (0 to 2 months)	Stantec uses the on-line training organisation "Safety First" for training Fire Wardens. Its website is: https://www.safetyfirst.co.nz/ and it can be contacted on 0800 252 253. Details provided by email to C Butt on 22/11/19.	Closed	Council
H&S6D	Audit Review 31-10-19	Aside from staff requiring supervision, they need to be further trained in equipment and plant use, first aid, fire-fighting, hazardous waste identification.	Stantec to ask waste industry contractors about training for aspects such as hazardous waste identification.	High (0 to 2 months)	Stantec has contacted Envirowaste, Massey University and the ZeroWaste Network about training opportunities for staff (see email dated 11 Dec 2019). The best opportunity is with the ZeroWaste Network who will be running two courses in February 2020. Contact details for the co-ordinator (Dorte Wray) are: dorte@zerowaste.co.nz with phone number 021 975 352. FH to undertake training.	Closed	Council
H&S7	Email dated 11 Dec 2019.	Staff require training from "accredited" organisations.	CIC to contact the ZeroWaste Network who have funding from the MfE to train staff in aspects of resource recovery operations.	High (0 to 2 months)	See above and email dated 11 Dec 2019. FH to undertake	Closed	Council

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Chatham Islands Council Waste Assessment

Medical Officer of Health Feedback

The Waste Minimisation Act 2008 requires that each Territorial Local Authority (TLA) must review its Waste Management and Minimisation Plan (WMMP) at intervals of not more than 6 years after the last review (s50 (1)). In doing so, it must make a waste assessment before conducting the review (s50 (2)). In making a waste assessment the TLA must consult the Medical Officer of Health (s51(5)(b)).

A waste assessment (WA) must contain, amongst other things (s1(f)(i)) a statement about the extent to which the proposals contained in it will ensure that public health is adequately protected.

The following feedback is provided on the Draft Waste Assessment prepared for the Chatham Island Council by Stantec consultants.

Public Health Issues

The main issues for public health with regard to waste management and waste minimisation are:

- Identification of the various types of wastes and collection/disposal methods
- Satisfactory collection and disposal of waste so that public health risks are controlled and mitigated
- Addressing the particular issues of hazardous waste, including medical wastes, asbestos waste and electronic waste (e-waste)
- Consideration of future population demands and consumption rates on the current system and mitigation strategies in place
- Regional co-ordination of waste management and waste minimisation
- Ensuring that a waste disposal service is available to all residents/ratepayers
- Legislative and cost barriers that inhibit mitigation of public health issues related to waste
- The health impacts of climate change and the contribution that effective waste management and waste minimisation can make to reduction in greenhouse gas emissions

1. Waste Data Collection and Analysis

Data collection and analysis regarding the waste disposed of through Chatham Islands Council (CIC) services are sparse. Longer term, regular standardised data collection and analysis is essential to needs assessment and planning for waste management and waste minimisation. Without it, Council will be limited in its ability to monitor the effectiveness of strategies to reduce specific components of the waste stream, for example diversion of green waste and recyclables from landfill.

Without regular data collection about waste volumes it is also difficult to make accurate estimates of overall waste volumes or the amount of waste processed outside of council facilities and the externalised costs associated with this.

The WA refers extensively to waste reduction methods by diverting recyclables which would then be transported to other regions for sale. There is no evidence that this is occurring, and instead, diverted waste is stockpiled. Both options are highly problematic with transport costs being high and rising, and the risks of stockpiling threatening the health of the community.

- *The Medical Officer of Health recommends that Council plan to undertake regular standardised data collection and analysis of the composition of the waste stream disposed to landfill in the Chatham Islands. Agreed that this is needed. Fulton Hogan has recently implemented a more robust data collection system, using a spreadsheet provided by the MfE. Under recent regulations, CIC is now required to provide information of wastes and other materials received at its transfer stations. Since all materials are routed through Te One, this is the only transfer station that requires records.*
- *Similarly, regular measurements of the types and volumes of waste diverted with the intention of transport outside the district for disposal should be carried out. Agreed. This is also part of the data collection required by the MfE, through recent regulations. Under those regulations, diverted materials stockpiled for longer than 6 months either need to be re-classified as waste or Council needs to seek permission to extend the six-month period. Since arrangements still need to be put in place for recyclables to be accepted and processed in New Zealand, Council needs to seek authority to extend the six-month timeframe to a period of between 1 and 2 years.*
- *Both the above recommendations could be advanced by a Solid Waste Bylaw. A Solid Waste Bylaw is being considered by Council. It could include for these recommendations, or they could become part of the Methods adopted within the WMMP.*

2. Division of Roles and Responsibilities

It is currently unclear how the roles and responsibilities are divided around staffing, supervision and management of potential incidents at the landfills. This is particularly important to ensure the health and safety of staff and the community.

- *The Medical Officer of Health recommends that Council clarifies the roles and responsibilities for staffing, supervision and management of potential incidents at the landfills. Council has contracted all solid waste management activities to Fulton Hogan who are responsible for staffing, supervising and managing all solid waste activities. Fulton Hogan is required to have an Operational Plan in place for running the landfill and, as part of its contractual obligations to Council, has a Health & Safety Plan in place for managing all incidents. Advice for operational and contractual matters is also provided by Stantec.*

3. Unique Solutions for a Unique Setting

Solutions around waste management and minimisation will have to be creative and tailor-made to fit the island. These solutions may look quite different to generic solutions that would work on the mainland.

- *The Medical Officer of Health recommends that Council considers regulatory levers (e.g. by-laws) to support solutions for this unique setting. A Solid Waste By-law is being considered by Council. The process is underway which has commenced with preparing a Scoping Paper that seeks to identify the issues that Council could potentially address through a SW Bylaw.*

4. Funding Waste Management

Council Dues are no longer considered the most appropriate mechanism to increase Council revenues as they distort behaviour and are onerous to administer and enforce. The financial sustainability of existing waste management practices appears tenuous, yet the potential health impacts of a system that fails to perform adequately would be unacceptably significant. It is therefore imperative that a sustainable funding mechanism is maintained.

- *The Medical Officer of Health recommends that Council consider other mechanisms to increase Council revenues to fund waste management. The Chatham Islands has a small rating population base and has high costs of living compared to other parts of New Zealand. This limits Council's options for funding its services and activities and means that Council is reliant on Central Government for bulk funding to cover much of its annual budget. The costs of undertaking solid waste services are so much higher than in other parts of New Zealand because the quantities of waste and recycling are so much less, meaning the "unit costs" are enormous and are well beyond a level that could be covered by user-pays, either through disposal charges or targeted rates. Nevertheless, Council is considering implementing solid waste charges, but more as an economic instrument to encourage recycling and reduce disposal, rather than as a cost recovery exercise. In addition, Council is seeking funding through other means (e.g., Sustainable Management Fund) to support projects that will make a meaningful difference to various fractions of waste.*

5. Public Engagement, Communication and Education

To manage and minimise waste appropriately, it is critical to communicate and educate the community about the availability and nature of the waste disposal facilities. This includes ensuring residents are aware of waste management services provided by Council and how to use them. This can be achieved through a use of a range of media, providing communications in all relevant languages and utilizing targeted messaging for key groups. Specific areas for communication and education are: agricultural waste management, public importing of goods (for example how to minimise excess packaging imports) and public risk reduction education around residential waste burning and burying.

Effective waste minimisation requires the engagement of industry as well as the community. Both the public and industry must be well informed about appropriate waste management and minimisation, the reasons behind Council's approach to these services and the role the public and industry should be playing.

- *The Medical Officer of Health recommends that communication with and education of the community on waste management and minimisation are reviewed and updated if required. **Agreed – communication with the island’s population and education on the proposed system changes is encompassed within Council’s Objectives.***
- *The Medical Officer of Health strongly supports the need for community engagement in effective waste minimisation and encourages Council to emphasise not only the environmental and economic benefits of waste minimisation but also the wider health benefits. **Agreed.***

6. Unique Ecology in Need of Protection

Appropriate waste minimisation and management plays a role in protecting the environment and ecology. This is particularly important as the Chatham Islands have a unique ecology of both plants and animals, some of which are endangered. Further, waste management and planning also plays a part in protecting mahinga kai resources and sites.

- *The Medical Officer of Health recommends that Council gives priority to measures that will safeguard mahinga kai sites and resources*
- *Council is also encouraged to consider environmental monitoring of critical habitats that may be affected by waste management activities. **Environmental monitoring is undertaken in compliance with resource consents.***

7. Challenging/Useful Waste Types

a. “Mitre 12” re-use centre

Council is commended on setting up a place to enable re-use unwanted goods. However, it should be ensured that neither used baby/child car seats which are past their expiry date (and potentially unsafe to use) nor painted items (particularly children’s toys and furniture) which may contain lead-based paint are not left at the re-use centre.

- *The Medical Officer of Health strongly advises Council is to put up prominent signage at the re-use centre about not leaving baby and child car seats or painted items (especially children’s toys and furniture). **An appropriate recommendation and to be included in the WMMP.***

b. Medical waste

The current mechanism for disposal of medical waste is unclear. It is important to consider the appropriate ways to dispose and manage the clinical waste, including waste related to the current COVID-19 pandemic, such as RATs and disposable masks.

- *Council is encouraged to clarify the methods of medical waste disposal. **Agreed. Council to check with the local clinic about how its wastes are disposed.***

c. Use/diversion of biodegradable/organic/putrescible waste

It is unclear whether there currently any Council services targeting organics diversion and whether organics currently make up a large proportion of the waste going to landfill in the district. There may be considerable scope to both reduce volumes of organic waste to landfill, reduce greenhouse gas

emissions from landfill and for beneficial reuse of this component of the waste stream through composting.

- *Council is strongly encouraged to actively explore a range of options for the diversion of organic waste. Council is supporting the Hokotehi Moriori Trust which has obtained funding for carrying out a composting trial. Council also supports home composting initiatives.*

d. E-waste

While no local data on the extent of e-waste are presented in the WA, other councils throughout mainland New Zealand are reporting a rise in e-waste volumes and it would not be unreasonable to make a similar assumption for the Chatham Islands. Growing volumes of e-waste pose a hazard to the environment and human health. There is also scope to reuse and recycle components of e-waste. It would make sense for Council to consider the option of collaboration with other councils to explore local e-waste management options in response to the growing demand for these.

- *Council is strongly encouraged to explore options for e-waste re-use and recycling, in collaboration with other councils. Agreed, Council looks at other initiatives to see if it can join in with them. A major hurdle for taking e-waste back to New Zealand is that electronic goods with Li-Cad batteries can get set on fire if damaged. This has restricted use of shipping recyclables back to the mainland in the past, but is a matter that needs to be further explored.*

e. Hazardous Wastes

The assessment also comments that little is known about the types or quantities of hazardous waste in the district. Without such information, it is difficult to plan or assess the performance of existing or suggested strategies for waste minimisation.

- *Council is strongly encouraged to explore local options for hazardous waste management, in collaboration with other organisations. Council to seek options to link in with regional waste collections, for instance, through ECan. Can include this as one of the Methods.*
- *The Medical Officer of Health recommends that Council carry out regular monitoring of hazardous waste disposal, both types and volumes, at its transfer stations and landfill. Agreed. Strategies are needed to deal with waste oil, LPG cylinders, and old farm chemicals.*

f. Stockpiled diverted waste

The stockpiling of diverted waste creates hazardous conditions by establishing ideal habitats for pests of public health concern.

- *Council is strongly encouraged to explore options for pest management/eradication and ultimately elimination of stockpiling practices to prevent the spread of zoonotic disease. Stockpiling to some extent is unavoidable because Council needs to have at least a full container of material to send back to New Zealand. However, the materials can be stockpiled in the dry, in a container which can be closed. Council also needs to have an eradication programme in place to get rid of vermin from around the solid waste facilities.*

8. **Service accessibility**

As noted in the Chatham Islands Council Long-Term Plan 2021-2031: “Residents transport their own recyclables and solid waste to the local drop-off facilities and Council arranges transfer for either

processing or disposal. Because of the small size of the settlements on-Island, there is no formal waste collection service. Residents are required to take their waste to a transfer station or materials processing facility at Te One. This means, there have been several 'unofficial' waste sites created on-Island, which are unlikely to meet waste management standards."

It is important to know who has and who does not have access to Council waste services and infrastructure for the whole region. This will enable identification of major gaps in the provision of services and how appropriately the gaps are currently being managed.

The mode of provision of service requires careful consideration as underserved residents may resort to disposing of waste by fly tipping, burning, or burying it. However, provision of very accessible services may encourage residents to dispose of, rather than recycle or compost wastes themselves.

- *The Medical Officer of Health recommends that Council assess the accessibility of waste services and infrastructure, and the uncontrolled methods of disposal (which may be due to inadequate service provision). Council is considering a proposal by Fulton Hogan to collect household refuse from all households on Chatham Island. This will greatly increase the accessibility of services for all Chatham Islanders.*

9. Issues of Inadequate or Insufficient Infrastructure

The Council has several closed landfills described in the WA which must comply with resource consent conditions. The monitoring of these sites needs to be reported on.

Further, a leachate assessment plan is required. Leachate from closed and operational landfills could have a significantly negative impact on both land and water. Such effects include polluting the natural environment and entering natural watercourses.

- *The Medical Officer of Health recommends that Council manage these sites in full compliance with resource consent conditions and report on its management. Sites have been closed, as required by the current landfill resource consent.*
- *The Medical Officer of Health recommends that Council develop a leachate assessment plan for closed and operational landfill sites, whether or not this is a requirement of the resource consents for these sites. The operational site (Owenga Landfill) has an extensive environmental monitoring plan in place. Council to consider if it wants to extend this to the other closed landfills.*

10. Commissioning Plan for Owenga Landfill

This new uncommissioned landfill is described in the WA. Significant risks related to asset deterioration and failure have been identified as Council are unable to commit to future capital works. This is concerning and the landfill will need independent re-assessment before commissioning. In addition, the integrity of new landfill HDPE lining following UV/other degradation needs to be assessed.

- *The Medical Officer of Health recommends that the Owenga landfill is independently re-assessed prior to commissioning. Fulton Hogan staff have been commissioning the landfill and have been working with Stantec consultants on operational aspects. The Landfill liner is*

protected with carbon black which protects against UV degradation. The bulk of the liner is covered with drainage gravel and is not exposed.

11. Wastewater and sludge disposal

The Waste Assessment does not provide information on the treatment of wastewater or disposal of any resultant by-products of these processes.

As noted in the Chatham Islands Council Long-Term Plan 2021-2031:

A reticulated wastewater scheme is also provided in Waitangi (LTP 2021-31) All other residents on Chatham Island operate onsite wastewater treatment and disposal systems (typically a septic tank with land disposal)

Waitangi wastewater system: Urgent maintenance is being carried out so the existing system can continue to operate in the short term, while a new treatment system is designed and funding secured. The current system is at the end of its useful life. Without adequate treatment, there is a high risk of adverse public health and environmental outcomes. As part of the urgent maintenance the land application is being modified to minimise ponding that has been an issue in recent years. (LTP 2021-31)

Council previously committed to a sludge lagoon, which will result in a disposal facility for septic waste with revised estimates now at approximately \$1 million. This will reduce the current practice of burial in pits and will provide an engineered environmentally sustainable process. A grant has not been received to support this work; therefore, the project has been deferred. (LTP 2021-31)

The treated wastewater discharge from Waitangi wastewater plant is required to comply with the resource consent (Council's Resource Management Document). Remedial work is required for the existing plant to continue to achieve the required discharge limits. (LTP 2021-31)

*"We have identified the following critical investments required for our waste management infrastructure, over the next 10 years, which have been excluded from our financial forecast as we have been unable to secure funding to support the projects: • Sludge lagoon, \$1 million This will create a disposal facility for septic waste, reducing the current practice of burial in pits and providing an engineered, environmentally sustainable process." *Designs for the sludge lagoon have been completed, but funding is presently not available. Disposal of sludge is to pits on land, which is a permitted activity.**

The Medical Officer of Health agrees with Council that these critical investments (upgrade/replacement of the wastewater treatment plant and installation of a sludge lagoon) are urgently needed. As Council has already identified, without adequate treatment wastewater and safe disposal of sewage sludge, there is a high risk of adverse public health and environmental outcomes.

12. Climate Change Response

Although Council's landfills are likely to be exempt from the relevant climate change response legislation, including the ETS, setting targets and measurements around greenhouse gas emissions would align the Chathams with national direction of climate change response now and in the future.

Appendix B Review report of current WMMP

DRAFT



Review of Waste Management and Minimisation Plan

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Rev. No.	Date	Description	Prepared By	Reviewed By	Approved By
03	28 May 2012	Final	P Landmark	J Cocks	O Pickles

1 Introduction

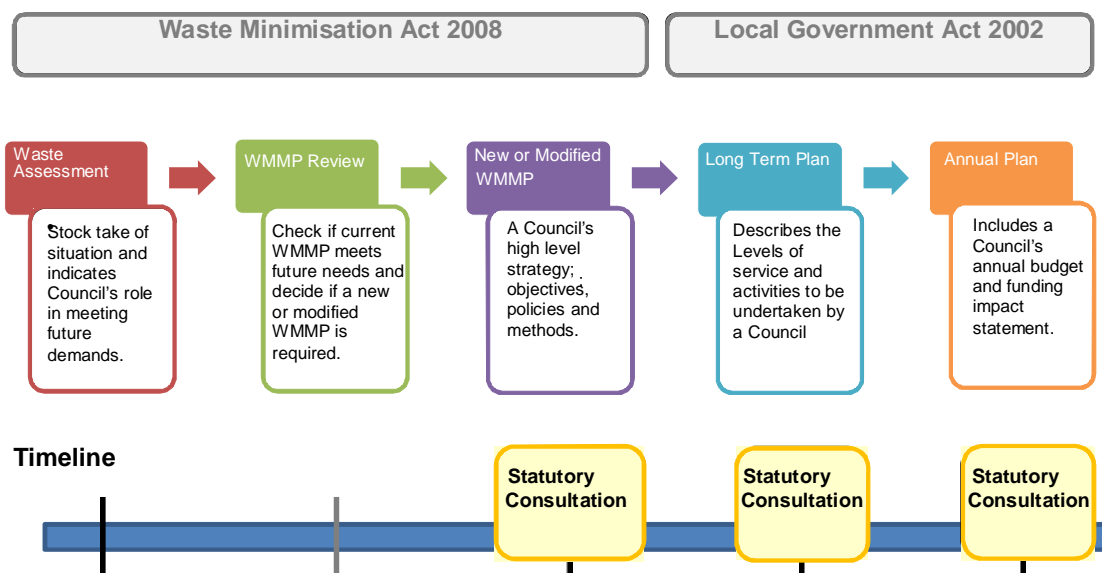
1.1 Statutory Setting

In 2008 the New Zealand government passed the Waste Minimisation Act 2008 (WMA). Under the WMA, every territorial authority (TA) must adopt a Waste Management and Minimisation Plan (WMMP).

Under the WMA, Chatham Island Council's existing Solid Waste Management Plan, which was adopted in 2005, is the operative WMMP.

The Chatham Islands Council (the Council) has a statutory obligation to review its current WMMP before 1 July 2012, having regard to its most recent Waste Assessment (WA) and the New Zealand Waste Strategy (2010).

The diagram below illustrates the statutory planning requirements for solid waste management and minimisation. The WA and WMMP Review lead to a TA decision about the need for a new or modified WMMP. In turn, a WMMP provides direction for the development of a Long Term Plan (LTP).



1.2 Purpose

The purpose of this review is to fulfil Council's statutory obligations under the WMA.

In carrying out this review, the following has been taken into account:

- New Zealand legislation and regulations
 - Waste Minimisation Act
 - New Zealand Waste Strategy (NZWS) 2010
- Chatham Island Council's current WMMP
 - Solid Waste Management Plan March 2005
- Chatham Island Council's most recent WA (May 2012).

2 WMA Requirements

The Council has a statutory obligation to review its current WMMP in accordance with the requirements set out in sections 43 and 44 of the WMA. Based on this review a conclusion on the need for a new or modified WMMP can be made.

Section 44 of the WMA states that:

In preparing, amending, or revoking a waste management and minimisation plan, a territorial authority must –

- (a) Consider the following methods of waste management and minimisation (which are listed in descending order of importance):
 - Reduction
 - Reuse
 - Recycling
 - Recovery
 - Treatment
 - Disposal; and
- (b) Ensure that the collection, transport, and disposal of waste does not, or is not likely to, cause a nuisance; and
- (c) Have regard to the New Zealand Waste Strategy, or any government policy on waste management and minimisation that replaces the strategy; and
- (d) Have regard to the most recent assessment undertaken by the territorial authority under section 51; and
- (e) Use the special consultative procedure set out in section 83 of the Local Government Act 2002 and, in doing so, the most recent assessment undertaken by the territorial authority under section 51 must be notified with the statement of proposal.

Section 43 of the **WMA** states that:

A WMMP must provide for the following:

- (a) Objectives and policies for achieving effective and efficient waste management and minimisation within the territorial authority's district;
- (b) Methods for achieving effective and efficient waste management and minimisation within the territorial authority's district, including:
 - (i) Collection, recovery, recycling, treatment and disposal services for the district to meet its current and future waste management and minimisation needs (whether provided by the territorial authority or otherwise); and
 - (ii) Any waste management and minimisation facilities provided, or to be provided, by the territorial authority; and
 - (iii) Any waste management and minimisation activities, including any educational or public awareness activities, provided, or to be provided, by the territorial authority;
- (c) How implementing the plan is to be funded;
- (d) If the territorial authority wishes to make grants or advances of money in accordance with section 47, the framework for doing so.

The WMMP is intended to be the guiding document for a territorial authority (TA) in directing its efforts towards achieving effective and efficient waste management and minimisation within its district.

3 Review

The Council's current WMMP was checked against the statutory requirements of the WMA. Table 3-1 presents the findings of this check.

Table 3-1: Review of current WMMP against WMA Requirements

WMMP Requirements	Included in current WMMP	Comment
General WMMP Requirements under the WMA		
Objectives and policies for achieving effective and efficient waste management and minimisation within the Chatham Islands.	Yes	Objectives and policies are provided in the current WMMP. The objectives are stated in section 6. However, the policies are called 'management objectives' under each action plan in the current WMMP. It may be appropriate to rename them if the outcome of this review is to amend the WMMP.
Methods provided for collection, recovery, recycling, treatment and disposal services for the Chatham Islands to meet its current and future waste management and minimisation needs.	Partially	The current WMMP provides limited information about current waste quantities because of the difficulties in obtaining such information, but does describe existing management services. The methods stated in the WMMP are still to be implemented. It is considered that the methods will result in current and future needs being met.

WMMP Requirements	Included in current WMMP	Comment
Any waste management or minimisation facilities provided, or to be provided, by Chatham Islands Council.	Yes	The current WMMP provides limited information on current facilities but sets out methods for achieving its objectives which include the provision of new facilities and activities.
Any waste management and minimisation activities, including any educational or public awareness activities, provided, or to be provided, by the Chatham Islands Council.	Yes	The current WMMP sets out methods for providing educational or public awareness activities.
Addressing Waste Disposal Levy Money Spending (refer WMA s32)	No	The waste disposal levy was introduced as part of the WMA 2008, three years after the current WMMP was adopted.
Statement on how the plan is to be funded	Partially	One of the 'action plans' within the current WMMP provides a number of methods to deal with <i>Cost Recovery and Funding</i> . A proposed budget is also provided giving details of costs associated with various activities. There is no clear link between individual methods and the costs associated with each method, nor the timeframe proposed for implementing each method.
Statement on grants or advances of money, and the framework for doing so.	No	This information is not included in the current WMMP.
Have regard to the New Zealand Waste Strategy 2010 (NZWS)	Partially	Whilst the NZWS came into effect in 2010, five years after adoption of the current WMMP, the existing WMMP has regard to the intent of the most recent NZWS which has the following two goals: Goal 1: Reducing the harmful effects of waste, and Goal 2: Improving the efficiency of resource use.

The waste management and minimisation issues and demands identified in the WA were extracted from the original WMMP. These were cross-referenced against the methods stated in the WMMP and it was found that the current WMMP adequately addresses these.

There are some aspects of the current WMMP that are out of date. For instance, under Relevant Legislation and Guidelines (section 2) there is no reference to the WMA 2008 nor, clearly, to the processes, definitions and abbreviations that it has introduced. It is proposed that amendments be made to the WMMP to bring it up to date, but these amendments are not critical, nor will they alter the intent of the existing WMMP and so they do not need to be made as an outcome of this review.

The two aspects that are not addressed and which are required under the WMA are:

- addressing how waste disposal levy money is to be spent, and
- stating if grants or advances of money are to be made under the WMA, and what the framework will be for doing this.

4 Conclusions and Recommendations

It is concluded that the current WMMP is a relevant plan for the Council in meeting its statutory waste management and minimisation obligations. However, it has been identified that there are certain statutory requirements that need to be identified in the WMMP, which are not in the current plan.

Specific matters identified as needing to be addressed immediately are the provision of statements:

- a) of Chatham Island Council's waste disposal levy spending
- b) on grants or advances of money for waste management and minimisation and the framework for implementing these.

Under section 33 of the WMA a consequence of the WMMP not addressing a) above is that the Secretary for the Environment must withhold levy payment and spend it in accordance with section 30. It is considered that the current WMMP has regard to the intent of the current NZWS.

Other matters that should be reviewed, but which are not urgently required include:

- a) providing a full description of services and facilities to meet the current and future needs of the Chatham Islands
- b) providing an update on relevant legislation
- c) modifying the terminology of the WMMP
- d) reference to the current New Zealand Waste Strategy
- e) updating the statement of how implementing the methods within the WMMP are to be funded.

The WMA requires the Council to have regard to its WA in the WMMP.

It is recommended that the Council:

- notifies an amendment to the current WMMP that provides a statement of how the Chatham Islands Council will spend its waste disposal levy, a statement on grants and advances of money for waste minimisation, and a statement acknowledging the current New Zealand Waste Strategy
- carries out a full review of its WMMP, after the new landfill is established and a period of waste monitoring, with a particular focus on waste minimisation opportunities and addressing those additional matters noted above as presently not being urgent.

Appendix C Minutes of Special Council Meeting

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CHATHAM ISLANDS COUNCIL

Minutes of a Special Meeting of the Chatham Islands Council, held in the Council Chambers, Tuku Road, Waitangi, on Wednesday 29 June 2022, commencing at 9.00am

Present: Her Worship the Mayor, M Croon
Deputy Mayor, G Horler
Councillors' RS Joyce, A Seymour, J Seymour,
C Gregory-Hunt, G Hoare, N Ryan & K Day

Management & Officers: Chief Executive, Mr Owen Pickles
Operations Manager, Colette Peni
Administration, Mereraina Hemara

1. Review of Waste Management & Waste Minimisation Plan 2022

Council was required to produce a Waste Management & Minimisation Plan and conduct yearly reviews of it. The 2022 edition had been prepared by Stantec.

The Plan was still to be audited by the Medical Officer of Health at CDHB.

RESOLVED:

Receive the Stantec report, and resolve that Council carries out a full review of its WMMP, having regard to its WA.

S Joyce / C Gregory-Hunt / CARRIED

RESOLVED:

Receive the Fulton Hogan report, agree in principle, firm up the proposal, strengthen the communication with public buy-in, conduct trials, and finalise operations.

N Ryan / A Seymour / CARRIED

- **Alternative to above resolution- "Receive the Fulton Hogan report and agree in principle, conditional to trialling and feasibility analysis for community and Waste Management operations."**

MEETING CLOSURE

There being no further business, the meeting was declared closed at 10:13am.

CONFIRMED THIS 4TH DAY OF AUGUST 2022

MAYOR

Appendix D Legislative and policy context

D.1 The New Zealand Waste Strategy 2010

The New Zealand Waste Strategy 2010 provides the Government's strategic direction for waste management and minimisation in New Zealand. This strategy was released in 2010 and replaced the 2002 Waste Strategy.

The New Zealand Waste Strategy has two goals. These are to:

- reduce the harmful effects of waste
- improve the efficiency of resource use.

The strategy's goals provide direction to central and local government, businesses (including the waste industry), and communities on where to focus their efforts to manage waste. The strategy's flexible approach ensures waste management and minimisation activities are appropriate for local situations.

Under section 44 of the Waste Management Act 2008, in preparing their waste management and minimisation plan (WMMP) councils must have regard to the New Zealand Waste Strategy, or any government policy on waste management and minimisation that replaces the strategy.

A copy of the New Zealand Waste Strategy is available on the Ministry's website at <https://environment.govt.nz/publications/the-new-zealand-waste-strategy-reducing-harm-improving-efficiency/>

D.2 Waste Minimisation Act 2008

The purpose of the Waste Minimisation Act 2008 (WMA) is to encourage waste minimisation and a decrease in waste disposal to protect the environment from harm and obtain environmental, economic, social and cultural benefits.

The WMA introduced tools, including:

- waste management and minimisation plan obligations for territorial authorities
- a waste disposal levy to fund waste minimisation initiatives at local and central government levels
- product stewardship provisions.

Part 4 of the WMA is dedicated to the responsibilities of a council. Councils "must promote effective and efficient waste management and minimisation within its district" (section 42). Part 4 requires councils to develop and adopt a WMMP. The development of a WMMP in the WMA is a requirement modified from Part 31 of the Local Government Act 1974, but with even greater emphasis on waste minimisation.

To support the implementation of a WMMP, section 56 of the WMA also provides councils the ability to:

- develop bylaws
- regulate the deposit, collection and transportation of wastes
- prescribe charges for waste facilities
- control access to waste facilities
- prohibit the removal of waste intended for recycling.

The WMA also sets out the matters which Council must consider in assessing how it will provide for waste management and minimisation within the district and in a way that considers the following waste hierarchy.

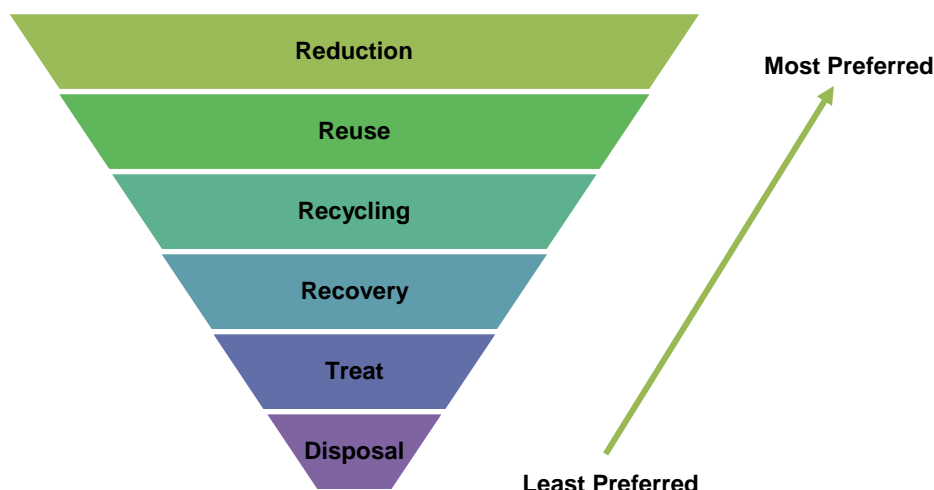


Figure 2 Waste Hierarchy of methods for waste management and minimization

The Act contains a mechanism for the accreditation and monitoring of product stewardship schemes to minimise waste from products. Product stewardship relates to a process through which those involved in the life cycle of a product or service are involved in identifying and managing the health, safety and environmental impacts from the development and manufacture of a product through to its use and final disposal. Ideally, product stewardship schemes will be designed to promote reduction of waste at the source, as well as make recycling, treatment and disposal safer and more efficient.

Another key provision of the WMA is the imposition of a levy on each tonne of waste to landfill, to be paid by landfill operators. The levy is used to fund waste minimisation projects. Some of it is distributed directly to councils, and the remainder goes into a contestable Waste Minimisation Fund. Increases in waste levy costs kicked in from 1 July 2021 (prior to that they were \$10 per tonne of municipal solid waste) and are set to increase further over the next few years, as shown below.

Timeline	1 July 2021	1 July 2022	1 July 2023	1 July 2024
Waste levy per tonne of municipal solid waste	\$20	\$30	\$50	\$60

Along with the changes to waste levy charges, there are new regulations that require operators of disposal facilities (i.e., this includes all classes of landfill and transfer stations) to record waste and diverted material quantities by specific measurement methods, including either by weighing or volume conversion. This has implications for the way in which Council must record waste and diverted material quantities. Council can no longer rely on using a calculation of population figures x average weight of waste generated per head of population.

D.3 Local Government Act 2002

The Local Government Act 2002 (LGA) provides the general framework and powers under which New Zealand's democratically elected and accountable local authorities operate.

The LGA contains various provisions that may apply to councils when preparing their WMMPs, including consultation and bylaw provisions. For example, Part 6 of the LGA refers to planning and decision-making requirements to promote accountability between local authorities and their communities, and a long-term focus for the decisions and activities of the local authority. This part includes requirements for information to be included in the long-term plan (LTP), including summary information about the WMMP.

More information on the LGA can be found at: [Local Government Policy - dia.govt.nz](https://www.dia.govt.nz/local-government-policy)

D.4 Resource Management Act 1991

The Resource Management Act 1991 (RMA) promotes sustainable management of natural and physical resources. Although it does not specifically define 'waste', the RMA addresses waste management and minimisation activity through controls on the environmental effects of waste management and minimisation activities and facilities through national, regional and local policy, standards, plans and consent procedures. In this role, the RMA exercises



considerable influence over facilities for waste disposal and recycling, recovery, treatment and others in terms of the potential impacts of these facilities on the environment.

Under section 30 of the RMA, regional councils are responsible for controlling the discharge of contaminants into or on to land, air or water. These responsibilities are addressed through regional planning and discharge consent requirements. Other regional council responsibilities that may be relevant to waste and recoverable materials facilities include:

- managing the adverse effects of storing, using, disposing of and transporting hazardous wastes
- the dumping of wastes from ships, aircraft and offshore installations into the coastal marine area
- the allocation and use of water.

Under section 31 of the RMA, council responsibility includes 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 involved in the disposal, treatment or use of waste or recoverable materials may carry this potential. Permitted, controlled, discretionary, noncomplying and prohibited activities, and their controls, are specified in district planning documents, thereby defining further land-use-related resource consent requirements for waste-related facilities.

In addition, the RMA provides for the development of national policy statements and for the setting of national environmental standards (NES). There is currently one enacted NES that directly influences the management of waste in New Zealand – the Resource Management (National Environmental Standards for Air Quality) Regulations 2004. This NES requires certain landfills (e.g., those with a capacity of more than 1 million tonnes of waste) to collect landfill gases and either flare them or use them as fuel for generating electricity.

Unless exemption criteria are met, the NES for Air Quality also prohibits the lighting of fires and burning of wastes at landfills, the burning of tyres, bitumen burning for road maintenance, burning coated wire or oil, and operating high-temperature hazardous waste incinerators. These prohibitions aim to protect air quality.

D.5 New Zealand Emissions Trading Scheme

The Climate Change Response Act 2002 and associated regulations is the Government's principal response to manage climate change. A key mechanism for this is the New Zealand Emissions Trading Scheme (NZ ETS) The NZ ETS puts a price on greenhouse gas emissions, providing an incentive for people to reduce emissions and plant forests to absorb carbon dioxide.

Certain sectors are required to acquire and surrender emission units to account for their direct greenhouse gas emissions or the emissions associated with their products. Landfills that are subject to the waste disposal levy are required to surrender emission units to cover methane emissions generated from landfill. These disposal facilities are required to report the tonnages landfilled annually to calculate emissions.

According to the Climate Change (General Exemptions) Order 2009, ETS obligations do not apply to landfills that:

- dispose of less than 1,000 tonnes of waste per year and are located at least 150 km away from the nearest modern landfill by land; or
- dispose of less than 500 tonnes of waste per year and are located at least 75 km away from the nearest modern landfill by land; or
- are located at least 25 km away from the mainland for offshore islands

It is most likely that landfills within the Chatham Islands will meet the requirements for exemption.

More information is available at:

<https://environment.govt.nz/what-government-is-doing/areas-of-work/climate-change/about-new-zealands-climate-change-programme/>

D.6 Litter Act 1979

Under the Litter Act 1979 it is an offence for any person to deposit litter of any kind in a public place, or onto private land without the approval of the owner.

The Litter Act is enforced by territorial authorities, who have the responsibility to monitor litter dumping, act on complaints, and deal with those responsible for litter dumping. Councils reserve the right to prosecute offenders via fines and infringement notices administered by a litter control warden or officer. The maximum fines for littering are \$5,000 for a person and \$20,000 for a corporation.

Council powers under the Litter Act could be used to address illegal dumping issues that may be included in the scope of a council's waste management and minimisation plan.



D.7 Health Act 1956

The Health Act 1956 places obligations on councils (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, section 25). The Act specifically identifies certain waste management practices as nuisances (section 29) and offensive trades (Third Schedule). The Health Act enables councils to raise loans for certain sanitary works and/or to receive government grants and subsidies, where available.

Health Act provisions to remove refuse by local authorities have been repealed.

D.8 Other legislation

Other legislation that relates to waste management and/or reduction of harm, or improved resource efficiency from waste products includes:

- Hazardous Substances and New Organisms Act 1996
- Biosecurity Act 1993
- Radiation Protection Act 1965
- Ozone Layer Protection Act 1996
- Health and Safety in Employment Act 1992 (soon to be replaced by the outcome of the Health and Safety Reform Bill)
- Agricultural Chemicals and Veterinary Medicines Act 1997.

For full text copies of the legislation listed above see: <https://www.legislation.govt.nz/>

D.9 International commitments

New Zealand is party to international agreements that have an influence on the requirements of our domestic legislation for waste minimisation and disposal. Some key agreements are the:

- Montreal Protocol
- Basel Convention
- Stockholm Convention
- Waigani Convention
- Minamata Convention.

More information on these international agreements can be found on the Ministry's website at <https://environment.govt.nz/what-government-is-doing/international-action/other-multilateral-environmental-agreements/>

Appendix E Waste Hierarchy

The Government's definition of the waste hierarchy is as follows:

Reduction:

- Lessening waste generation, including by using products more efficiently or by redesigning products; and
- In relation to a product, lessening waste generation in relation to that product

Reuse:

- The further use of waste or diverted materials in its existing form for the original purpose of the materials or products that constitute the waste or diverted material, or for a similar purpose

Recycling:

- The reprocessing of waste or diverted material to produce new materials

Recovery:

- Extraction of materials or energy from waste or diverted materials for further use or processing; and
- Includes making waste or diverted materials into compost

Treatment:

- Means subjecting waste to any physical, biological, or chemical process to change its volume or character so that it may be disposed of with no or reduced adverse effects on the environment; but
- Does not include dilution of waste

Disposal: (summarised definition)

- Final deposit of waste into or onto land, or incineration

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