Protecting the Environment

Wastewater

Wastewater

Council aims to ensure that wastewater treatment and disposal systems are sustainable and continue to meet environmental and health and safety standards. We will continue to encourage households to explore and implement measures that reduce wastewater volume per person.

What we provide

- **Maketu: 37.8**km of pipes and **525** household pumps and **two** booster pumps.
- **Omokoroa**: **81**km of pipes and **16** pump stations.
- **Te Puke: 74.2**km of pipes and **eight** pump stations.
- **Katikati: 76.2**km of pipes and **15** pump stations.
- **Waihi Beach: 81.4**km of pipes and **24** pump stations.
- **Te Puna: 126** household pumps.
- **Ongare Point: 4.1**km of pipes and **56** household pumps.

Why we provide this activity

Our community outcome

Wastewater services are well planned and maintained to ensure a clean and healthy environment.

- All areas in our District served by Council's reticulated wastewater disposal systems meet acceptable health, safety and environmental standards.
- Assist small urban communities along the Tauranga Harbour to ensure that the wastewater disposal options available to them meet health and safety requirements.

Wastewater

Overview

Increasing demand for wastewater services is driven by population growth, environmental degradation and public health issues. Waihi Beach experiences additional seasonal demand driven by holidaymakers. Developers pay financial contributions (subdivision fees) which are used to repay the costs of building future capacity into our District's wastewater schemes.

There is no need to increase the number of wastewater treatment plants in our District, however we will be continually upgrading the capacity of the existing plants to cope with future growth and also recognising the increased requirements of the quality of discharge to be met under the National Policy Statement (NPS).

We have five wastewater treatment plants at Katikati, Maketu/Little Waihi, Te Puke,Waihi Beach and Ongare Point and one wastewater treatment scheme in Omokoroa and one in Te Puna West. There are increased pressures on smaller communities to look at alternative treatment and disposal options, especially with regard to Regional Council's new discharge requirements.

Urban Centres

- Katikati
- Maketu/Little Waihi
- Omokoroa
- Te Puke
- Waihi Beach.

By calculating residential flows we are able to measure the capacity of our existing treatment plants. The following method is used for this purpose:

- Population based on an average of 2.7 people per house or dwelling.
- Average dry weather flow of 220 litres per person per day in area water supply.

We are near to or at capacity for the Te Puke treatment plant which we are planning to upgrade by 2025. Katikati and Waihi Beach are also nearing capacity and will require upgrades in the next 10 years.

There are a number of households in each wastewater scheme that can be connected but have currently chosen not to. We have a programme to actively encourage these households to connect for public health reasons.

Levels of service relating to the quality and quantity of discharges from treatment plants are prescribed by legislation and resource consent conditions. All our treatment plants comply with these service levels and no changes are anticipated in the short to medium term, subject to the renewal of resource consents. There are no significant variations between the assessment of water and sanitary services and this wastewater activity.

Omokoroa

The Omokoroa Peninsula is currently serviced with a reticulated network that discharges to a common storage chamber/pump station north of the railway line. The pump station is designed to cater for a population of 12,000 people. The collected wastewater is discharged via a 16km pipeline to Tauranga City Council wastewater network in Bethlehem. As development takes place in Omokoroa, new reticulated infrastructure will feed into this existing pump station.

Te Puke

Te Puke wastewater treatment plant is nearing capacity and is required to meet more stringent treatment parameters by 2025 as set by the recently renewed resource consent. Upgrade options are currently being considered.

Katikati

Katikati currently discharges its wastewater via an ocean outfall off Matakana Island. As part of its resource consent renewal Council will be looking at alternative discharge options over 3 - 5 years. This will need to be implemented by 2038 when the resource consent expires.

Septic tank effluent pump station

The success of the pressurised scheme in Maketu/Little Waihi, using a grinder pump system to connect individual households to the treatment plant, resulted in a similar scheme being built in Te Puna West in 2017.

A new wastewater scheme was constructed for Ongare Point in 2018. This is a Septic Tank Effluent Pump System. It includes onsite holding tanks for the primary treatment of solids on each property, which will be owned and maintained by Council. The scheme allows for a smaller scale, more affordable treatment system and can be expanded through a series of modular upgrades to add capacity to connect the infill growth expected over the next 25 years.

Small coastal communities

For areas of our District where a reticulated wastewater scheme is unavailable, wastewater must be managed onsite. The Bay of Plenty Regional Council is responsible for the consenting and management of onsite schemes.

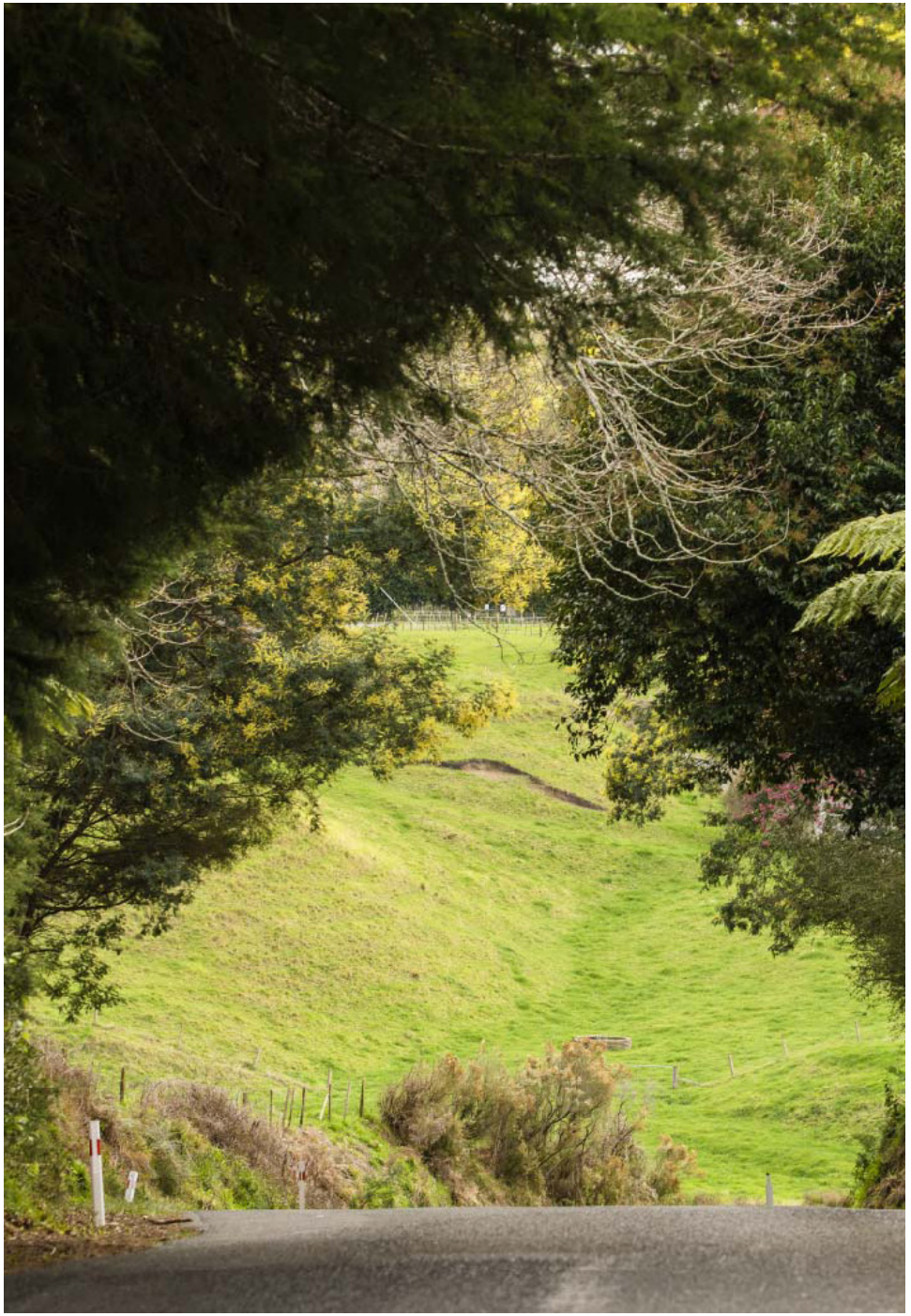
We will continue to work with the Regional Council and our small coastal communities to investigate options for sustainable onsite wastewater treatment.

Our investigations have indicated that the communities at Kauri Point, Plummers Point and Tuapiro Point are compatible with the Regional Council's operative Onsite Effluent Treatment Plan (OSET), as individual properties are large enough to provide sufficient area for effective landbased treatment. At Tanners Point properties are within a maintenance zone in the OSET plan. This means properties within the zone are required to undertake more frequent maintenance on their tanks and provide feedback to the Regional Council. No further Council expenditure has been allocated for these coastal communities in this Long Term Plan. However, should Regional rules change, Council may be required to investigate options further with these communities.

Rural communities

For rural areas of our District where reticulated schemes are unavailable, the Bay of Plenty Regional Council is responsible for the consenting and management of onsite wastewater schemes.

The Three Waters Review, may result in significant structural changes to Council's role in the delivery of water supply, wastewater and stormwater services. Regardless of how it is delivered, the community will still need services to be provided and planned for. There is currently insufficient detail regarding the possible changes to services, therefore it is prudent to plan on a business as usual approach to service delivery.



How we will achieve our community outcomes

Goal	Our approach
All areas in our District served by Council's reticulated wastewater disposal systems meet acceptable health, safety and environmental standards.	• Ensure sludge disposal meets environmental and health standards by investigating new technology to reduce sludge, alternative uses and options for sludge disposal • Ensure that the disposal of treated effluent meets environmental and health standards and is affordable.
Assist small urban communities along the Tauranga Harbour to ensure that the wastewater disposal options available to them meet health and safety requirements.	• In consultation with ratepayers advocate to the Bay of Plenty Regional Council to ensure that wastewater disposal systems, other than Council-owned systems, meet acceptable health, safety and environmental standards.

What are we planning to do

All information from 2023 - 2031 includes an adjustment for inflation.

Project number	Project name	$'000									
		2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
168603	Waihi Beach Wastewater Treatment	100	130	188	129	68	245	59	126	136	143
168604	Waihi Beach Wastewater Treatment Plant Fixed Generator	-	-	-	-	-	-	-	371	-	-
168605	Waihi Beach Wastewater Treatment Plant Mechanical Separator for Wetlands	-	-	-	-	-	818	-	-	-	-
220102	Te Puke Wastewater Treatment Plant Improvements	107	-	267	-	-	-	-	-	-	-
225615	Wastewater - Te Puke Wastewater Pump Station	100	31	68	89	140	121	213	95	211	192
225619	Wastewater - Te Puke Treatment Plant Upgrade	57	398	-	-	-	-	-	-	-	-
225632	Te Puke Wastewater Treatment Plant Upgrade	900	4,649	4,806	-	-	-	1,082	5,562	5,711	-
225634	Wastewater - Te Puke to Rangiuru Business Park	200	-	-	-	-	-	-	-	-	-
225635	Rangiuru Business Park Share of the Contribution Towards the Cost of the Treatment Plant Upgrade	-	1,033	1,068	-	-	-	2,043	10,506	10,787	-
225723	Wastewater - Katikati Pump Station	70	175	165	137	143	78	151	193	329	282
225724	Wastewater - Katikati Treatment Plant Emergency Storage	30	695	175	35	137	53	18	15	146	42
225743	Wastewater - Katikati Infrastructure Improvements	-	10	-	11	19	20	20	21	22	22
225744	Katikati Wastewater Treatment Plant Upgrades	300	155	214	220	228	2,044	2,104	-	-	-

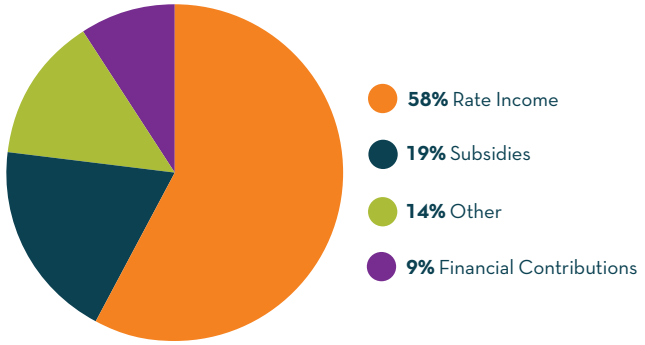
Project number	Project name	$'000									
		2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
225745	Wastewater - Katikati Treatment Plant Fixed Generator	-	-	-	-	285	-	-	-	-	-
225746	Wastewater - Katikati Grit/Stone Interceptor Chamber Prior to Wills Road Pump Station	35	-	374	-	-	-	-	-	-	-
226001	Wastewater - Waihi Beach Treatment Pump Station Renewal	130	230	236	215	244	341	412	338	357	461
226025	Waihi Beach Treatment Plant Upgrade	114	238	305	1,322	341	-	-	-	-	-
226031	Waihi Beach Wastewater Treatment Plant Screw Press	-	52	587	-	-	-	-	-	-	-
226032	Wastewater - Waihi Beach Network Infrastructure renewals/Rehab	-	-	-	-	-	-	-	-	57	59
229815	Wastewater - Omokoroa Pumpstation Renewals	71	62	96	126	83	113	36	85	19	39
295703	Wastewater - Te Puke Structure Plan	221	10	182	175	-	-	-	-	-	-
295803	Wastewater - Maketu Treatment Plant Renewals	30	21	-	-	11	-	-	-	13	-
295804	Wastewater - Maketu Fixed Generator	-	-	-	110	-	-	-	-	-	-
310902	Wastewater - Waihi Beach Asset Validation	55	31	59	11	11	12	12	12	13	13
311002	Wastewater - Katikati Asset Validation	7	7	7	8	13	13	14	14	14	15
311102	Wastewater - Te Puke Asset Validation	10	10	11	11	11	12	12	12	13	13
316701	Katikati Structure Plan Utilities Wastewater	-	88	107	827	-	-	-	-	38	102
317001	Waihi Beach Structure Plan Utilities Wastewater	121	521	-	-	-	-	-	-	-	-
317301	Omokoroa Structure Plan - Wastewater	3,475	5,042	-	-	-	-	-	371	2,386	1,363
319502	Waihi Beach Infiltration Investigation and Remedial Work	50	72	96	-	-	-	-	-	-	-
319803	Wastewater - Te Puna Scheme Renewals	-	-	-	17	-	-	-	-	-	-
323402	Katikati Infiltration Investigation	50	52	53	55	57	58	60	-	63	-
323502	Omokoroa Infiltration Investigation	40	31	-	-	-	-	-	-	-	-
323602	Wastewater - Te Puke Infiltration Investigations	50	-	-	-	-	35	36	-	-	-
323603	Wastewater - Te Puke Infiltration Rehabilitation	50	-	-	-	-	-	120	-	-	-
335006	Wastewater - Maketu Asset Assessment	-	-	-	-	-	-	-	6	6	7
336301	Waihi Beach Wastewater Treatment Plant M-QMRA Review	-	-	-	48	-	-	-	-	-	-
336601	Wastewater - Omokoroa Manhole Repair	-	-	-	-	-	117	120	124	-	-

Project number	Project name	$'000									
		2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
338601	Wastewater - Omokoroa Asset Validation	10	10	11	11	11	12	12	12	13	13
340501	Wastewater - District Wide Reticulation Modelling	50	10	11	11	11	-	-	-	-	-
342101	Katikati Wastewater Network Upgrades	-	-	-	-	-	-	-	1,691	391	593
343901	Wastewater - Omokoroa Reduce Infiltration	70	46	16	55	57	-	18	19	127	-
344001	Te Puke Wastewater Treatment Plant Rock Filter	-	155	-	-	-	-	-	-	-	-
344101	Te Puke Wastewater Treatment Plant - Wetlands Decommissioning	-	155	-	-	-	-	-	-	-	-
344301	Maketu Wastewater Pump Station Renewals	-	-	-	-	60	128	36	-	127	312
348702	Wastewater SCADA	50	-	53	-	57	-	12	-	13	-
353101	Wastewater - Waihi Beach Wastewater Treatment Plant Renewal of Resource Consent	-	-	107	110	-	-	-	-	-	-
353201	Wastewater - Waihi Beach SAS Lagoon Repairs	-	826	-	-	-	-	-	-	-	-
353501	Wastewater - Te Puke Infrastructure Rehabilitation	-	-	-	55	131	82	-	-	-	-
353502	Wastewater - Te Puke Network Upgrades	25	227	977	-	-	-	120	1,360	70	520
353601	Wastewater - Ongare Wastewater Scheme Renewals	-	-	-	17	-	-	-	-	-	-
358801	Wastewater - Te Puna Village Wastewater Scheme	3,900	-	-	-	-	-	-	-	-	-

Where the money comes from

Please refer to 'Policies, Summaries & Statements' for the Revenue and Financing Policy for wastewater.

Funding sources for 2021-22



How we will track progress

What we do	How we track progress	Actual 2020	Target 2022	2023	2024	2025-27	2028-31
All areas in our District served by Council's reticulated wastewater disposal systems meet acceptable health, safety and environmental standards.	**Key Performance Measure** Percentage compliance with resource consents for each wastewater scheme:						
	• Katikati	91%	≥90%	≥90%	≥90%	≥93%	≥95%
	• Maketu/Little Waihi	96%	≥94%	≥96%	≥96%	≥98%	≥99%
	• Te Puke	91%	≥90%	≥90%	≥90%	≥93%	≥95%
	• Waihi Beach	92%	≥97%	≥97%	≥97%	≥97%	≥98%
	• Ongare Point.	98%	≥95%	≥95%	≥95%	≥95%	≥95%
	Key Resident Measure Level of resident satisfaction with Council's reticulated wastewater disposal system.	93%	≥90%	≥90%	≥90%	≥95%	≥95%
Maintain wastewater systems and have capacity to meet demand. Provide wastewater services that meet customer needs.	The number of dry weather sewage overflows from Council's sewerage system, expressed per 1000 sewerage connections to that sewerage system. *Note: only applies when 1mm of rain has fallen in a 24 hour period.*	2.94	≤2	≤2	≤2	≤2	≤2
	Compliance with resource consents for discharge from the sewerage system measured by the number of:						
	• abatement notices	0	0	0	0	0	0
	• infringement notices	0	0	0	0	0	0
	• enforcement orders	0	0	0	0	0	0
	• convictions	0	0	0	0	0	0
	received by Council in relation to those resource consents.						
Provide wastewater services that meet customer needs.	Where Council attends to sewage overflows resulting from a blockage or other fault in the Councils sewerage system, the following median response times measured:						
	Attendance time: From the time Council receives notification to the time that service personnel reach the site.	1.10 hours	≤1.5 hrs	≤1.5 hrs	≤1.5 hrs	≤1.5 hrs	≤1.5 hrs
	Resolution time: From the time Council receives notification to the time that service personnel confirm resolution of the blockage or other fault.	6.75 hours	≤8 hrs	≤8 hrs	≤8 hrs	≤8 hrs	≤8 hrs

What we do	How we track progress	Actual 2020	Target 2022	Target 2023	Target 2024	Target 2025-27	Target 2028-31
Provide wastewater services that meet customer needs.	The total number of complaints received by Council about any of the following: • sewage odour • sewerage system faults • sewerage system blockages • Council's response to issues with sewerage system. Expressed per 1000 connections to the Council's sewerage system.	12	≤40	≤40	≤40	≤40	≤40

Wastewater connections

30 June 2020				
System	Number of connections	Properties paying availability, but not connected (includes vacant sections)	Total properties eligible to connect	Total capacity (population equivalents)
Katikati wastewater	1,977	200	2,404	6,000
Maketu/Little Waihi wastewater stage 1	470	109	567	3,000
Omokoroa wastewater	1,482	341	1,971	12,000
Te Puke wastewater	2,862	121	2,870	9,000
Waihi Beach wastewater	2,602	147	2,893	21,000
Total	**9,393**	**918**	**10,705**	**51,000**

Key assumptions

Assumption	Description	Risks
Domestic wastewater flows	Average dry weather flow (ADWF) or average domestic daily wastewater flow of 220 litres per person per day. Number of people per dwelling = 2.7. For accommodation facilities such as campgrounds and motels, different factors are applied. For holiday areas like Waihi Beach and Maketu/Little Waihi, the wastewater schemes have been designed for peak holiday resident populations.	Higher than predicted wastewater flows resulting in under-capacity systems and/ or advanced expenditure for upgrades of reticulation and treatment assets. Lower than predicted wastewater flows would mean the assets would be under-utilised.
Industrial and commercial wastewater flow	• Light flow 0.4 litres per second per hectare. • Medium flow 0.7 litres per second per hectare. • Heavy flow 1.3 litres per second per hectare. Flow assumptions are generally greater than currently experienced by Western Bay of Plenty District industries. Flow data may be distorted by high water-use industries.	Higher than predicted wastewater flows would result in under-capacity systems and/or advanced expenditure for upgrades of reticulation and treatment assets. Lower than predicted flows would result in under-utilised assets.
Wastewater assets economic life	Economic life of assets: • Polyvinyl chloride (PVC), polyethylene (PE) plastic components: 80 years • Pumps: 15 years • Electrical: 15 years • Concrete Structures: 60 years. Concrete structures are given a lower life in wastewater environments based on experience and condition rating.	Asset renewals are required earlier than programmed, requiring funding earlier than budgeted. Alternatively asset renewals can be deferred due to longer than expected life resulting in savings.
Wastewater asset valuations	Asset valuations have been calculated from unit rates using data from the Rawlinsons Publication and comparing it with previous actual data. A 20% allowance is made for design and consenting. Unit rates have adequate allowance for construction variations.	If the unit rates used budget allocations for renewals would be incorrect. This may require greater funding.
Wastewater emergency storage at pump stations	Capacity for nine hours emergency storage at pump stations	If storage capacity is insufficient, overflows would occur, with consequential environmental damage. Prosecution may follow.

Significant effects of providing this activity

Wellbeing	Positive	Negative	How are we addressing these effects
 **Social**	• Wastewater treatment schemes provide a safe disposal method for urban areas where smaller section sizes are unsuitable for onsite treatment. • Wastewater treatment schemes decrease the risk of infection in the urban environment as there is no requirement for septic tanks.	• The costs of providing, operating and maintaining the schemes is high due to energy requirements. • Unless properly maintained there can be problems with foul odour. • Creates an ongoing need for the disposal of sewage sludge.	• We will continue to encourage households to reduce the amount of wastewater they produce, for example through re-use of grey water for garden irrigation. • We will continue to investigate alternatives for the sustainable disposal of sewage sludge.
 **Cultural**	• Respects cultural sensitivity around receiving environments. • Receiving environments are improved.	• Receiving waters may be adversely affected if wastewater is not properly treated and, where overflows occur, could adversely affect health through consumption of contaminated shellfish and other kaimoana.	• Council has opted for a land-based disposal approach with the Maketu/Little Waihi wastewater scheme.
 **Environmental**	• Having wastewater treatment plants reduces the amount of untreated effluent entering the environment.	• Ecosystems in the receiving environments may be adversely affected by spills or overflows of untreated sewage; smell and noises from the wastewater treatment plants and pumping stations may create nuisance or impact public health and the operation and maintenance of our assets. • The operation and maintenance of our assets include the production of greenhouse gases through energy use, wastewater treatment processes and biosolids.	• We continue to monitor treated effluent to ensure it meets the conditions of resource consents. • Wetlands are used for effluent treatment to promote their retention and development as they are a rare ecosystem in the region. • Environmental damage during the construction of new works is mitigated through resource consent conditions.
 **Economic**	• Allows for better use of the available developable land. • Provides infrastructure to enable business development in the community. • A wastewater system that is working well and meeting its levels of service, will increase property values and ensure our towns are good places for people to `live, work, learn and play'.	• Restricted capacity can result in constraints on development potential and business capacity. • The cost of the investment in infrastructure. • Significant costs and time to implement system upgrades and overflow reduction improvement.	• We will continue to monitor our wastewater systems to ensure they are working well and meeting levels of service.