

Wastewater



What we do

The operation and maintenance of wastewater networks, including treatment and disposal, for Gisborne city (including the western industrial area) and Te Karaka. The operation and maintenance of septage disposal sites at Te Araroa, Tikitiki, Ruatoria (Waiapu) and Te Puia.

Overview of Wastewater Networks

Factor	Gisborne City	Te Karaka	Total
Population served by the wastewater activity	31,660	570	32,230
Number of connections (approx)	14,750	168	
Approximate discharge volumes (average per day) m ³ /day (including industrial system)	13,000	140	13,140
Treatment method	Biological Trickling Filter Plant	Oxidation Ponds	
Discharge	Poverty Bay via marine outfall	Waipaoa River	

Within Gisborne city certain industries are served by a separate industrial wastewater network. This network discharges to the wastewater treatment plant and eventually the marine outfall, but the industrial wastewater does not go through the biological trickling filter.

Council regulates trade waste discharges to the Gisborne city wastewater systems (domestic and industrial) by means of the Trade Waste Bylaw and monitoring.

Non-Reticulated Areas

The remainder of communities in the Gisborne district are served by non-Council administered private septic tank systems. The wastewater activity does not include the administration and monitoring of the on-site wastewater systems.

Council has facilities for the disposal of septage from private septic tank systems as detailed below:

Septage Disposal Location	Community Served
Te Karaka Oxidation Pond	Matawai, Whatatutu,
Gisborne Wastewater Treatment Plant	Muriwai, Manutuke, Patutahi, Makaraka, Wainui / Okitu, Makorori, Tolaga Bay
Te Puia Septage Site	Tokomaru Bay, Te Puia Springs, Waipiro Bay
Waiapu Landfill Septage Site	Ruatoria
Tikitiki Septage Site	Tikitiki
Te Araroa Septage Site	Te Araroa, Hicks Bay

	Units	Gisborne		Te Karaka		Total	
		Qty	RC (\$)	Qty	RC	Qty	RC
Mains	km	223	\$80,524,430	6	\$1,632,530	229	\$82,156,960
Manholes	No.	2806	\$11,294,260	61	\$260,320	2867	\$11,554,580
Laterals	km	90	\$19,189,190	0.7	(with mains)	91	\$20,618,883
Pump Stations (including holding tanks)	No.	40	\$14,240,487	5	\$184,350	45	\$15,181,827
Treatment Plants	No.	1	\$27,489,737	1	\$388,770	2	\$27,878,507
Sub Total			\$152,738,104		\$2,465,970		
Total							\$155,207,074

Why we do it

The Wastewater activity protects public health by providing Gisborne city and Te Karaka with a reliable and efficient wastewater system. This activity conveys, treats and discharges wastewater in a manner that minimises adverse effects on the environment.

This activity contributes to the following Community Outcomes

- **Tairāwhiti Taonga**

Where are we now

- The activity is being delivered using in-house resources managing a number of external resources – Fulton Hogan for operation and maintenance and Opus for engineering consultancy services.
- Inflow and infiltration of stormwater into the wastewater network during wet weather events results in overflows to private property and discharges to waterways in Gisborne city.
- Planning and investigation for additional treatment steps for the Gisborne city wastewater treatment plant is commencing.
- A system for prioritisation of renewals and upgrades is in place for pipes and is being developed for pump stations.
- Condition assessment for all assets is being carried out for planning along with an intervention strategy.
- The renewal of pump stations and pipelines (including manholes and laterals) is progressing. However there is a backlog of pipes that have reached the end of their expected life. These are currently being prioritised and will be replaced over the next ten years.
- The operation of the oxidation pond at Te Karaka has been reviewed and improvements have been proposed.
- The septage sites have been reviewed and recommendations have been made to improve treatment and rationalise the number of locations and also reduce any environmental risks.

Challenges and Opportunities

Future challenges and opportunities facing the activity:

- **Reducing wastewater overflows and discharges:** The Wastewater Discharges Reduction Project has been developed to bring together a number of elements, including the stormwater activity, to address stormwater inflow and infiltration to wastewater, and the resulting overflows to private property and discharges to the waterways in Gisborne city.
- **Freshwater Plan:** This is currently in development and will be publicly notified in 2015. This is likely to include the requirement for consents for wastewater discharges to waterways, putting more emphasis on the above.
- **Gisborne City wastewater ocean outfall consents:** These require ongoing review of the wastewater treatment process and review of alternative effluent use for Gisborne city.
- **Demographics:** The demographics for Tairāwhiti identifies a static and ageing population. The historic trend of the rural townships is an incremental declining population. An ageing population will likely mean fixed and less discretionary incomes hence affordability issues will become more prevalent.
- **Land use:** Industrial development is being encouraged to occur to the western area of Gisborne city. This will result in increased demand for wastewater reticulation in this area. This particularly applies if an industry with a significant industrial discharge establishes in this area as the separate industrial system is quite geographically specific.
- **Households:** The number of households in the Gisborne district is projected to increase by 2,400 households or 14% between 2006 and 2031. Greenfields development could result in the extension of the reticulation that are currently not planned for (urban creep).
- **Climate change:** In particular sea level rise which will have significant implications on coastal communities. Council's approach with regard to the asset management of existing and future infrastructure located in these areas needs to be clarified.

What are our plans for the next ten years?

What have we been doing?	What will we do in years 1-10?
<ul style="list-style-type: none"> • Undertook condition assessments of assets, including gravity pipes by CCTV and rising mains by taking pipe samples. • Developed a renewals programme based on criticality analysis and condition assessments of assets that will be the basis for all future renewals. • Renewal of wastewater pipelines within Gisborne city as determined by renewals programme. • Started the planning phase for pipeline upgrades to reduce wastewater discharges to waterways. • Upgraded pump stations in Gisborne and Te Karaka. 	<p>Years 1-3</p> <ul style="list-style-type: none"> • Investigate, design and implement works to reduce wastewater discharges into waterways. • Renewal of selected wastewater pipelines within Gisborne city as determined by renewals programme. • Undertake renewal of Gisborne pump stations. Specific stations as determined by renewals programme. • Progress improvements to Te Karaka oxidation ponds. • Upgrades of wastewater infrastructure to reduce discharges including Kaihi and Mangapapa upgrades. • Continue to investigate alternative use and disposal options for the city's wastewater once it has been treated at the wastewater treatment plant. • Progress improvements to Te Araroa, Waiapu and Tolaga Bay septage sites subject to community consultation and resource consents. • Install permanent flow monitoring equipment in the Gisborne wastewater network to better manage the system. <p>Years 4-10</p> <ul style="list-style-type: none"> • Continue to implement works to reduce wastewater discharges into waterways. • Continued renewal of selected wastewater pipelines within Gisborne city. • Continued upgrade of Gisborne city wastewater infrastructure and pump stations to reduce discharges. • New pipeline in Wainui Road for Sponge Bay subdivision future capacity. • New infrastructure in the Taruheru Block to allow for future development. • Complete improvements to Te Araroa, Waiapu and Tolaga Bay septage sites subject to community consultation and resource consents. • Alterations and/or additions to the wastewater treatment process in accordance with the findings from studies by Council and the Wastewater Technical Advisory Group.
<p>We will achieve these plans by:</p> <p>Effective activity management planning and reporting, developing a professional framework for staff and a communications plan for the activity.</p>	

Levels of Service and Performance Measures

Level of Service	Performance measure	Results 2013/14	Target Years 1-3	Target Years 4-10
We provide a well managed wastewater reticulation and treatment system which protects public health and the physical environment.	Council will have adequate information by December 2016 to make decisions on any future wastewater treatment options.	New Mandatory Measure	Achieve	Achieve
	Customer Satisfaction - The total number of complaints received by the territorial authority about any of the following: a) sewage odour b) sewerage system faults c) sewerage system blockages, and d) the territorial authority's response to issues with its sewerage system, expressed per 1000 connections to the territorial authority's sewerage system.	New Mandatory Measure	15	13

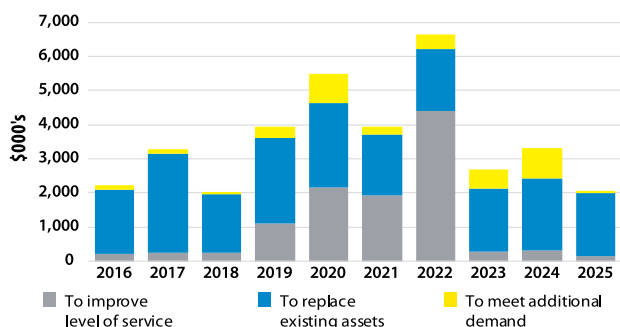
	Discharge Compliance - Compliance with the territorial authority's resource consents for discharge from its sewerage system measured by the number of: a) abatement notices b) infringement notices c) enforcement orders, and d) convictions received by the territorial authority in relation those resource consents.	New Mandatory Measure	0	0
	Fault Response Times - Where the territorial authority attends to sewerage overflows resulting from a blockage or other fault in the territorial authority's sewerage system, the following median response times measured: a) attendance time: from the time that the territorial authority receives notification to the time that service personnel reach the site, and b) resolution time: from the time that the territorial authority receives notification to the time that service personnel confirm resolution of the blockage or other fault.	New Mandatory Measure	a) 14 hours b) 2 days	a) 14 hours b) 2days
	Percentage of residents satisfied with the Gisborne district's sewerage system as found in Annual Resident Satisfaction Survey.	45%	50%	65%
	System and Adequacy - The number of dry weather sewerage overflows from the territorial authority's sewerage system, expressed per 1000 sewerage connections to that sewerage system.	New Mandatory Measure	1	0.6
	The annual number of events where sewerage is discharged from Council's reticulation into rivers or streams (less than a 1 in 10 year event).	4	4	3

Forecast Activity Cost Statement

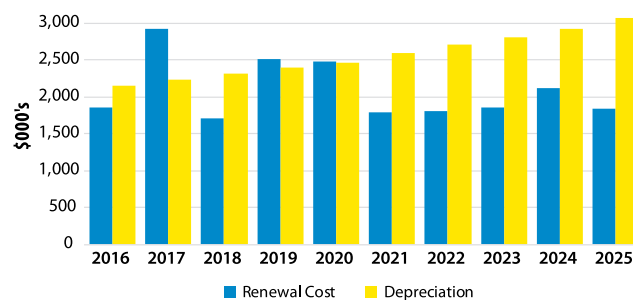
OPERATING REVENUE AND EXPENDITURE (\$000)	Budget 2015/16	Budget 2016/17	Budget 2017/18	Budget 2018/19	Budget 2019/20	Budget 2020/21	Budget 2021/22	Budget 2022/23	Budget 2023/24	Budget 2024/25
Operating Non Exchange Revenue	0	0	0	0	0	0	0	0	0	0
Operating Exchange Revenue	323	331	339	348	359	369	381	393	407	421
Operating Expenditure	5,771	6,021	6,247	6,330	6,502	6,995	7,298	7,639	7,927	7,973
Net Cost of Service	5,449	5,690	5,908	5,982	6,143	6,625	6,917	7,245	7,520	7,551

CAPITAL EXPENDITURE (\$000)	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
- to meet additional demand	131	113	80	335	855	216	433	558	883	68
- to improve level of service	230	239	246	1,093	2,153	1,924	4,401	292	304	158
- to replace existing assets	1,859	2,926	1,703	2,513	2,474	1,792	1,803	1,846	2,114	1,843
Capital Projects	2,221	3,278	2,029	3,940	5,483	3,932	6,638	2,695	3,300	2,069

Total Capital Projects



Depreciation v renewal capital assets



Capital Expenditure 2015-2025

Description	LOS	Total Cost	2015/16 \$000s	2016/17 \$000s	2017/18 \$000s	2018/19 \$000s	2019/20 \$000s	2020/21 \$000s	2021/22 \$000s	2022/23 \$000s	2023/24 \$000s	2024/25 \$000s
Sewer Renewals and Upgrades	GROWTH MAINTAIN	17,687	1,566	2,530	1,281	2,032	2,033	1,534	1,536	1,598	2,038	1,539
Wastewater Treatment Plant	GROWTH INCREASE MAINTAIN	12,080	330	260	267	1,188	2,341	2,091	4,784	317	330	172
Pump Stations, Equipment and Flow Logger	MAINTAIN	3,246	325	335	347	287	296	307	318	330	343	358
Tareheru Block Upgrades	GROWTH MAINTAIN	1,890	0	0	0	80	771	0	0	450	589	0
Rural Septage Management	MAINTAIN	681	0	153	134	353	41	0	0	0	0	0
Totals		35,584	2,221	3,278	2,029	3,940	5,482	3,932	6,638	2,695	3,300	2,069