

Sewerage Collection, Treatment and Disposal

“I try not to put bleach down the toilets. I grew up in Bromley and I was always aware of the ponds and that we had one treatment plant and we need to look after it. I try not to put fat down the drain too, so as not to block up the lines. You try to be a good citizen don't you?”



Leanne Reid
New Brighton



What activities are included in sewerage collection, treatment and disposal?

Wastewater collection

- Collecting wastewater from properties within the reticulated area, by maintaining and operating a network of underground pipes, vacuum and pumping stations, that conveys wastewater to the wastewater treatment plants.

Wastewater treatment and disposal

- Operate and maintain treatment plants, discharge structures/outfalls and biosolids reuse/disposal.
- Provide laboratory services as an integral part of monitoring and controlling treatment processes.

Why is the Council involved in sewerage collection, treatment and disposal?

- To protect public health and meet environmental standards.
- To provide for the treatment and disposal of wastewater from properties. Required under Resource Management Act and Health Act.

How does sewerage collection, treatment and disposal contribute to our community outcomes?

Injuries and risks to public health are minimised

- Collecting wastewater from reticulated areas by maintaining a public network of underground pipes and pumping stations enables wastewater to be conveyed to the wastewater treatment plants, safeguarding public health.

- Ongoing monitoring ensures continuity of public wastewater collection and minimises odour complaints associated with the wastewater reticulation system.
- By providing well-maintained treatment plants and disposal services, the Council ensures that wastewater is disposed of efficiently, safeguards public health and minimise adverse effects on the environment.
- Laboratory services undertake monitoring and analysis of Council wastewater treatment and disposal services to measure compliance with resource consents and process requirements.
- Ongoing monitoring of wastewater treatment and disposal processes ensures that wastewater is treated to an appropriate standard before it is discharged.

Water quality in rivers, streams, lakes and wetlands is improved

- Ongoing monitoring of the wastewater collection system ensures compliance with resource consent conditions for wet weather overflows into rivers and waterways.
- Statutory obligations are met by the Council
- Providing wastewater collection services is a statutory requirement for the Council.

What changes are planned for sewerage collection, treatment and disposal?

Response times to problems in the system will improve; the number of properties affected by interruptions will be reduced, as will the number odour events giving rise to complaints.

What negative effects or risks can occur in relation to sewerage collection, treatment and disposal?

Negative Effects

Sewage overflows during wet weather.

Greater quantities of wastewater due to increasing population and business activity.

Properties affected by wastewater blowbacks due to network operations and maintenance activities

Unpleasant odours

Mitigation Options

Increase wastewater collection and transportation capacity (e.g. major sewer upgrade project).
Improved monitoring and control of the collection system.
Response times to reported blockages.

Improvements to the treatment facilities to increase the capacity and the level of treatment applied to the wastewater and the release of wastewater into the sea.

Communication to affect households of network maintenance activities.

Maintain odour control devices on the network and treatment plants.
Manage oxidation ponds.

Council Activities and Services

Sewerage Collection, Treatment and Disposal

Activity	What is the Council trying to achieve?	What services will the Council offer to make this happen?	How would we know these services were successful?	Target
Wastewater collection	Injuries and risks to public health are minimised Water quality in rivers, streams, lakes and wetlands is improved Statutory obligations are met by the Council	Collecting wastewater from properties within the reticulated area, by maintaining and operating a network of underground pipes, vacuum and pumping stations, that conveys wastewater to the wastewater treatment plants	Measure Provide wastewater collection in a safe, convenient and efficient manner	Percentage of blockages responded to within 1 hr within urban areas:
				Percentage of blockages responded to within 2 hrs within urban areas
				Percentage of blockages responded to within 2 hrs within rural areas
				Percentage of blockages responded to within 4 hrs within rural areas.
				Manage number of properties affected by wastewater blowbacks per year due to network operations and maintenance activities:
				Maintain customer satisfaction with wastewater services:
			Minimise odour complaints	Minimise odour complaints per 10,000 properties served per year.

Council Activities and Services

Sewerage Collection, Treatment and Disposal

Current Performance	Planned Performance		
	2013/14	2014/15	2015/16
Respond to a percentage of blockages within one hour within urban areas: 2009/10: 94.1% 2010/11: 82.9% 2011/12: 58.9%	At least 60%	At least 70%	At least 80%
Respond to a percentage of blockages within two hours within urban areas: 2009/10: 99.1% 2010/11: 93.9% 2011/12: 81.1%	At least 70%	At least 90%	At least 90%
Respond to a percentage of blockages within two hours within rural areas: 2009/10: 97% 2010/11: 100% 2011/12: 95%	At least 70%	At least 90%	At least 90%
Respond to a percentage of blockages within four hours within rural areas: 2009/10: 100% 2010/11: 100% 2011/12: 100%	At least 99%	Maintain	Maintain
2009/10: N/A 2010/11: 154* 2011/12: 139 *Year measurement commenced and estimated based on 3 months data	No more than 750 properties	No more than 500 properties	
2009/10: 88% 2010/11: Not surveyed 2011/12: 82%	At least 80%	At least 80%	At least 85%
2009/10: 4 2010/11: 7 2011/12: 7	No more than 25 complaints	No more than 20 complaints	No more than 15 complaints

Council Activities and Services

Sewerage Collection, Treatment and Disposal

Activity	What is the Council trying to achieve?	What services will the Council offer to make this happen?	How would we know these services were successful?	Target
Wastewater collection (continued)			Measure Maintain consent compliance for wet weather overflows	Report to Environment Canterbury the number of sewer overflows to local waterways relating to wet weather sewer overflows each year.
	Injuries and risks to public health are minimised Statutory obligations are met by the Council	Operate and maintain treatment plants, discharge structures/outfalls and biosolids reuse/disposal.	Maintain consent compliance for wastewater treatment plants	Number of major or persistent breaches of resource consent for wastewater treatment plants and associated discharges each year, as reported by ECAN
Wastewater treatment and disposal			Minimise odour complaints from wastewater treatment plants	Number of widespread and/or on-going incidences of objectionable odour per year from the Christchurch Wastewater Treatment Plant
				Meet ECAN conditions of air discharge consent

Council Activities and Services

Sewerage Collection, Treatment and Disposal

Current Performance	Planned Performance		
	2013/14	2014/15	2015/16
Wet weather overflow events into rivers and waterways per year (rolling 10 year average). Results: 2007/08: 4.0 2008/09: 5.0 2009/10: 5.3 2010/11: data collection suspended due to continuous discharges for months due to earthquake damage.	Report to Environment Canterbury the number of sewer overflows to local waterways relating to wet weather sewer overflows each year.	Maintain	Maintain
2009/10: 1 2010/11: 5 * 2011/12: 0 * Due to earthquake damage at CWTP	No major or persistent breaches of resource consent for wastewater treatment plants and associated discharges each year, as reported by ECAN	Maintain	Maintain
2009/10: 0 per 10,000 2010/11: 0.27 per 10,000* 2011/12: 0 per 10,000 *Due to earthquake damage at CWTP	Maintain no more than 0.1 odour events per 10,000 properties served per year	Maintain no more than 0.1 odour events per 10,000 properties served per year	
2010/11: Zero breaches	Meet ECAN conditions of air discharge consent	Maintain	Maintain

Council Activities and Services

Sewerage Collection, Treatment and Disposal

Annual Plan 2012/13		Three Year Plan 2013 - 2016		
		2013/14	2014/15	2015/16
		\$000		
	Cost of proposed services			
52,156	Wastewater Collection	42,806	39,624	36,752
21,592	Wastewater Treatment and Disposal	21,784	22,665	23,220
73,748		64,590	62,289	59,972
	Revenue from proposed services			
15,825	Wastewater Collection	10,540	7,747	4,800
5,475	Wastewater Treatment and Disposal	7,424	5,622	4,938
154,603	Capital revenues	235,129	220,134	212,862
175,903		253,093	233,503	222,600
(102,155)	Net operational cost (funded by rates)	(188,503)	(171,214)	(162,628)
200	Vested assets	200	209	217
(102,355)	Net cost of services	(188,703)	(171,423)	(162,845)

Annual Plan 2012/13		Three Year Plan 2013 - 2016		
		2013/14	2014/15	2015/16
		\$000		
	Cost of capital expenditure			
4,177	Renewals and replacements	7,826	11,910	15,449
245,900	Earthquake rebuild	362,207	363,997	337,451
14,253	Improved service levels	8,590	8,931	609
36,615	Increased demand	13,463	14,701	29,909
300,945		392,086	399,539	383,418
	This capital expenditure is funded by			
4,177	Rates	7,826	11,910	15,449
152,033	Earthquake rebuild recoveries	229,988	213,678	206,825
48,298	Borrowing	149,131	167,495	155,106
93,867	Transfers from Reserves	-	-	-
2,570	Development Contributions	5,141	6,456	6,038
-	Grants, Subsidies and other	-	-	-
300,945		392,086	399,539	383,418

Rationale for activity funding (see also the Revenue and Financing Policy)

User charges for certain services, such as trade waste, are collected at levels considered reasonable by the Council. The balance of the net operating cost is funded by a targeted rate on serviced properties based on capital value.

Development contributions are applied towards appropriate capital expenditure. The balance of capital expenditure is funded corporately in accordance with the Revenue and Financing Policy.

Council Activities and Services

Sewerage Collection, Treatment and Disposal Funding Impact Statement

Annual Plan	Three Year Plan 2013 - 2016			Annual Plan	Three Year Plan 2013 - 2016		
2012/13	2013/14	2014/15	2015/16	2012/13	2013/14	2014/15	2015/16
	\$000				\$000		
Sources of operating funding				Applications of capital funding			
(24,005)	General rates, uniform annual general charges, rates penalties	(9,583)	(6,706)	(3,826)	Capital expenditure		
52,571	Targeted rates	40,026	42,979	45,751	4,177	- to replace existing assets	7,826 11,910 15,449
-	Subsidies and grants for operating purposes	-	-	-	245,900	- earthquake rebuild	362,207 363,997 337,451
5,189	Fees and charges	5,046	4,566	4,274	14,253	- to improve the level of service	8,590 8,931 609
-	Internal charges and overheads recovered	-	-	-	36,615	- to meet additional demand	13,463 14,701 29,909
15,803	Earthquake recoveries	12,650	8,528	5,180	(93,867)	Increase (decrease) in reserves	- - -
308	Local authorities fuel tax, fines, infringement fees, and other receipts	268	275	283	-	Increase (decrease) of investments	- - -
49,866	Total operating funding	48,407	49,642	51,662	207,078	Total applications of capital funding	392,086 399,539 383,418
Applications of operating funding				Surplus (deficit) of capital funding			
50,089	Payments to staff and suppliers	42,266	37,874	33,789	5,295	Surplus (deficit) of capital funding	(1,226) (5,969) (10,966)
2,776	Finance costs	1,921	2,801	3,790		Funding balance	- - -
2,296	Internal charges and overheads applied	2,994	2,998	3,117	Reconciliation to net cost of services		
-	Other operating funding applications	-	-	-	(5,295)	Surplus (deficit) of operating funding from funding impact statement	1,226 5,969 10,966
55,161	Total applications of operating funding	47,181	43,673	40,696	(28,566)	Remove rates funding	(30,443) (36,273) (41,925)
(5,295)	Surplus (deficit) of operating funding	1,226	5,969	10,966	(18,587)	Deduct depreciation expense	(17,409) (18,616) (19,276)
Sources of capital funding				Net cost of services per activity statement surplus/(deficit)			
-	Subsidies and grants for capital expenditure	-	-	-	154,603	Add capital revenues	235,129 220,134 212,863
2,570	Development and financial contributions	5,141	6,456	6,038	200	Add vested assets / non cash revenue	200 209 217
152,033	Earthquake recoveries	229,988	213,678	206,825	102,355	Net cost of services per activity statement surplus/(deficit)	188,703 171,423 162,845
57,770	Increase (decrease) in debt	155,731	173,436	159,589			
-	Gross proceeds from sale of assets	-	-	-			
-	Lump sum contributions	-	-	-			
212,373	Total sources of capital funding	390,860	393,570	372,452			