

## Sewerage Collection, Treatment and Disposal

### Sewerage Collection Treatment and Disposal: Activities, Rationale and Negative Effects

#### Activities included in Sewerage Collection, Treatment and Disposal

- Wastewater collection
- Wastewater treatment and disposal

#### Sewerage Collection, Treatment and Disposal contribute to these community outcomes

- Injuries and risks to public health are minimised
- Water quality in rivers, streams, lakes and wetlands is improved
- Statutory obligations are met by Council;
- City assets, financial resources and infrastructure are well managed, now and in the future;
- Energy is used more efficiently.
- A greater proportion of energy used in the city is from renewable sources;
- There is a reduction in waste to landfill.

#### Sewerage Collection, Treatment and Disposal have these negative effects:

Effect	Council's Mitigation Measure
Social, Cultural and Environmental effects of wastewater overflows	Processes for signage erection and public notification where overflows could result in health risks. Optimising asset capacity through improved network control and optimisation. Maintaining resource consent compliance.
Odours from Sewers	Odour control systems installed in problem areas. Maintenance to remove build-ups of odour causing compounds. Good design of servers to prevent creation of anaerobic conditions.
Environmental effects of treated effluent discharge.	Maintain resource consent compliance. Monitor trade waste discharges to ensure potential pollutants are not released to the waste water treatment plant
Environmental and social impacts of discharges to air.	Operate odour control systems in accordance with procedures. Robust work planning to avoid odour events.
Environmental and economic impacts of biosolid disposal.	Dry biosolids to reduce volume, kill pathogens and enable reuse. Monitor trade waste discharges to ensure potential pollutants are not released to the WWTP and carried over into the biosolids. This maintains quality of dried biosolids. Investigate disposal to land where possible.

Effect	Council's Mitigation Measure
Cultural impact of effluent discharge to water bodies.	Work with local Iwi to find cost effective solutions that recognise cultural sensitivities.
Illegal discharges to wastewater systems	Illegal discharge of chemicals or toxins to the wastewater system can cause inefficiencies, odours or process failure in the treatment systems leading to discharge of untreated or undertreated effluent.

## Sewerage Collection, Treatment and Disposal Statement of Service Provision

Activity	Services provided	Performance Measures	Performance Targets				
			Current	2015-16	2016-17	2017-18	2018-2025
Wastewater collection	Collecting wastewater from properties within the reticulated area	Proportion of customers satisfied with the wastewater services	≥ 80%	≥ 75% [2]	≥ 75%	≥ 75%	≥ 80%
		Attendance time: Median response time from the time that the territorial authority receives notification to the time that service personnel reach the site	New measure	< 1 hour [3]	< 1 hour	< 1 hour	< 1 hour
		Resolution time: Median response 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 measure	< 24 hours [3]	< 24 hours	< 24 hours	< 24 hours
		Number of blockage complaints received per 1000 connected properties per year	New measure	≤ 10 [4]	≤ 10	≤ 10	≤ 10
		Number of odour complaints received per 1000 connected properties per year	≤ 2	≤ 0.3 [5]	≤ 0.3	≤ 0.3	≤ 0.3
		Number of sewerage system faults received per 1000 connected properties per year. <i>(excludes blockages &amp; odours)</i>	New measure	≤ 0.3 [6]	≤ 0.3	≤ 0.3	≤ 0.3
		Proportion of complaints remediated to the customers satisfaction	New measure	≥ 95% [7]	≥ 95%	≥ 95%	≥ 95%
		Minimise number of dry weather sewerage overflows: Number of dry weather sewerage overflows from the CCC sewer system per 1000 connected properties per year	New measure	0.7 [8]	0.7	0.7	0.6

Proposed changes wastewater collection	Rationale
[1] Reduction in properties affected by blowbacks	Expected improvement as the system is repaired
[2] Reduction in customer satisfaction	More realistic target in the light of on-going repairs. Expected to improve over time
[3] Response times from notification to resolution	Mandatory performance measure pursuant to the Local Government Act 2002
[4] Complaints about blockages	Mandatory performance measure pursuant to the Local Government Act 2002
[5] Reduction in number of odour complaints	The situation is expected to improve as earthquake repairs are completed
[6] Number of faults in the system received in a year	Mandatory performance measure pursuant to the Local Government Act 2002
[7] Proportion of complaints remediated to customer satisfaction	Mandatory performance measure pursuant to the Local Government Act 2002
[8] Minimise dry weather sewerage overflows	Mandatory performance measure pursuant to the Local Government Act 2002

Activity	Services provided	Performance Measures	Performance Targets				
			Current	2015-16	2016-17	2017-18	2018-2025
Wastewater treatment and disposal	Operate and maintain treatment plants discharge structures/outfalls and biosolids reuse/disposal	Number of major and/or persistent breaches of resource consent for wastewater treatment plants or associated discharges	0	0	0	0	0
		Number of abatement notices	New measure [1]	0	0	0	0
		Number of infringement notices	New measure [1]	0	0	0	0
		Number of enforcement orders	New measure [1]	0	0	0	0
		Number of convictions	New measure [1]	0	0	0	0
	Minimise odour complaints from wastewater treatment plants	Number of odour events per 1,000 properties served	≤.01	≤.01	≤.01	≤.01	≤.01
		Compliance with ECAN resource consents for discharges to air:	100%	100%	100%	100%	100%

Proposed changes wastewater treatment and disposal	Rationale
[1] Notices and convictions for infringements	Mandatory performance measure pursuant to the Local Government Act 2002

## Sewerage collection, treatment and disposal

Plan 2014/15		Plan 2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
		\$000									
	<b>Cost of proposed services</b>										
40,830	Wastewater Collection	44,969	41,655	40,684	42,972	45,472	47,722	49,821	52,072	54,253	56,294
22,254	Wastewater Treatment and Disposal	25,324	25,836	26,894	28,425	30,185	31,872	33,617	35,034	36,371	37,546
<b>63,084</b>		<b>70,293</b>	<b>67,491</b>	<b>67,578</b>	<b>71,397</b>	<b>75,657</b>	<b>79,594</b>	<b>83,438</b>	<b>87,106</b>	<b>90,624</b>	<b>93,840</b>
	<b>Operating revenue from proposed services</b>										
7,763	Wastewater Collection	4,209	935	43	44	46	47	49	50	52	54
5,472	Wastewater Treatment and Disposal	4,944	4,648	4,760	4,876	5,001	5,136	5,285	5,443	5,612	5,797
<b>13,235</b>		<b>9,153</b>	<b>5,583</b>	<b>4,803</b>	<b>4,920</b>	<b>5,047</b>	<b>5,183</b>	<b>5,334</b>	<b>5,493</b>	<b>5,664</b>	<b>5,851</b>
219,038	Capital revenues	7,308	5,629	7,837	9,148	9,487	10,123	11,190	11,391	11,331	11,783
210	Vested assets	140,210	215	220	226	232	238	245	252	260	269
<b>(169,399)</b>	<b>Net cost of services</b>	<b>(86,378)</b>	<b>56,064</b>	<b>54,718</b>	<b>57,103</b>	<b>60,891</b>	<b>64,050</b>	<b>66,669</b>	<b>69,970</b>	<b>73,369</b>	<b>75,937</b>

## Sewerage collection, treatment and disposal funding impact statement

Plan 2014/15		Plan 2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
	\$000										
<b>Sources of operating funding</b>											
(7,065)	General rates, uniform annual general charges, rates penalties	-	-	-	-	-	-	-	-	-	-
43,578	Targeted rates	48,851	51,042	54,031	57,795	61,213	64,199	67,671	71,251	74,734	76,857
-	Subsidies and grants for operating purposes	-	-	-	-	-	-	-	-	-	-
4,221	Fees and charges	4,316	4,415	4,522	4,632	4,751	4,879	5,021	5,170	5,331	5,507
-	Internal charges and overheads recovered	-	-	-	-	-	-	-	-	-	-
9,014	Local authorities fuel tax, fines, infringement fees, and other receipts (a)	4,837	1,168	281	288	296	304	313	323	333	344
<b>49,748</b>	<b>Total operating funding</b>	<b>58,004</b>	<b>56,625</b>	<b>58,834</b>	<b>62,715</b>	<b>66,260</b>	<b>69,382</b>	<b>73,005</b>	<b>76,744</b>	<b>80,398</b>	<b>82,708</b>
<b>Applications of operating funding</b>											
38,220	Payments to staff and suppliers	31,716	27,387	25,541	26,228	27,057	27,880	28,709	29,648	30,631	31,713
3,629	Finance costs	3,530	3,642	4,440	6,155	7,611	8,993	9,994	10,667	11,525	11,852
2,260	Internal charges and overheads applied	2,153	2,371	2,263	2,289	2,567	2,443	2,533	2,849	2,716	2,799
-	Other operating funding applications	-	-	-	-	-	-	-	-	-	-
<b>44,109</b>	<b>Total applications of operating funding</b>	<b>37,399</b>	<b>33,400</b>	<b>32,244</b>	<b>34,672</b>	<b>37,235</b>	<b>39,316</b>	<b>41,236</b>	<b>43,164</b>	<b>44,872</b>	<b>46,364</b>
<b>5,639</b>	<b>Surplus (deficit) of operating funding</b>	<b>20,605</b>	<b>23,225</b>	<b>26,590</b>	<b>28,043</b>	<b>29,025</b>	<b>30,066</b>	<b>31,769</b>	<b>33,580</b>	<b>35,526</b>	<b>36,344</b>
<b>Sources of capital funding</b>											
-	Subsidies and grants for capital expenditure	-	-	-	-	-	-	-	-	-	-
5,361	Development and financial contributions	6,691	5,629	7,837	9,148	9,487	10,123	11,190	11,391	11,331	11,783
187,227	Increase (decrease) in debt	177,505	84,946	(4,234)	9,492	8,609	20,775	3,670	(15,696)	(14,515)	(18,231)
-	Gross proceeds from sale of assets	-	-	-	-	-	-	-	-	-	-
-	Lump sum contributions	-	-	-	-	-	-	-	-	-	-
213,678	Other dedicated capital funding	617	-	-	-	-	-	-	-	-	-
<b>406,266</b>	<b>Total sources of capital funding</b>	<b>184,813</b>	<b>90,575</b>	<b>3,603</b>	<b>18,640</b>	<b>18,096</b>	<b>30,898</b>	<b>14,860</b>	<b>(4,305)</b>	<b>(3,184)</b>	<b>(6,448)</b>
<b>Applications of capital funding</b>											
375,907	Capital expenditure	189,652	99,391	16,556	11,365	14,416	23,845	13,062	17,408	28,055	25,625
7,292	- to replace existing assets (b)	1,805	1,202	1,887	13,000	7,947	14,547	13,004	2,284	194	173
28,706	- to improve the level of service	13,961	13,207	11,750	22,318	24,758	22,572	20,563	9,583	4,093	4,098
-	- to meet additional demand	-	-	-	-	-	-	-	-	-	-
-	Increase (decrease) in reserves	-	-	-	-	-	-	-	-	-	-
-	Increase (decrease) of investments	-	-	-	-	-	-	-	-	-	-
<b>411,905</b>	<b>Total applications of capital funding</b>	<b>205,418</b>	<b>113,800</b>	<b>30,193</b>	<b>46,683</b>	<b>47,121</b>	<b>60,964</b>	<b>46,629</b>	<b>29,275</b>	<b>32,342</b>	<b>29,896</b>
<b>(5,639)</b>	<b>Surplus (deficit) of capital funding</b>	<b>(20,605)</b>	<b>(23,225)</b>	<b>(26,590)</b>	<b>(28,043)</b>	<b>(29,025)</b>	<b>(30,066)</b>	<b>(31,769)</b>	<b>(33,580)</b>	<b>(35,526)</b>	<b>(36,344)</b>
<b>-</b>	<b>Funding balance</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Reconciliation to net cost of services</b>											
5,639	Surplus (deficit) of operating funding from funding impact statement	20,605	23,225	26,590	28,043	29,025	30,066	31,769	33,580	35,526	36,344
(36,513)	Remove rates funding	(48,851)	(51,042)	(54,031)	(57,795)	(61,213)	(64,199)	(67,671)	(71,251)	(74,734)	(76,857)
(18,976)	Deduct depreciation expense	(32,894)	(34,091)	(35,334)	(36,725)	(38,422)	(40,278)	(42,202)	(43,942)	(45,752)	(47,476)
219,039	Add capital revenues	7,308	5,629	7,837	9,148	9,487	10,123	11,190	11,391	11,331	11,783
210	Add vested assets / non cash revenue	140,210	215	220	226	232	238	245	252	260	269
<b>169,399</b>	<b>Net cost of services per activity statement surplus/(deficit)</b>	<b>86,378</b>	<b>(56,064)</b>	<b>(54,718)</b>	<b>(57,103)</b>	<b>(60,891)</b>	<b>(64,050)</b>	<b>(66,669)</b>	<b>(69,970)</b>	<b>(73,369)</b>	<b>(75,937)</b>
<b>Footnotes</b>											
8,523	(a) Earthquake related operating recoveries	4,568	894	-	-	-	-	-	-	-	-
363,997	(b) Earthquake rebuild application of capital funding	168,271	73,695	-	-	-	-	-	-	-	-