

Activity profile: Stormwater drainage

Why we do this

Stormwater drainage protects our communities, infrastructure and public places from flooding by discharging stormwater and collecting contaminants to minimise adverse effects from rain, runoff and high tides. Stormwater drainage on state highways or floodwaters from rivers or land drainage is managed by NZ Transport Agency (NZTA).

For further information on how this activity contributes to Community Outcomes please consult the Revenue and Financing Policy – Activity Analysis.

What we do

- We run five community stormwater drainage schemes for Dargaville, Baylys, Te Kopuru, Kaiwaka and Mangawhai;
- They protect people, houses, private property and public areas from flooding by removing and discharging stormwater, and collecting contaminants in a way that protects our environment and public health; and
- Stormwater drainage systems in Glinks Gully, Kelly's Bay, Pahi, Whakapirau, Tinopai, Paparoa and Matakoho are mostly incorporated into our roads network.

How this benefits the community

Our stormwater drainage activities protect public health and contribute to our social, economic and environmental well-being by:

- protecting people, houses, private property and public areas from flooding by removing and discharging stormwater;
- collecting contaminants in a way that protects our environment;
- complying with resource consent conditions;
- draining water from normal rainfall events;
- processing a 1:5 year rain event for rural/residential areas and a 1:10 year event for industrial areas; and
- managing stormwater in urban areas to retain usability of land.

Risks and issues

- Renewal of resource consents may require higher quality discharge to the receiving environment;
- Spring tides and storm events at the same time may create flooding in Dargaville and Ruawai and low-lying areas of Mangawhai, albeit for short periods;

- Our reliance on soakage where possible and the allowable design period of 1:5 Year Annual Exceedance Probability (AEP), does not fully mitigate nuisance ponding in certain weather conditions until groundwater can soak away; and
- Affordability around replacing the piped network for our older schemes which is nearing the end of its life expectancy and changing from pipes to a lower impact design.

How we fund this service

- General rates;
- Targeted rates;
- Development contributions;
- Financial contributions;
- Borrowing; and
- Asset sales.

Legislation associated with this service

- Local Government Act 2002;
- Resource Management Act 1991;
- Civil Defence and Emergency Management Act 2002;
- Land Drainage Act 1908;
- New Zealand Coastal Policy Statement;
- Regional Water and Soil Plan for Northland;
- Regional Coastal Plan for Northland.

Improvement Plan 2018/2028 - Stormwater Drainage

<p>Year 1 - 2018/2019</p> <p>Planned improvement / change</p>	<ul style="list-style-type: none"> • Develop a central database and Geographic Information Systems (GIS) mapping for condition assessment information and generate a renewal programme; • Replace the manual system for consents, compliance and monitoring with a central management software system; • Continue the data cleansing project to improve our knowledge of our assets, including asset life to help with renewal planning; • Develop a renewals programme based on performance and condition ratings of critical stormwater assets; • Clarify ownership of assets across the district (roading versus urban), including responsibilities of townships that are not serviced; • Review data management procedures including development of a system for recording maintenance and costs at asset component level in the asset register, to help develop failure curves based on actual asset condition; • Ongoing collection of data on asset attributes and condition as opportunity arises and as part of structured inspection programmes; • Develop an understanding of Infrastructure capacity required to support urban development in accordance with the National Policy Statement (NPS) for Urban Development Capacity; • Complete and adopt an updated Stormwater Catchment Management Plan (SWCMP) for Mangawhai; • Survey all the coastal outfalls in the five urban townships; and • Review the adequacy of developers' handover requirements contained within Engineering Standards 2011 and identify an improvement programme, include for asset schedules and capital cost recording for each asset created.
<p>Year 2 - 2019/2020</p> <p>Planned improvement / change</p>	<ul style="list-style-type: none"> • Continue with development of capability, asset information capture and Asset Management Information System (AMIS) population of first three items above from 2018/2019; • Complete and adopt an updated SWCMP for Kaiwaka and Maungaturoto; • Develop a template for operations and maintenance manual for ponds with key information required for developers; • Development of Soakage Design Manual including engineering design standards and SWCMP references; and • Review and assessment of levels of deferred maintenance.

Improvement Plan 2018/2028 - Stormwater Drainage

<p>Year 3 - 2020/2021 Planned improvement / change</p>	<ul style="list-style-type: none"> • Continue with development of capability, asset information capture and AMIS population of items in CORE for 2018/2019; • Complete and adopt the SWCMP for the remaining serviced stormwater districts; • Develop an hydraulic computer model for the Dargaville SWCMP, predicting flows to confirm network capacity and manage growth; • Review steel pipes installed in Dargaville and their condition as part of the condition assessment and asset data cleansing projects; and • Review of Levels of Service (LOS) for incorporation into 2021 Asset Management Plan (AMP).
<p>Years 4-10 - 2021/2028 Planned improvement / change</p>	<ul style="list-style-type: none"> • Continue with development of capability, asset information capture and AMIS population of first three items above in 2018/2019; • Review completed and adopted stormwater plans and ensure they are up-to-date, revise where required; • Continue to review and assess assets and the asset data, clean and inspect stormwater assets to keep up with maintenance and retain efficiency within the assets; • Continue to review data management procedures and systems to ensure that maintenance is recorded and costs are accurately recorded; • Update records of assets and review asset renewal and growth strategies to prepare for future AMPs and LTP updates; and • Continue to improve asset condition, data and management to provide the most efficient and effective maintenance and renewal strategies for Kaipara district and the ratepayers.

Measuring Performance - Stormwater Drainage

What we measure	LTP Year 1 Target 2018/2019	LTP Year 2 Target 2019/2020	LTP Year 3 Target 2020/2021	LTP Years 4-10 Target 2021/2028
System adequacy For each flooding event, using a 1:5 year for Urban (Average Recurrence Interval 20%) and 1:10 year for Rural (ARI 10%), the number of habitable floors affected. (Expressed per 1,000 properties connected to the district's stormwater system.)	≤10	≤10	≤10	≤10
Response time The median response time in a flooding event, measured from the time that the territorial authority receives notification to the time that service personnel reach the site.	≤2 hours for urgent events	≤2 hours for urgent events	≤2 hours for urgent events	≤2 hours for urgent events
Customer satisfaction The number of complaints received by Council about the performance of its stormwater system, expressed per year. Expressed per 1,000 properties connected to the territorial authority's stormwater system.	≤18	≤18	≤18	≤18
Discharge compliance Abatement notices, infringement notices, enforcement orders, convictions.	0	0	0	0

Significant negative effects - Stormwater Drainage

- The greatest significant negative effect occurs when high levels of stormwater enter the wastewater system. This can overload the system, resulting in untreated wastewater being directly discharged into the environment. We have confirmed parts of the Dargaville and Mangawhai stormwater network require repairs to reduce stormwater infiltration into the wastewater network. Repairs to both the public stormwater system and privately-owned stormwater pipes and gully traps still need to be completed;
- Significant storm events overload the stormwater networks and may flood dwellings non-habitable buildings and low-lying portions of the road network, causing temporary disruptions; and
- The quantity of gross pollutants such as bottles, plastics, rubbish and hydrocarbons discharged into the natural receiving environment from the stormwater system.

Funding Impact Statement - Operating

For the year ended:	Annual Plan	Budget	Budget	Budget	Budget	Budget	Budget	Budget	Budget	Budget	Budget
30 June	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Operating funding											
Sources of operating funding											
General rates, uniform annual general charges, rate penalties	207	223	288	290	246	253	245	250	258	274	285
Targeted rates	1,368	1,390	1,642	1,637	1,551	1,602	1,667	1,770	1,830	1,962	2,048
Subsidies and grants for operating purposes	0	0	0	0	0	0	0	0	0	0	0
Fees and charges	0	0	0	0	0	0	0	0	0	0	0
Internal charges and overheads recovered	0	0	0	0	0	0	0	0	0	0	0
Local authorities fuel tax, fines, infringement fees and other receipts	0	0	0	0	0	0	0	0	0	0	0
Total operating funding	1,575	1,613	1,930	1,927	1,797	1,855	1,912	2,020	2,088	2,236	2,333
Application of operating funding											
Payments to staff and suppliers	508	612	768	684	507	518	517	537	529	574	597
Finance costs	189	173	157	171	186	208	235	257	283	312	346
Internal charges and overheads applied	226	288	328	307	270	279	292	305	311	335	350
Other operating funding applications	0	0	0	0	0	0	0	0	0	0	0
Total applications of operating funding	923	1,073	1,253	1,162	963	1,005	1,044	1,099	1,123	1,221	1,293
Surplus (deficit) of operating funding	652	540	677	765	834	850	868	921	965	1,015	1,040

Funding Impact Statement - Capital

For the year ended:	Annual Plan	Budget	Budget	Budget	Budget	Budget	Budget	Budget	Budget	Budget	Budget
30 June	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Capital funding											
Sources of capital funding											
Subsidies and grants for capital expenditure	0	0	0	0	0	0	0	0	0	0	0
Development and financial contributions	14	7	7	7	7	7	7	7	7	7	7
Increase (decrease) in debt	-314	-233	164	142	252	357	412	326	358	388	451
Gross proceeds from sale of assets	0	0	0	0	0	0	0	0	0	0	0
Lump sum contributions	0	0	0	0	0	0	0	0	0	0	0
Other dedicated capital funding	0	0	0	0	0	0	0	0	0	0	0
Total sources of capital funding	-300	-226	171	149	259	364	419	333	365	395	458
Applications of capital funding											
Capital expenditure - to meet additional demand	90	7	40	41	34	40	41	35	36	37	38
Capital expenditure - to improve the level of service	0	114	529	541	664	763	810	752	801	853	908
Capital expenditure - to replace existing assets	320	49	149	152	397	407	445	485	528	572	620
Increase (decrease) in reserves	-58	144	130	180	-2	4	-9	-18	-35	-51	-69
Increase (decrease) of investments	0	0	0	0	0	0	0	0	0	0	0
Total applications of capital funding	352	314	848	914	1,093	1,214	1,287	1,254	1,330	1,410	1,497
Surplus (deficit) of capital funding	-652	-540	-677	-765	-834	-850	-868	-921	-965	-1,015	-1,040
Funding Balance	0	0	0	0	0	0	0	0	0	0	0

Capital Expenditure Programme

	Budget 2018/2019 \$	Budget 2019/2020 \$	Budget 2020/2021 \$
Stormwater Drainage	170,000	717,500	734,003
101 - Dargaville Stormwater Scheme	50,000	51,250	52,429
Dargaville stormwater	✓	✓	✓
131 - Baylys Stormwater Scheme	20,000	153,750	157,286
Chases Gorge		✓	✓
Chases Gorge investigation	✓	✓	
246 - Mangawhai Stormwater Scheme	100,000	512,500	524,288
Mangawhai stormwater	✓	✓	✓