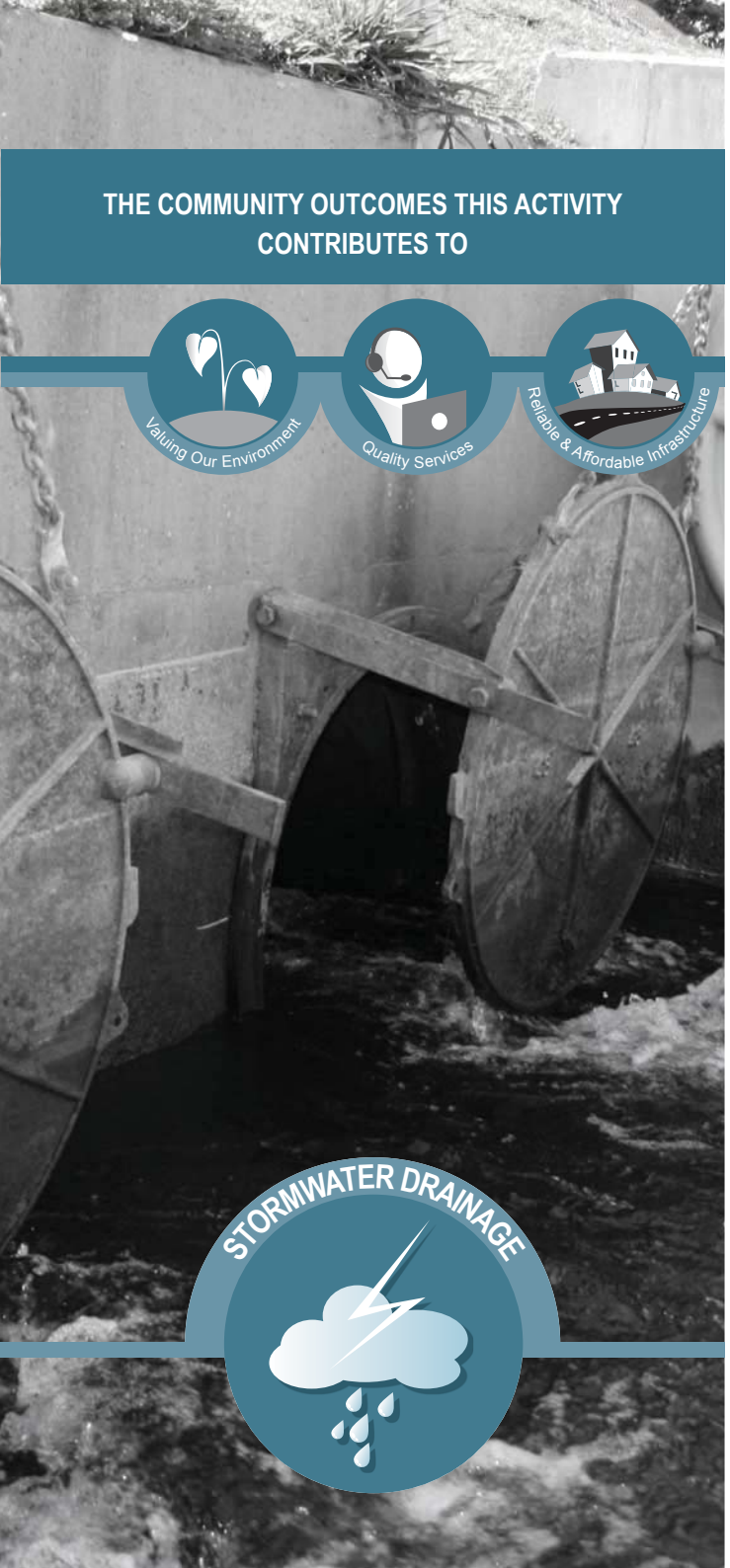
STORMWATER DRAINAGE

Te Wai Āwhiowhio me ōna rītenga

WHAT THESE ACTIVITIES WILL COST AND HOW WE ARE GOING TO PAY FOR THEM

FUNDING IMPACT STATEMENT

ANNUAL PLAN 2011/12 $000		LTP 2012/13 $000	LTP 2013/14 $000	LTP 2014/15 $000	LTP 2015/16 $000	LTP 2016/17 $000	LTP 2017/18 $000	LTP 2018/19 $000	LTP 2019/20 $000	LTP 2020/21 $000	LTP 2021/22 $000
	OPERATIONAL										
	Sources of operating funding										
-	General rates, uniform annual general charges, rates penalties	253	367	408	400	418	442	456	477	507	526
2,025	Targeted rates (other than a targeted rate for water supply)	2,313	2,340	2,421	2,627	2,695	2,743	2,852	2,988	3,150	3,264
-	Subsidies and grants for operating purposes	-	-	-	-	-	-	-	-	-	-
-	Fees, charges, and targeted rates for water supply	-	-	-	-	-	-	-	-	-	-
1,881	Internal charges and overheads recovered	2,021	2,052	2,102	2,152	2,215	2,292	2,373	2,461	2,560	2,664
200	Local authorities fuel tax, fines, infringement fees, and other receipts	200	208	215	223	232	240	248	257	268	279
4,106	**Total operating funding (A)**	**4,787**	**4,967**	**5,146**	**5,402**	**5,560**	**5,717**	**5,929**	**6,183**	**6,485**	**6,733**
	Applications of operating funding										
1,507	Payments to staff and suppliers	1,585	1,647	1,705	1,789	1,857	1,922	1,992	2,067	2,152	2,243
868	Finance costs	778	889	1,003	1,146	1,210	1,289	1,327	1,401	1,500	1,525
1,200	Internal charges & overheads applied	1,544	1,536	1,568	1,585	1,624	1,686	1,739	1,804	1,883	1,951
-	Other operating funding applications	-	-	-	-	-	-	-	-	-	-
3,575	**Total applications of operating funding (B)**	**3,907**	**4,072**	**4,276**	**4,520**	**4,691**	**4,897**	**5,058**	**5,272**	**5,535**	**5,719**
532	**Surplus (deficit) of operating funding (A-B)**	**880**	**895**	**870**	**882**	**869**	**820**	**871**	**911**	**950**	**1,014**
	CAPITAL										
	Sources of capital funding										
-	Subsidies and grants for capital expenditure	-	-	-	-	-	-	-	-	-	-
4	Development and financial contributions	114	119	123	127	132	137	142	147	153	159
(78)	Increase (decrease) in debt	323	437	1,387	1,242	448	505	1,292	592	825	544
-	Gross proceeds from sale of assets	-	-	-	-	-	-	-	-	-	-
-	Lump sum contributions	-	-	-	-	-	-	-	-	-	-
(74)	**Total sources of capital funding (C)**	**437**	**556**	**1,510**	**1,369**	**580**	**642**	**1,434**	**739**	**978**	**703**
	Applications of capital funding										
	Capital expenditure										
-	- to meet additional demand	-	-	-	-	-	-	-	-	-	-
588	- to improve level of service	1,300	1,433	3,129	2,402	1,382	1,627	2,908	1,874	2,037	1,750
-	- to replace existing assets	-	-	-	-	-	-	-	-	-	-
(130)	Increase (decrease) in reserves	17	18	(749)	(151)	67	(165)	(603)	(224)	(109)	(33)
-	Increase (decrease) of investments	-	-	-	-	-	-	-	-	-	-
458	**Total applications of capital funding (D)**	**1,317**	**1,451**	**2,380**	**2,251**	**1,449**	**1,462**	**2,305**	**1,650**	**1,928**	**1,717**
(532)	**Surplus (deficit) of capital funding (C-D)**	**(880)**	**(895)**	**(870)**	**(882)**	**(869)**	**(820)**	**(871)**	**(911)**	**(950)**	**(1,014)**
-	**Funding Balance ((A-B) + (C-D))**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**



STORMWATER DRAINAGE

WHAT THIS ACTIVITY DELIVERS

The Council provides a variety of infrastructure to deal with stormwater within our urban areas.
This includes underground pipes, open drains, overland flow paths, pump stations and stormwater ponds. All of our stormwater systems are designed to take stormwater away from built up urban areas and disperse it within our waterways. However, further works are required to meet the desired level of service. We manage the stormwater within identified urban and residential areas, the Bay of Plenty Regional Council manages land drainage in rural areas.

WHY WE DO IT

There is strong community demand to be protected and safe within our homes. To respond to this, we build and operate stormwater infrastructure. We also need to protect our own infrastructure, such as roads, sewerage infrastructure etc, which can get damaged by excessive floodwater.

The emotional and financial cost of flooding on our community within our District can be very high. We continually make improvements to the stormwater systems to try and reduce the chance of this flooding occurring.

RESPONDING TO OUR ISSUES

Increased storms are flooding Whakatāne and Ōhope

The Council manages seven stormwater schemes. The three most significant schemes are Whakatāne, Ōhope and Edgecumbe. These three larger schemes have all experienced major issues in recent years. The District has been hit by a high number of severe rain events, causing flooding on numerous occasions. Unfortunately, due to the nature of the water flow, ground heights and location, it tends to be the same properties that are flooded through each event. The high number of events experienced in recent years is unusual, however, it could be a sign of climate change and we are preparing for the likelihood of more frequent severe weather events.

Our first target is to provide protection from flooding to habitable buildings, not including garages, from a one in 10 year rain event, where practical, using pipe networks, drains, pump stations and, in urban areas where this level of service is not met, overland flow paths. Our long term target is to provide flood protection to habitable buildings not including garages from a one in one hundred year rain event,(taking into account climate changes) where practical, using improved or new overland flow paths and other necessary infrastructure. However, we also acknowledge that it is not practically possible or economically feasible to provide our desired level of service to some of the habitable buildings due to location or ground level of these buildings.

Stormwater systems are upgraded in targeted areas on a priority basis depending on the frequency of flooding, the number of properties affected, the scale of damage and the cost of the mitigation works. During the first three years we have included six projects in the following catchments to help achieve this level of service; Alexander Avenue/ Douglas street area, Wainui Te Whara Stream urban catchment, McAlister/Pohutu/Bracken Street area, Kirk Street area, Hinemoa Street pump station catchment and Henderson Street area.

However, while we build new systems to meet this level of protection, historical infrastructure does not always meet this level. Therefore, when we undertake renewals of our infrastructure, we upgrade the system to meet our intended level of flood protection. This means that all capital works for stormwater are recorded in the Funding Impact Statement on the previous page as 'to improve level of service'.

Did you know?
A one in 10 year rainfall event is an event that has a 10% chance of occurring in any one year. Similarly, a one in 100 year event is an event that has a 1% chance of occurring in any one year.

We are constrained in some of the work we can do. In our built up urban areas physical structures, such as buildings, limit where water can flow. In Whakatāne, our biggest scheme, the town is constrained by hills on one side and the Whakatāne River on the other. The scheme heavily relies on pump stations and gravity discharge into the river.

Heavy rain events have caused frequent flooding over the years. Work has been done to improve the level of protection in Whakatāne, but there are still more projects required to minimise the risk of flooding in this scheme.

Two studies have begun to identify solutions to the flooding issues in Whakatāne. Firstly, a project has begun to look at the stormwater that falls on the hills between Whakatāne and Ōhope to identify appropriate ways to discharge this stormwater without causing flooding in the urban area. This is a joint initiative between the Whakatāne District Council and the Bay of Plenty Regional Council. It will involve working closely with landowners in the area, including Ngāti Awa. This upper catchment study will lead to a second in-depth study into the urban stormwater catchment of Whakatāne. The second study will include 2D modelling to look at overland flow paths to track where the stormwater can go. It will improve our understanding of the need for pipe and pump station upgrades to improve the protection level for houses to meet the one in 100 year rainfall event taking into account climate change.

Once the two studies are completed, identified works will be prioritised according to likelihood and consequence. This risk-based assessment will provide a ranked work programme for the coming years. Some major projects have been signalled from the studies. These include finding a solution to the water overflowing from the Wainui Te Whara stream in Whakatāne, upgrading the undersized pumping stations, pipes and overland flow paths. Specific detail of these projects will be finalised once the studies are completed. However, the projects are included in this LTP to signal the works required to raise the level of protection

Emergency Services responding to floods in Edgecumbe

within Whakatāne. Work for the Ōhope catchment to improve the level of flood protection includes local pipe upgrades and projects and other measures to address the threat from the four streams in Ōhope.

Edgecumbe keeps flooding

The Edgecumbe township is highly vulnerable to localised flooding and this has caused some huge issues over recent years. Geographically the town is very flat and the floor level lowered during the earthquake in 1987. Watercourses in the area are under capacity and pumping systems are required. We have constructed two pump stations in the vicinity of the town and are now planning to upgrade some pipes and overflow paths through this LTP. The level of upgrades required will depend, to some degree, on the effectiveness of the two new pump stations. As highlighted under the 'Sewage Treatment and Disposal' activity, stormwater also causes some problems for our sewerage system. By managing stormwater more effectively the amount of stormwater getting into the sewerage system will be reduced.

Silt and debris in our streams

We have experienced an increase in debris and silt in some of our streams over the past few years, particularly in Whakatāne and Matatā. This is the result of ground becoming exposed due to tree felling from de-forestation, leading to slips on stream banks in the catchments. The increased silt and debris is causing maintenance issues that are increasing costs of operating this activity, with silt and debris having to be cleared on a regular basis. Disaster mitigation works in Matatā have been underway since the flood events in 2005. At present we are reviewing the proposal to build a debris detention structure in Matatā. Further community consultation will be carried out following the review of this project.

Paying for protection

Stormwater costs are paid for fully by the community that benefit from the scheme, including the costs of disaster mitigation. However, Matatā is the exception, with 75% of the disaster mitigation costs being funded through the general rate. The Council acknowledges that this is inconsistent with the funding for the rest of this activity, but it is necessary to ease the unaffordable rating burden on the Matatā community.

What we are going to do

To respond to some of the issues, the Council is planning to undertake the following key project. The full list of capital projects can be found in the 'Our Costs in Detail' chapter.

DESCRIPTION	YEAR	TOTAL ($)	FUNDING SOURCE
Alexander Avenue/Douglas street area flood mitigation works	2012-15	725,000	**Loan 69% Renewal 29% Development Contributions 2%**
Wainui Te Whara Stream urban catchment flood mitigation works	2013-15	1,450,000	
McAlister/Pohutu/Bracken Street area flood mitigation works	2012-15	1,365,000	
Kirk Street area flood mitigation works	2014/15	450,000	
Hinemoa Street pump station catchment flood mitigation works	2013/14	450,000	
Henderson Street area flood mitigation works	2012-14	100,000	
Further Whakatāne upgrades and flood mitigation works	2015-22	8,361,370	
Ōhope upgrades and works	2012-22	3,620,000	**Loan 83% Renewal 13% Development Contributions 4%**
Edgecumbe stormwater upgrade to address localised flooding issues	2012/13	350,000	**Loan 70% Renewal 30%**

Note: The figures in this table are not adjusted for inflation.

Muriwai Drive, Whakatāne during the Jan 2012 floods

WHAT WE WANT TO ACHIEVE

The Council has set some targets to show whether we are achieving our goals for this activity. The following table shows these targets for the next 10 years. We will report back to the community through the Annual Report each year, so you will know whether we have achieved this level of service.

GOAL	MEASURE	CURRENT PERFORMANCE (2010/11)	TARGET			
			YEAR 1 (2012/13)	YEAR 2 (2013/14)	YEAR 3 (2014/15)	YEARS 4-10 (2015-22)
Provide a quality and safe urban stormwater system accessible throughout Whakatāne (including Otarawairere), Ōhope, Edgecumbe, Matatā, Murupara, Tāneatua, Te Mahoe and Te Teko	Initial response time to blockages affecting the system within three hours. Note: Actual works required to remedy blockages will vary according to the extent of fault	87%	85%	86%	87%	88%
	Percentage of stormwater systems built to meet one in 10 year rainfall event	81%	80%	80%	80%	85%

WHAT NEGATIVE IMPACT THIS MIGHT HAVE

Sometimes the activities that we do can have a negative impact on one or more of the four well-beings. While we strive to ensure that we operate in a way that provides the most positive outcomes, we have to acknowledge that sometimes there is a trade-off. The table below shows the possible negative effects of this activity and also what we are going to do to try and minimise these effects.

	AFFECTED WELL-BEING				
SIGNIFICANT NEGATIVE EFFECT	CULTURAL	SOCIAL	ECONOMIC	ENVIRONMENTAL	SUSTAINABLE SOLUTION
Discharge of polluted stormwater impacting on public health.	✓	✓	✓	✓	Preparation of a comprehensive catchment management plan for Whakatāne is underway. This plan will address the pollution issues associated with stormwater.
Inadequacy of existing stormwater assets to cope with large rainfall events causing flooding, which could result in social and economic hardship.		✓	✓	✓	Compliance with Council's Engineering Code of Practice. Works are proposed to improve our level of protection in large rainfall events. This is explained in more detail under 'Responding to our issues' earlier in this section

HOW THIS ACTIVITY IS FUNDED

Our activities are funded from a variety of sources. The pie chart illustrates how we will pay for the operational running of this activity.

Further explanations on the funding of this activity can be found in the Revenue and Financing Policy contained in the 'Our Costs in Detail' chapter.