

Long Term Plan 2024-34 Activity Plan

# Water Supply

- *Council water supplies are safe to drink*
- *Council provides high quality water*
- *Council operates water supplies in a reliable manner.*
- *Council operates water supplies in a responsive manner.*
- *Council water supply networks and operations are sustainable*

Adopted 25 and 27 June 2024

## Final Version

- The Long Term Plan 2024-2034, and all its associated documents, including amendments to the draft LTP were adopted by Council on the 27<sup>th</sup> of June 2024. Approved changes, as appropriate, have been reflected in this Activity Plan.
- Uploaded 26 June 2024

## Approvals

Role	Position	Name	For Draft LTP	
			Signature	Date of sign-off
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# 1. What this activity delivers

## We're investing in Christchurch's future






This document explains what we propose to invest in over the next 10 years to manage the supply of water and ensure that it is safe to drink. This includes a summary of the investment required to meet future demand, undertake renewals, operate and maintain the infrastructure to deliver the services, and the steps we are taking to demonstrate safe drinking water in Christchurch and Banks Peninsula. It gives Christchurch residents the opportunity to join the conversation by telling us what matters to them.

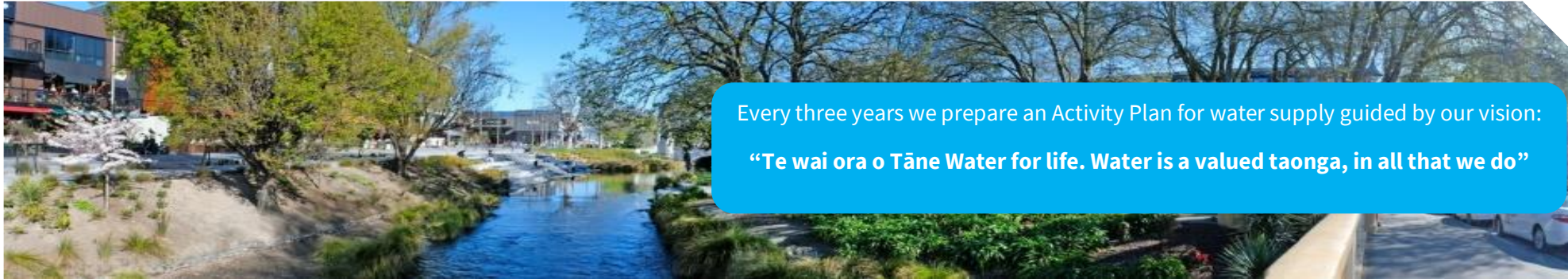
## What we provide

Christchurch City Council (Council) has a responsibility to ensure that its water services, infrastructure and water are managed in a way that supports the environmental, social, cultural and economic wellbeing of current and future generations. Council is responsible for the supply of water that is safe to drink.

The Council supplies water through approximately 170,000 residential and business connections, through seven urban water supply schemes and six rural water supply schemes. We supply in excess of 55 billion litres of water in a typical year, which is the equivalent of around 22,000 full Olympic size swimming pools.

## This activity includes the following services:

Services		Contributes to Community Outcomes
	<p><b>Council water supplies are safe to drink</b> Water Safety Plans are used to demonstrate that the drinking water is safe. They assess and manage risks to the safety of drinking water associated with a particular drinking water supply. One of the biggest risks to our water supply is backflow. Backflow prevention devices prevent potentially contaminated water flowing from private property back into the public water supply.</p>	<ul style="list-style-type: none"> <li>• A collaborative confident city</li> </ul>
	<p><b>Council provides high quality water</b> In the water industry, water quality refers to taste, smell and appearance. High quality drinking water therefore does not have any unpleasant taste or smell and appears clear. Council monitors performance through an annual resident satisfaction survey and also reports the number of customer complaints related to water clarity, odour and taste.</p>	
	<p><b>Council operates water supplies in a reliable manner</b> This means that water is available when users need it. This contributes to the community outcome of modern and robust city infrastructure and community facilities.</p>	<ul style="list-style-type: none"> <li>• A thriving prosperous city</li> </ul>
	<p><b>Council operates water supplies in a responsive manner</b> This means Council staff and contractors respond to customer feedback and quickly resolve issues as they arise. By operating in a responsive manner, Council can reduce the loss of water and the disruption caused to nearby residents.</p>	
	<p><b>Council water supply networks and operations are sustainable</b> Council seeks to operate water supply networks in a way that protects the environment through sustainable practices and demonstrating environmental stewardship. Council measures progress towards this outcome by monitoring and reporting the average consumption of drinking water per person, and the percentage of water lost through leaks in the water supply network. This contributes to the community outcome of the sustainable use of resources.</p>	<ul style="list-style-type: none"> <li>• A green, liveable city</li> </ul>



Every three years we prepare an Activity Plan for water supply guided by our vision:  
“Te wai ora o Tāne Water for life. Water is a valued taonga, in all that we do”

Achieving the vision will mean that water resources and taonga are managed in an integrated way to provide people, communities and future generations with access to safe and sufficient water resources, maintain the integrity of freshwater ecosystems and manage hazards from flooding and sea level rise

### The key water supply activities that Council undertakes include:

#### **Water supply pressure, flow and water source level monitoring**

Ongoing monitoring for resource consent compliance, billing, network analysis, leak detection and transient mitigation.

#### **Pressure management**

Operating the networks within minimum and maximum pressures to balance customer water pressure, operational costs and sustainable water use.

#### **Security of water supply**

Water sources are managed, within consent limits, to ensure sufficient water is available to customers. This involves the management of long term water availability and also short term (seasonal) fluctuations. Informing customers of planned outages or any limitations on supply volumes.

#### **Water meter management**

Commercial and industrial water meters measure consumption so that customers can be charged appropriately. Water meter management includes meter reading, repair, and replacement. Replacing old meters with smart meters provides an opportunity to improve water demand management.

#### **Water quality management**

Routine sampling provides compliance with the Drinking-water Standards for New Zealand. Routine flushing is carried out in some parts of the network. Specific testing and flushing is done in response to water quality complaints or adverse sampling results.

#### **Backflow prevention**

Commercial and industrial customers require certified backflow prevention devices to prevent contaminants from entering the public water supply network. Backflow monitoring and enforcement forms a key part of New Zealand Drinking Water Standards and is a requirement of the Building Act.

#### **Leak detection and management**

Water loss in the network is managed by detecting and fixing leaks. Reducing leakage means that current supply volumes can reach more customers and demonstrates Council’s approach to sustainable water use.

#### **Laboratory services**

Laboratory services analyse water samples to check treatment processes and demonstrate compliance with New Zealand Drinking Water Standards.

## A snapshot of provision and use:



### ✓ Reticulation

- 1,839 km of water supply mains
- 1,731 km of water supply sub-mains
- 15,267 fire hydrants
- 144,031 metered connections



### ✓ Station

- 689 pump sets
- 154 buildings/kiosks
- 170 wells and wellheads
- 155 reservoirs and tanks



### ✓ Treatment

- 6 Banks Peninsula Water Treatment Plants

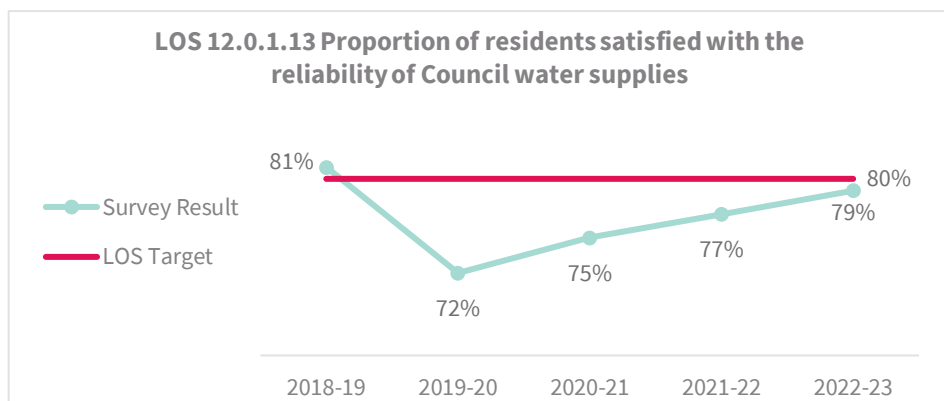
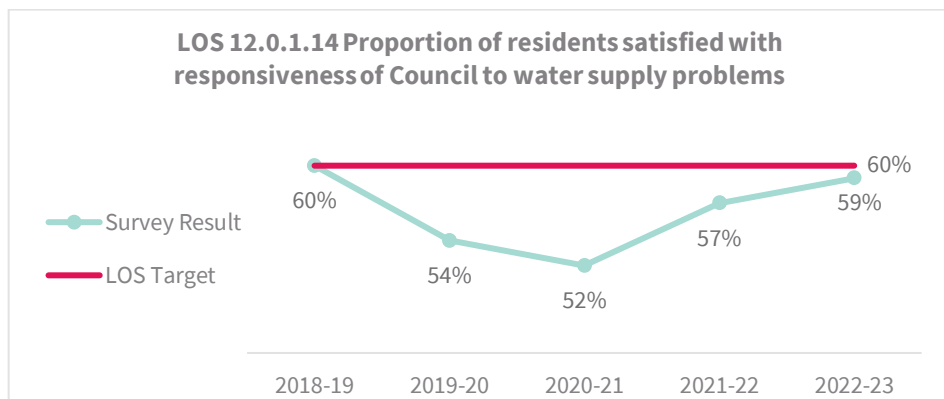
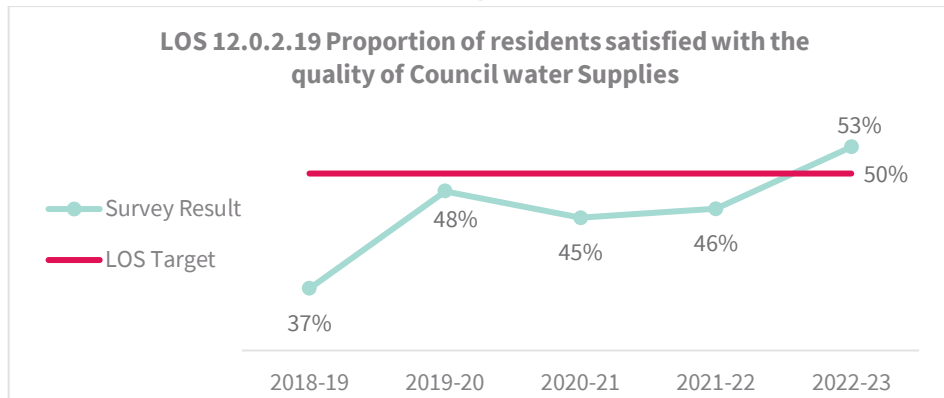


Example of the provision of water supply

## Where we came from

Christchurch's water supply has evolved from the various community schemes that began joining up with central reticulation in the early 1900s. Standardisation of water supply provision increased from 1989 when five local bodies merged into the new Christchurch City Council. Banks Peninsula water supplies came into Council stewardship in 2006 following amalgamation. Christchurch city has a decentralised system of multiple wells that provide high quality deep aquifer groundwater straight into the reticulation system for consumption. The Canterbury earthquakes of 2010 and 2011 Canterbury disrupted the water supply. Repairs and temporary solutions were completed rapidly to restore water supply provision, followed by a programme of assessment and rebuilding. This event increased awareness of the need for water supply resilience. In 2016 a water contamination event in Havelock North put a national spotlight on the risk of water supply contamination. Expert security assessments of our well heads in late 2017 found that none were secure. This cost Christchurch its secure bore status, which is needed if water is not treated. Since then much of the city and Brooklands/Kainga water supplies have been chlorinated to ensure we are compliant with regulations, while infrastructure upgrades are completed. A priority programme of work is now under way.

## What our community is saying



**53%-79% are satisfied with various aspects of water supply**

**Who our key customers are:** Christchurch City and Banks Peninsula residents

**Who our key stakeholders are:** Christchurch City and Banks Peninsula residents

**What we do:** Supply clean drinking water to protect the health of our community.

**What residents think:**

- 53% are satisfied with the quality of our drinking water supply.
- 59% are satisfied with the Council's responsiveness to water supply issues.
- 79% are satisfied with the reliability of the water supply.

**What residents say:**





- "It tastes ghastly, but it's always there."
- "Service calls reporting burst water mains or overflowing storm water have been quickly attended to, with follow-ups. Full marks to the team that does this!"
- "The works were shoddy because leaks appeared in about one in three [replaced water meters]."
- "Existing water quality generally is fantastic and reliable."

**Community outcomes:** Prosperous economy, resilient communities, healthy environment.

Source: *Residents Survey*







## 2. Why we deliver this activity

### 2.1. Community Outcomes: How this activity contributes

Community Outcomes		Contribution*	Key contributions to achieving our community outcomes
	<p><b>A collaborative confident city</b> Our residents have the opportunity to actively participate in community and city life, have a strong sense of belonging and identity, and feel safe</p>	★★★★	<p><b>We manage the public drinking water supplies to protect human health. In doing so we:</b></p> <ul style="list-style-type: none"> <li>• Protect the community from water-borne diseases</li> <li>• Provide the public with water supplies that meet safety and health risk standards</li> <li>• Provide public drinking that has no objectionable or offensive taste, odour or appearance</li> </ul>
	<p><b>A green, liveable city</b> Our neighbourhoods and communities are accessible and well-connected, supporting our goals to reduce emissions, build climate resilience and protect and regenerate the environment, especially our biodiversity, water bodies and tree canopy</p>	★★★★	<p><b>We sustainably manage drinking water sources by:</b></p> <ul style="list-style-type: none"> <li>• Limiting the quantity of water abstracted so as to prevent waterway health deterioration</li> <li>• Promoting sustainable use of drinking water through water conservation measures and education</li> <li>• Limiting resource use, both for water abstraction and for water treatment</li> <li>• Reducing operational carbon and lifecycle carbon</li> </ul>
	<p><b>A cultural powerhouse city</b> Our diverse communities are supported to understand and protect their heritage, pursue their arts, cultural and sporting interests, and contribute to making our city a creative, cultural and events 'powerhouse'</p>	★★	<p><b>We strive to increase engagement and collaboration with mana whenua by:</b></p> <ul style="list-style-type: none"> <li>• Reviewing and updating the 3W Strategy Implementation Plan with mana whenua</li> </ul>
	<p><b>A thriving prosperous city</b> Our city is a great place for people, business and investment where we can all grow our potential, where enterprises are innovative and smart, and where together we raise productivity and reduce emissions</p>	★★★★★	<p><b>We strive for a resilient public drinking water supply network, to support a healthy community, healthy environment and prosperous economy by:</b></p> <ul style="list-style-type: none"> <li>• Minimising damage from natural disasters by setting minimum requirements for new infrastructure</li> <li>• Gathering an evidence base to support asset lifecycle decision making</li> <li>• Performing lifecycle management to minimise whole of life costs</li> <li>• Minimising disruptions to the water supply service</li> </ul> <p><b>We strive to manage costs and intergenerational debt by:</b></p> <ul style="list-style-type: none"> <li>• Controlling costs to minimise rates increases</li> <li>• Maintaining networks to prevent future generations inheriting a network in need of significant expenditure</li> </ul>
<p><b>*Level of contribution – what this means</b></p> <p>★★★★ This activity is critical to the Council's contribution to achieving this community outcome – we measure our impact with specific levels of service</p> <p>★★★ This activity strongly supports the Council's contribution to achieving this community outcome – we measure our impact with specific levels of service for some elements</p> <p>★★ This activity supports the Council's contribution to achieving this community outcome – we measure our impact with specific levels of service if practicable</p> <p>★ This activity may provide incidental support to achieving this community outcome – it's not cost-effective to measure our impact</p>			




## 2.2. Strategic Priorities - How this activity supports progress on our priorities


Strategic Priorities		Contribution*	How our strategic priorities influence the way we work
	<b>Be an inclusive and equitable city which puts people at the centre of developing our city and district, prioritising wellbeing, accessibility and connection</b>	★★★	<ul style="list-style-type: none"> <li>Supporting the Community Water Partnership, which educates and empowers communities to help resolve water issues</li> <li>Supporting water management zone committee activities</li> <li>Promote wellbeing through providing the community with clean and safe drinking water</li> <li>Developing the infrastructure solutions that will benefit the future generations</li> </ul>
	<b>Champion Christchurch and collaborate to build our role as a leading New Zealand city</b>	★★	<ul style="list-style-type: none"> <li>Lead the way in demonstrating safe drinking water to the national regulator and showcasing Christchurch's high water supply quality</li> <li>Collaborate with other Councils to learn and share best practices</li> <li>Show leadership within the proposed Entity boundaries in the delivery of water supply activity</li> </ul>
	<b>Build trust and confidence in the Council through meaningful partnerships and communication, listening to and working with residents</b>	★★	<ul style="list-style-type: none"> <li>Increasing customer engagement and consultation through the Long Term Plan process and annual resident surveys to help inform levels of service</li> <li>Providing regular updates/communication to general public</li> <li>Meaningful partnerships/relationships/communication with consultants and contractors</li> </ul>
	<b>Reduce emissions as a Council and as a city, and invest in adaptation and resilience, leading a city-wide response to climate change while protecting our indigenous biodiversity, water bodies and tree canopy.</b>	★★★★	<ul style="list-style-type: none"> <li>Reduce emissions at the Council offices</li> <li>Reduce emissions by focusing on the key greenhouse gas generators including electricity usage for activities such as pumping, construction of new infrastructure or renewal of existing infrastructure, and travel associated with operations and maintenance activities</li> <li>Set realistic and measurable goals for lowering emissions</li> <li>Continue to adhere to standards and regulations, for example ECAN resource consents, to protect our environment</li> </ul>
	<b>Manage ratepayers' money wisely, delivering quality core services to the whole community and addressing the issues that are important to our residents</b>	★★★	<ul style="list-style-type: none"> <li>Financial decisions are prioritised using an evidence base that accounts for risk, public health and safety, security of supply, disruption to customers, and asset lifecycle cost considerations to optimises expenditure and minimises building intergenerational debt</li> <li>Controlling costs to minimise rates increases</li> <li>Maintaining networks to prevent future generations inheriting a network in need of significant expenditure</li> <li>Plan proactive investment to reduce what is spent in reaction to asset failures and disaster events</li> </ul>
	<b>Actively balance the needs of today's residents with the needs of future generations, with the aim of leaving no one behind</b>	★★★★	<ul style="list-style-type: none"> <li>Planning for today's needs as well as the future, accounting for growth, asset deterioration, changing regulations, financial constraints and the changing climate</li> <li>Continue to monitor and assess effects of the activity on the environment</li> <li>Maintain networks to prevent future generations inheriting a network in need of significant expenditure</li> <li>Continue applying excess water charging to manage high water demand and incentivise responsibility and stewardship of our resources</li> </ul>
<b>*Levels of contribution - what this means</b>			
★★★★	This activity is critical to achievement of this strategic priority - we measure our impact with actions and levels of service in the Strategic Priorities Action Plan		
★★★	This activity strongly supports achievement of this strategic priority - we measure our impact with actions and levels of service in the Strategic Priorities Action Plan for important elements only		
★★	This activity supports achievement of this strategic priority - we measure our impact with actions and levels of service in the Strategic Priorities Action Plan if practicable		
★	This activity may provide incidental support for the achievement of this strategic priority - it's not cost-effective to measure our impact		

## 2.3. Climate Resilience Goals: How this activity supports climate resilience goals

### Net zero emissions Christchurch

	<p><b>Key sources of greenhouse gas emissions from this activity includes:</b></p> <ul style="list-style-type: none"> <li>• Electricity usage for activities such as pumping</li> <li>• Construction of new infrastructure or renewal of existing infrastructure</li> <li>• Travel associated with operations and maintenance activities</li> </ul>	
	<p><b>Water Supply future proposals to take the following actions to reduce greenhouse gas emissions (pending funding and resource allocation):</b></p> <table border="1"> <tr> <td style="width: 50%;"> <p><b>Operational/embedded greenhouse gas emissions</b></p> <ul style="list-style-type: none"> <li>• Continue leakage monitoring and reduction programme</li> <li>• Continue to implement real-time sensors to enable network optimisation and increase power use efficiency</li> <li>• Include whole-of-life greenhouse gas emissions consideration in planning and design and construction phases</li> <li>• Consider ways to reduce our carbon footprint through changes in design, material choice and construction of new assets without compromising water quality, reliability or resilience</li> <li>• Request environmental product declarations for chemicals used in the treatment process and investigate lower carbon chemical treatment options, where applicable</li> </ul> </td> <td style="width: 50%;"> <p><b>Operational/embedded greenhouse gas emissions</b></p> <ul style="list-style-type: none"> <li>• Continue leakage monitoring and reduction programme</li> <li>• Continue to implement real-time sensors to enable network optimisation and increase power use efficiency</li> <li>• Include whole-of-life greenhouse gas emissions consideration in planning and design and construction phases</li> <li>• Consider ways to reduce our carbon footprint through changes in design, material choice and construction of new assets without compromising water quality, reliability or resilience</li> <li>• Request environmental product declarations for chemicals used in the treatment process and investigate lower carbon chemical treatment options, where applicable</li> </ul> </td> </tr> </table>	<p><b>Operational/embedded greenhouse gas emissions</b></p> <ul style="list-style-type: none"> <li>• Continue leakage monitoring and reduction programme</li> <li>• Continue to implement real-time sensors to enable network optimisation and increase power use efficiency</li> <li>• Include whole-of-life greenhouse gas emissions consideration in planning and design and construction phases</li> <li>• Consider ways to reduce our carbon footprint through changes in design, material choice and construction of new assets without compromising water quality, reliability or resilience</li> <li>• Request environmental product declarations for chemicals used in the treatment process and investigate lower carbon chemical treatment options, where applicable</li> </ul>
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### We understand and are preparing for the ongoing impact of Climate change

	<p><b>Key climate risks for the Water Supply activity includes:</b></p> <ul style="list-style-type: none"> <li>• Sea Level Rise Related <ul style="list-style-type: none"> <li>○ Limitations in asset life due to corrosion from salt water intrusion for coastal infrastructure</li> <li>○ More frequent, more extensive coastal inundation, contributing to service limitations and potentially health consequences</li> <li>○ Potential increased need for pumping and associated energy costs due to need to retreat from coastal areas</li> <li>○ Saltwater intrusion to water sources, causing more treatment requirements, noted as minor risk as work has been completed regarding security of bores</li> </ul> </li> <li>• Rainfall and Flooding Related <ul style="list-style-type: none"> <li>○ Higher groundwater levels, making repairs difficult and requiring dewatering</li> <li>○ Increased sediment, organic carbon, and nutrients due to flooding and event intensity</li> <li>○ On-site flooding and damage to treatment plants during storm events – additional effect on staffing transport and supply of chemicals to plants</li> <li>○ Changes in rainfall intensity and seasonality may mean reduced water availability, especially on Banks Peninsula</li> <li>○ Health risks from contamination during flood events</li> </ul> </li> <li>• Heat, Drought, Fire Related <ul style="list-style-type: none"> <li>○ Higher water losses from vegetation absorption and evaporation due to higher temperatures</li> <li>○ Potential reduced recharge of groundwater supply due to less surface runoff and snowmelt</li> <li>○ More frequent drought which may impact water source availability</li> </ul> </li> </ul>
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- Increased peak water demand from customers due to prolonged dry periods
- Higher concentration of contaminants and pathogens in source water due to increased temperatures
- Increased firefighting demands and usage due to increased fire risk
- Other
  - Scarcity of water may lead to consideration of other technologies such as wastewater reuse
  - Increased requests for additional connections from non-connected properties due to inability to no longer self-sustain supply
  - Population growth from areas which are affected by climate related displacement requires additional service measures
  - Increased building intensification and land-use changes could increase demand
- See the [Water Supply Asset Management Plan](#) for more details.

**Options being considering to reduce the risks to the Water Supply activity and the community posed by those climate risks include:**

- Promote sustainable use of drinking water through water conservation measures and education to ensure long-term sustainability objectives
- Implementation of “smart” metering which helps to improve understanding of current customer use patterns, avoid wastage, and manage future use
- Create a dynamic link between “smart” water metering and energy consumption to allow for proactive management of electricity usage
- Continue to implement and manage excess water use charges – initial data has demonstrated a reduction in peak water demand which contributes to the ability to minimise energy usage and increase efficiency
- Improve knowledge of network performance by continuing to use and maintain hydraulic models which consider current and future scenarios
- Proactively monitor and record usage information with the assistance of intelligent technology to enable informed decision making
- Automation of mechanical systems to more efficiently respond to future pressures – for example variable speed drives can help to reduce overall energy consumption
- Protection of groundwater sources and their vulnerability to contamination through targeted investigations, further implementation of source protection works, and restrictions on excavation below groundwater level
- Manage assets collectively to ensure future works maximise collaborative benefits across Council activities. This includes reviewing climate change risks, such as sea level rise extents, and incorporating the results into current and future planning and design works, noting management of climate related risks and reduction in vulnerability will likely include collaboration in multiple Council activity areas.

Note – none of these options have received any additional operational funding into the planning teams, therefore any of these concepts will need to be undertaken at the expense of existing tasks being undertaken or not at all.

## We are guardians of our natural environment and taonga

**Two pilot projects were proposed to be undertaken in the next three years to further support climate change initiatives, but they are not provided with any 2024-2034 LTP funding. These are:**

Excess Water Use Charges

The excess water use charges were implemented in the network in late 2021. Results from the 2021 and 2022 financial year summaries showed a number of positive outcomes in terms of cost saving, greenhouse gas reduction, and climate reliance opportunities. Implementation of the charges resulted in a change in customer behaviour, which consequently reduced the Council’s peak day demand and peak instantaneous flow demand. Reduced water usage has the benefits of:

- Overall reduction in greenhouse gas emissions for the activity
- If the change in behaviour can be sustained and the reduced peak can be accepted as the new base demand, capacity would be released to accommodate growth, therefore contributing to increased resilience to the effects of climate change and unforeseen events
- Potential decreased necessary capital expenditure to upgrade system to meet future and current population growths



The continuation of the excess water use charges has benefits in the climate change space as well as economic advantages.

#### Smart Water Network

Use of smart technology including smart water meters has an economic impact as well as directly responds to the challenges faced by climate change by detecting and stopping leaks faster, therefore reducing water use, increasing resilience to the impacts of climate change on water availability, and consequently reducing greenhouse gas emissions through increased energy efficiencies.

As no OPEX funding has been provided through the 2024-2034 LTP for this project, it will remain as an initiative to be undertaken should funding be made available in the future. This is particularly frustrating given the capital investment already undertaken to develop the smart water infrastructure and the benefits that can be gained in mass water balancing, leak and pressure management and better understanding of our network performance.

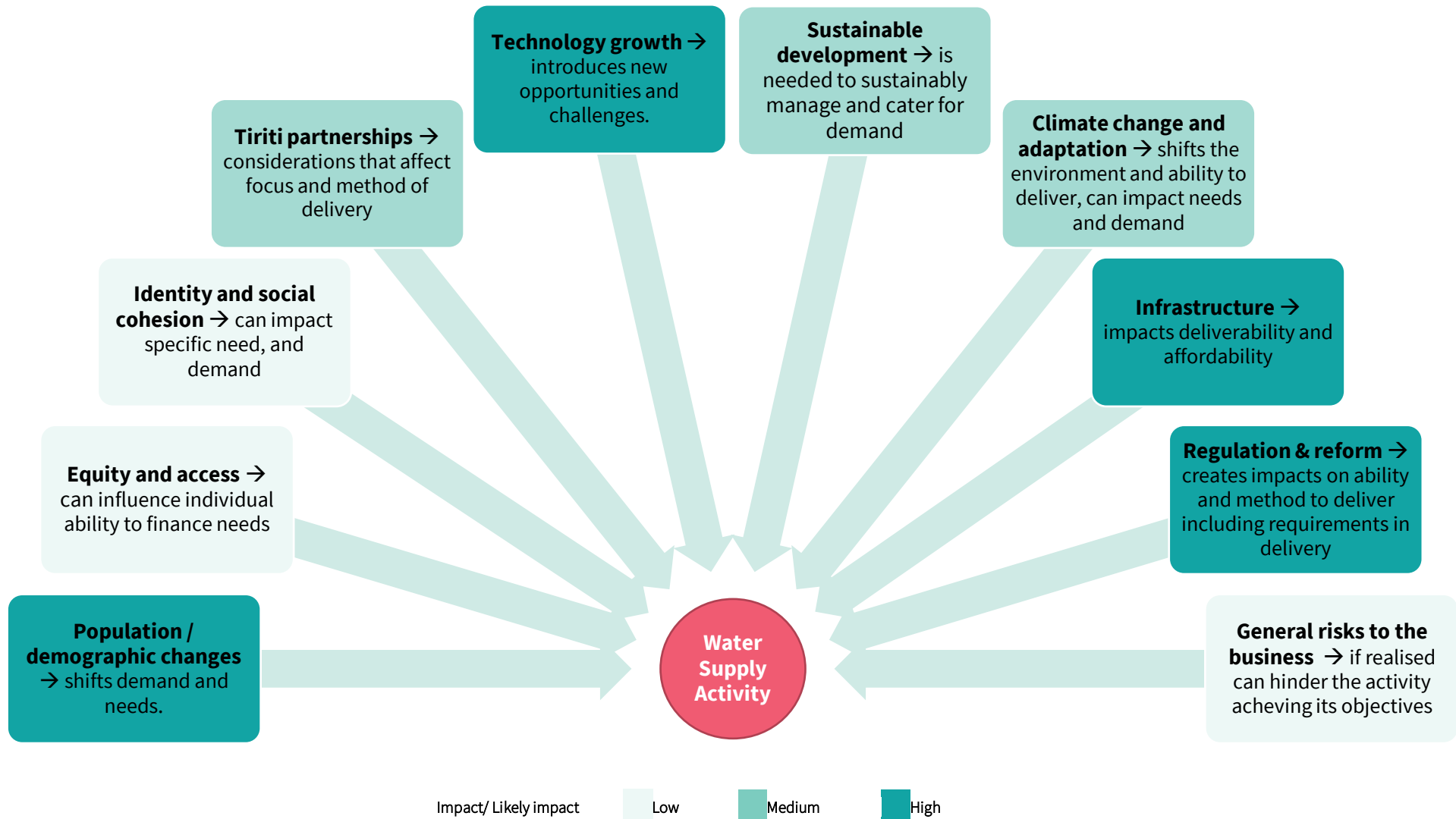
#### **The current level of services set-out already begin to address accountability of the activity functions in relation to climate change vulnerability and greenhouse gas emissions baseline data gathering and provision of funding.**

- Council water supplies are safe to drink
  - Water Safety Plans are a condition of the current level of service and address future risk to the source water. Updated plans can include special consideration for management of climate change effects
- Council operates water supplies in a reliable manner
  - The reliability measure of service is dependent on management of the activity to respond to climate change impacts
- Council water supply networks and operations are sustainable
  - Leak detection initiatives and water loss records are already being actioned in performance targets and contribute to reduction in greenhouse gas emissions and minimising the effects of climate change impacts
  - Use of excess water charges and smart water technology enable measuring of customer water use, which contributes to efficient use of water and enables data collection for effective decision making to respond to future climate challenges
  - As part of the ongoing work, it is important to form a detailed baseline of greenhouse gas emissions in the water supply activity through measurement in our services. This information can then be used for effective future decision making in an effort to reduce greenhouse gas emissions in a partial contribution towards Christchurch District and Christchurch City Council's emissions targets. Unfortunately this has not been funded through the 2024-2034 LTP process.

### 3. How we are planning for future impacts

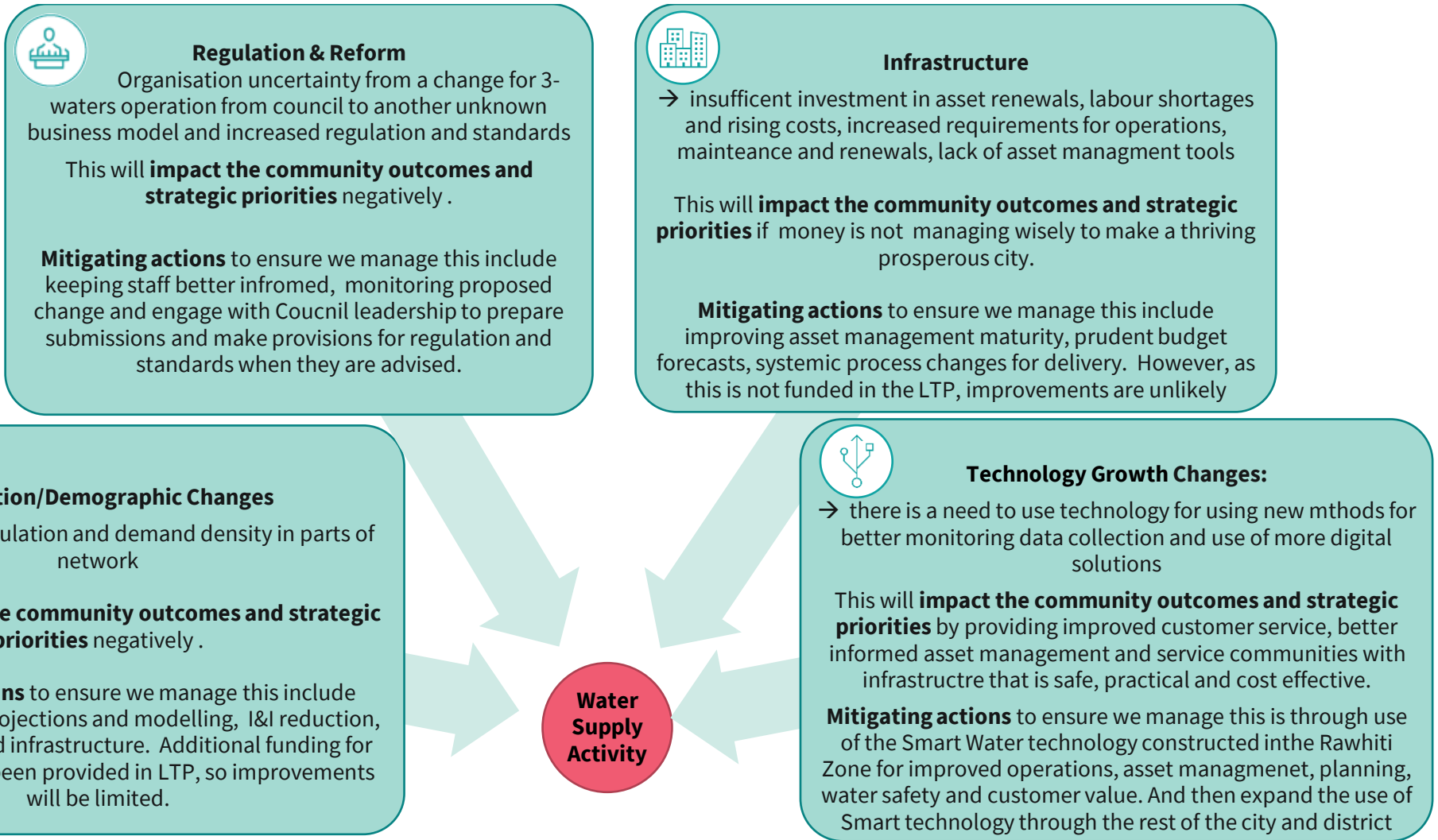
There are various factors influencing current and future demand for Council library facilities and the ability to deliver them. These are listed below.

#### 3.1. Issues impacting current and future activity demand and deliverability



## 3.2. The high impact issues and mitigations planned

The more prominent ones that in particular effect our Community Outcomes or Strategic Priorities are summarised on this page. For further details on issues, including the current status, future projections, likely impact and mitigations please see Appendix B.



## 4. Our levels of service

Council's Levels of Service (LoS) measures enable us to monitor and report against our outcomes and service performance. See Appendix A: Levels of Service Details for more detail.

### Services & Level of Service Statements, with Measures of Success and future year Targets

Level of Service statement (What we will provide)	Measures of success (What our community can expect)	Performance Targets/Outputs			
		2024/25	2025/26	2026/27	Year 10 2033/34
<b>Council water supplies are safe to drink</b>					
<b>Council provides water supplies that are safe to drink and compliant with Drinking Water Standards</b>	Water supplied is compliant with the DWQA Rules (Bacteria compliance) (DIA 1a) (12.0.2.9)	Compliant			
	Water supplied is compliant with the DWQA Rules (Protozoal compliance) (DIA 1b) (12.0.2.10)	Compliant			
	Proportion of customers connected to water supply zones with an up-to-date Ministry of Health approved Water Safety Plan (12.0.2.1)	100%			
<b>Council provides high quality water</b>					
<b>Council provides high quality water that residents are satisfied with</b>	Proportion of residents satisfied with quality of Council water supplies (12.0.2.19)	≥52%	≥54%	≥56%	≥56%
	Total number of complaints received by Council about (DIA 4) (12.0.1.16): a) Drinking water clarity b) Drinking water taste c) Drinking water odour d) Pressure or flow e) Continuity of supply f) Council's response to any of these water supply issues per 1,000 connections served per year	≤ 6.6			
<b>Council operates water supplies in a reliable manner</b>					
<b>Council operates water supplies in a reliable manner</b>	Number of unplanned interruptions per 1,000 properties served per year (12.0.1.2)	≤ 41			≤ 41 - ≤ 42
	Proportion of residents satisfied with reliability of water supplies (12.0.1.13)	≥80%			Between ≥ 80% - ≥ 60%

<b>Council operates water supplies in a responsive manner</b>				
<b>Council staff and contractors respond to customers feedback and quickly resolve issues</b>	Median time (in hours) from notification to attendance of urgent call-out (DIA 3a) (12.0.1.10)			≤ 1
	Median time (in hours) from notification to resolution of urgent callouts (DIA 3b) (12.0.1.12)			≤ 5
	Median time (in hours) from notification to attendance of non-urgent callouts (DIA 3c) (12.0.1.9)			≤ 72
	Median time (in hours) from notification to resolution of non-urgent callouts (DIA 3d) (12.0.1.11)			≤ 96
	The proportion of residents satisfied with Council responsiveness to water supply problems (12.0.1.14)	≥ 65%		
<b>Council water supply networks and operations are sustainable</b>				
<b>Council water supply networks and operations are sustainable</b>	Average consumption of drinking water in litres per resident per day (DIA 5) (12.0.7)	≤ 220	≤ 210	≤ 200
	Percentage of real water loss from Council's water supply reticulated network (DIA 2) (12.0.6)		≤ 25%	≤ 25% - ≤ 15% <sup>1</sup>

<sup>1</sup> Target to be 20% by 2030 and 15% by 2034



## 5. How assets will be managed to deliver the services

The Water Supply portfolio is made up of reticulation, pump stations, treatment, and storage assets. The Asset value of this Activity is approximately \$3.7 Billion.

### Managing our assets

Assets are provided to the activity by three key means: Asset improvement/growth, renewals, and vested assets from development. Development infrastructure is driven by private developers, meaning that the timing of new infrastructure, handover provisions and accounting for new operations and maintenance spending can be difficult to manage.

New and upgraded assets for growth and improved levels of service are generally required to meet compliance and regulatory requirements (eg the Water Services Regulator Act, the Water Services Act, the Water Services Entities Act, Freshwater NES) or in response to climate change or resilience to natural hazards.

Renewal projects are required to replace assets at the end of their useful lives to prevent critical and chronic asset failures and moderate the level of reactive operational and maintenance spending.

Council's largest capital expenditure category for this activity is for asset renewal, predominantly driven by the prioritised reticulation renewal programme (mains and submains).

The water activity is primarily the responsibility of Council's internal Three Waters Unit. Council's Three Waters Network Operations Team operates the Christchurch water supply network with maintenance activities carried out by Citycare Limited. Council's Operations Team operate the Banks Peninsula schemes and treatment plants.

The Draft Infrastructure Strategy (IS) contains some key significant issues, including "We need to improve our understanding of our infrastructure so we can make the best decisions for our community". This is an on-going issue that additional resource is needed to make any improvements to data collection or management. There are a number of processes that need to be improved, for example the ability to collect and update condition data to be able to create renewal models with accurate funding projections. Many of these issues are also reflected within the Risk Table of the

### Looking forward

The longer-term strategic direction for water supply is supported by Council's Te Wai o Tane - Integrated Water Strategy. This provides Council's vision, goals, objectives and suggested implementation actions for the city's water, wastewater and stormwater services. Water supply asset management strategies are expected to align with the Integrated Water Strategy objectives.

The current context surrounding the water supply activity will continue to influence the current and future outlook. This includes new drinking water regulation, water industry service delivery reform, renewal of ageing infrastructure, responses to climate change, addressing risk and resilience, reducing water demand, moving to data-rich smart technology solutions, engaging with customer expectations, and managing financial constraints.

The business has not been able to make use of the "Otautahi Christchurch Climate Change Strategy (2021)" as there have been insufficient policy or guidance for the activity to work within the framework of goals and programmes in the strategy. Therefore, the emphasis of climate within this LTP is welcomed by the business,

The way forward for implementation of any climate change resilience or greenhouse gas reduction initiatives is to embed this thinking in all our planning processes, rather than fund initiatives separately.

Comparative assessments of greenhouse gas emissions will in the future be used to inform future investment decisions towards reducing the carbon footprint of Council and Christchurch District

One of the key messages within the Infrastructure Strategy, Financial Strategy and the Mayors Letter of Expectation is ensuring that the capital programme is appropriate deliverable.

We acknowledge that while past performance is valuable for learning, it is crucial to focus on the changes required to enhance delivery processes and ensure the capital program's deliverability. Three Waters has and continues to make systematic changes to delivery

Strategic Asset Management Activity Plan which is the key team responsible for guiding the organisation with all things asset management.

One of the key requests for OPEX for the water supply activity pertained to the Smart Water Network trial that has been established in the Rawhiti Zone, in particular the service costs to maintain the various devices (including new customer meters) and the data storage/reporting platforms. To date the cost for the monitoring systems has been met by prioritising funding from elsewhere in the activity, therefore reducing the funding available for carrying out other reactive and planned works.

Eventually, having smart meters will provide accurate and live water usage information to our customers (as power companies are able to provide) and we will be able to maintain or calibrate our bulk water meter sites which are needed to support water loss calculations to better understand our network performance and losses.

This is important to maximise the benefits to be gained from the millions of dollars invested in capital infrastructure over the past 6-7 years in the Smart Water trial and justify Smart Water being rolled out across the whole city.

Without continued investment in asset management the condition of our vertical assets such as pump stations and pressure mains will not be improved resulting in renewals being scheduled relying on basic information such as age. It also means that accurate and more targeted renewal profiles cannot be prepared.

Additionally, there is a continued need to provide for consequential OPEX related to operating the large capital projects currently being built or proposed for the futures, current projects such as the new Okains Bay or the Koukourārata water supply treatment plants or the new pumpstation at Moorehouse Avenue. Bids for consequential OPEX will be included in future plans

that will enable the delivery of the Capital program. The following are changes being undertaken to improve the efficiency of capital delivery:

- Development of a 3-year delivery program
- Improved scheduling, resourcing and allocation
- Improved program management
- Pipe renewals delivered through a multi-year performance based contract with Tier 1 contractors
- Contingency funds to be held at program level for low risk projects
- Development of a capital works program that is agile and can react to project delays that will invariably occur on a capital works program of this size
- Increased investigations and designs ahead of plan, this will remove the risk of procurement delays impacting the capital program

By recognizing the need for improvement and implementing the necessary changes, we are confident in achieving successful outcomes for the program and it is deliverable. There are sufficient contractor resources in the market, the challenges in supply chain are being overcome through advanced planning, and design resources are available. This is all made possible with a well developed program and schedule, allowing our delivery partners to prepare and allocate resources to support our capital program.

Currently the capital budget is used as the key performance indicator for the capital program. In measuring success, it is more appropriate to measure quality and delivery of planned capital projects in any given year. Focusing on spend drives poor outcomes and negates working smarter, improving procurement, and delivering what is most important – completed projects.

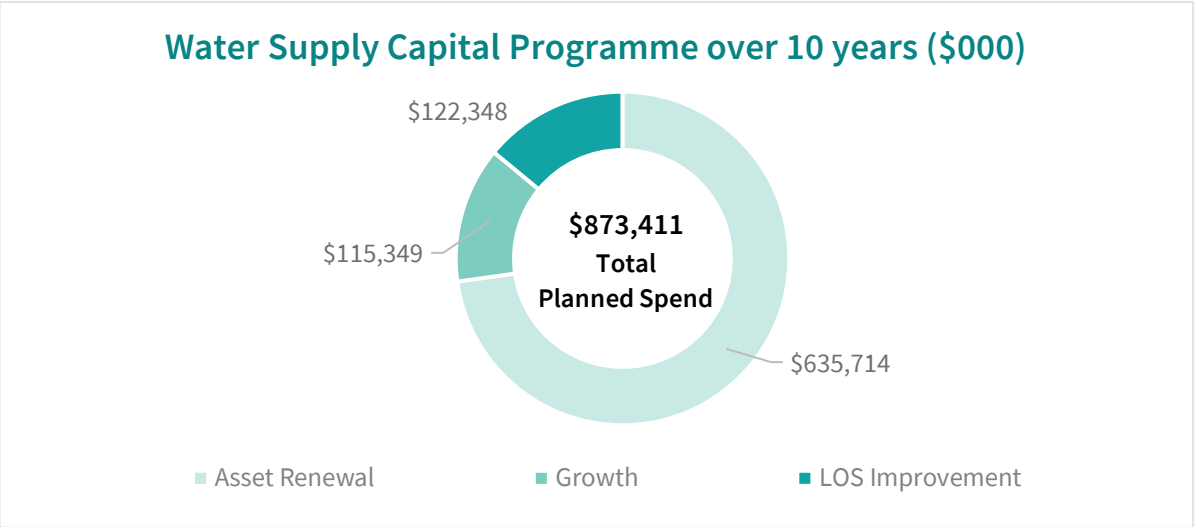
Reducing the capital program would increase the risk profile to Council. The program is developed to meet the level of service targets, avoid the sweating assets that would increase operational costs, and undertaking projects required to meet growth demands.

The current capital programme has been designed to balance between deliverability and achieving levels of service. As improved asset data allows robust business cases to be developed, additional funding will be requested in future Long Term Plans to fund programmes of work that require increased investment.

Please refer to the [Water Supply Asset Management Plan](#) for more information on these assets.

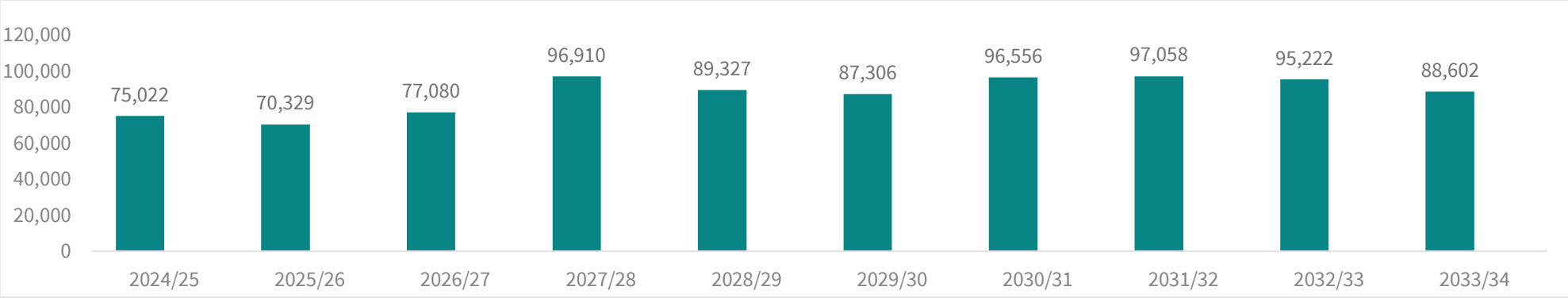
# 6. Capital expenditure and key capital projects

To ensure the continued ability to deliver on our activities and services, and contributing to our community outcomes and strategic priorities, projects have been planned and budgeted for the next 10 years.



- ### Planned significant projects and programmes include:
1. Reticulation Renewal Programme \$493m
  2. New Chlorination Equipment \$51m
  3. New and Upgraded Pump Stations Programme \$182m
  4. Ferrymead Water Supply Capacity Upgrade \$22m
  5. Averill Pump Station Replacement \$18m
  6. Kerrs Pump Station Replacement \$17m
  7. Koukourārata Drinking Water Scheme \$11m

## Total Planned Capital Programme summary (\$'000)



See [Water Supply Asset Management Plan](#) for more detail on the Planned Capital Programme.

# 7. Financial resources needed

## 7.1. Resources needed

### Water Supply

000's	LTP 2024/25	LTP 2025/26	LTP 2026/27	LTP 2027/28	LTP 2028/29	LTP 2029/30	LTP 2030/31	LTP 2031/32	LTP 2032/33	LTP 2033/34
<b>Activity Costs Before Overheads by Service</b>										
Council Water Supplies Are Safe To Drink	19,402	19,711	20,568	21,433	21,512	22,157	22,962	23,359	23,799	24,280
Reliably Operates Water Supplies	4,999	5,027	5,132	5,241	5,357	5,460	5,568	5,670	5,778	5,896
Responsively Operates Water Supplies										
Water Supply Networks & Operations Sustainable										
Council Provides High Quality Water	614	614	619	623	629	627	632	629	635	653
	<b>25,014</b>	<b>25,351</b>	<b>26,320</b>	<b>27,297</b>	<b>27,498</b>	<b>28,245</b>	<b>29,162</b>	<b>29,657</b>	<b>30,212</b>	<b>30,829</b>
<b>Activity Costs by Cost Type</b>										
Direct Operating Costs	9,591	9,679	9,906	10,146	10,333	10,574	10,811	11,027	11,247	11,461
Direct Maintenance Costs	10,096	10,310	10,977	11,639	11,584	12,065	12,668	12,921	13,180	13,430
Staff and Contract Personnel Costs	5,274	5,308	5,381	5,455	5,523	5,546	5,623	5,647	5,721	5,873
Other Activity Costs	53	55	56	57	59	60	61	62	64	65
Overheads, Indirect and Other Costs	23,410	25,237	25,839	26,677	27,673	28,220	28,778	29,832	30,212	30,690
Depreciation	50,100	52,789	55,017	57,500	59,663	62,160	64,597	67,019	69,495	71,421
Debt Servicing and Interest	6,783	8,204	9,343	10,688	11,457	11,980	12,462	12,826	12,937	13,085
<b>Total Activity Cost</b>	<b>105,307</b>	<b>111,582</b>	<b>116,519</b>	<b>122,161</b>	<b>126,291</b>	<b>130,605</b>	<b>135,000</b>	<b>139,335</b>	<b>142,856</b>	<b>146,024</b>
<b>Funded By:</b>										
Fees and Charges	5,553	5,715	5,840	5,975	6,112	6,246	6,378	6,505	6,635	6,761
Grants and Subsidies										
Cost Recoveries	( )									
Other Revenues										
<b>Total Operational Revenue</b>	<b>5,553</b>	<b>5,715</b>	<b>5,840</b>	<b>5,975</b>	<b>6,112</b>	<b>6,246</b>	<b>6,378</b>	<b>6,505</b>	<b>6,635</b>	<b>6,761</b>
<b>Net Cost of Service</b>	<b>99,753</b>	<b>105,867</b>	<b>110,679</b>	<b>116,187</b>	<b>120,179</b>	<b>124,358</b>	<b>128,623</b>	<b>132,829</b>	<b>136,221</b>	<b>139,263</b>
<b>Funding Percentages</b>										
Rates	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
Fees and Charges	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Grants and Subsidies	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cost Recoveries	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other Revenues	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
<b>Capital Expenditure</b>										
Improved Service Levels	12,477	15,180	13,973	8,930	8,415	12,064	10,050	15,906	15,292	10,060
Increased Demand	5,831	4,080	7,445	18,482	19,739	21,345	13,986	5,796	9,230	9,414
Renewals & Replacements	56,713	51,068	55,661	69,497	61,173	53,897	72,520	75,357	70,700	69,127
<b>Total Activity Capital</b>	<b>75,022</b>	<b>70,329</b>	<b>77,080</b>	<b>96,910</b>	<b>89,327</b>	<b>87,306</b>	<b>96,556</b>	<b>97,058</b>	<b>95,222</b>	<b>88,602</b>

## 7.2. Funding consideration and outcome

Section 101 Local Government Act 2002 - Funding Consideration. The following tables are based on the financials from the previous page.

Council funds the Wastewater Activity predominately through the general rate. This means that most funding comes from property owners, mostly on the basis of the rateable value of their property.

- **Operating expenditure** is largely funded through general rates as the Wastewater Activity benefits the community as a whole, and the benefits are received mostly in the same year the expenditure is incurred.
- **Capital expenditure** is largely funded from borrowing, with some funding from development contributions. Funding from rates is used to service the capital expenditure debt.

This funding approach is based on applying the following main funding principles to determine the funding policy.

### Funding principles considered for operating costs

Consideration for funding method	Result	Implication
<b>User-Pays</b> <i>the degree to which the Activity can be attributed to individuals or identifiable groups rather than the community as a whole</i>	High	Funded from fees and charges
<b>Exacerbator-Pays</b> <i>the degree to which the Activity is required as a result of the action (or inaction) of individuals or identifiable groups</i>	Low	Funded from rates
<b>Inter-Generational Equity</b> <i>the degree to which benefits can be attributed to future periods</i>	Low	Funded in year costs are incurred
<b>Separate Funding?</b> <i>the degree to which the costs and benefits justify separate funding for the Activity</i>	High	Funded from rates

### Outcome: Funding for operating costs

Source	Proportion funded*	Funding Mechanisms
Individual / Group	High	Targeted Rate (High) Fees & Charges (Low)
Community	Low	Grants & Other (Low)

### Funding of net capital expenditure

Net means after specific capital grants/subsidies/funding

Category of capex	How it is funded initially - Refer also to Financial Strategy	Proportion*
<b>Renewal/replacement</b>	<i>Mix of rates and debt, but mostly rates – because the renewal / replacement programme is continuous. In future years, debt repayment is funded by rates.</i>	High
<b>Service improvement</b>	<i>Debt – because the benefits of capital expenditure on service improvement are received in future periods. In future years, debt repayment is funded by rates.</i>	Low
<b>Growth</b>	<i>Development contributions and debt – because the benefits of capital expenditure relating to growth are received in future periods. In future years, debt repayment is funded by a mix of development contributions and rates.</i>	Low

### Outcome: Initial funding for capital

Initial funding source	Proportion of capex funded*
Rates	Medium
Borrowing	Medium
Development Contributions	Low
Grants and Other	Low

\* Low = this source provides 0%-25% of the funding for this Activity, Medium = this source provides 25%-75% of the funding for this Activity, High = this source provides 75%-100% of the funding for this Activity

More information on the Council's Finance and Funding Polices can be found in the [Financial Strategy](#) and the [Revenue and Financing Policy](#)

## 8. Possible significant negative impacts on wellbeing



**This activity may have significant negative effects on social, economic, environmental or cultural wellbeing of the local community, now or in the future.**

Negative Effect	Mitigation
<b>Social</b>	
Chemical addition may be required (chlorination or fluoridation) as dictated by legislation and/or water quality	Respond to new Central Government legislation as required. Continue to chlorinate as required, while prioritising works to demonstrate where water safety can be achieved without chlorine. Fluoridate water if required by the Te Whatu Ora.
<b>Economic</b>	
Cost of operating a compliant potable water supply	Documented processes and maintenance systems control costs. Improve network efficiency through asset renewal. Water supply rezoning and pressure management to reduce operating and maintenance costs. Reduce demand through water conservation measures. Assess and report cost efficiency and affordability. Reduce wastage through pipe leaks.
<b>Environmental</b>	
Salt-water intrusion in coastal regions compromises water quality	Monitor well takes in coastal areas for salinity (conductivity) and investigate any changes. Long term strategy to move wells away from coast where salt-water intrusion may impact on quality.
Effects of water abstraction on the environment and future resourcing of water for the city	Network maintenance and water conservation measures to minimise wastage (leaks). Annual leak detection programme to monitor and reduce water loss. Maintain resource consent compliance and avoid over-abstraction. Establish infrastructure (e.g. suction tanks) to improve management of groundwater abstraction. Respond to notifications from Environment Canterbury regarding requests for new water takes.
<b>Cultural</b>	
Cultural impact of groundwater abstraction and network water losses	Work collaboratively with Ngāi Tahu and local rūnanga to find cost effective solutions that address cultural concerns.

# Appendices



## A. Appendix A: Levels of Service detail

### A.1. Continuous Improvement Review (S17A) – Recommendations for change

**No Continuous Improvement Reviews (S17A) have been identified for this Activity.**



## A.2. Levels of Service: Performance measures in detail

Note: With the proposed repealing of the Water Services Bills and uncertainty over future proposed models, the Levels of Service below may need to be reviewed and updated within the LTP period.

Level of Service statement (What we will provide)	LOS	Measures of success (What our community can expect)	Performance Targets/Outputs				Method of Measurement	Community Outcome	Historic Performance Trends	Benchmarks	C/M
			2024/25	2025/26	2026/27	2027 - 34					
<b>Council water supplies are safe to drink</b>											
<b>Council provides water supplies that are safe to drink and compliant with Drinking Water Standards</b>	12.0.2.2	Proportion of High Hazard commercial connections with compliant backflow prevention device tested within the last year		>=100%			Water Services team report on the properties assessed and required to install backflow prevention devices	A collaborative confident city	2023: Unknown 2022: 100% (Revised measure in 2022)		M
	12.0.2.20	Proportion of Medium Hazard commercial connections >38mm diameter with compliant backflow prevention device tested within the last year		>=100%			Water Services team report on the properties assessed and required to install backflow prevention devices	A collaborative confident city	2023: Unknown 2022: 95%		M
	12.0.2.9	Water supplied is compliant with the DWQA Rules (Bacteria compliance) (DIA 1a)		Compliant			CCC report on compliance with the Drinking-water Standards for NZ (DWSNZ) and Drinking Water Quality Assurance Rules (DWQA Rules) from Taumata Arowai.  <i>The DWQA Rules primarily impose requirements relating to drinking water supplier duties to:</i>  (1.) supply safe drinking water (2.) ensure that drinking water complies with the Water Services (Drinking Water Standards for New Zealand) Regulations 2022.  <i>Department of Internal Affairs, Water Supply non-financial performance measure 1a</i>	A collaborative confident city	2023: Compliance was not met for all supplies. All distribution zones Achieved compliance. 2022: Not Achieved The DIA target of 100% was not met. Only 1 of our water distribution zones was non-compliant 2021: 85.15% - Not achieved 2020: 100% 2019: 100%	Ministry of Health Annual Report on Drinking-water Quality 2018-2019: 95.3%	C
	12.0.2.10	Water supplied is compliant with the DWQA Rules (Protozoal compliance) (DIA 1b)		Compliant			CCC report on compliance with the Drinking-water Standards for NZ (DWSNZ) and Drinking Water Quality Assurance Rules (DWQA Rules) from Taumata Arowai.  <i>The DWQA Rules primarily impose requirements relating to drinking water supplier duties to:</i>  (1.) supply safe drinking water (2.) ensure that drinking water complies with the Water Services (Drinking Water Standards for New Zealand) Regulations 2022.  <i>Department of Internal Affairs, Water Supply non-financial performance measure 1b.</i>	A collaborative confident city	2023: Compliance was not met for all supplies. 2022: Not Achieved the DIA target of 100% was not met as only 2 out of our 15 water treatment plants were compliant. However, we did exceed our internal target of >=0.3%* 2021: 0% 2020: 0% 2019: 0%	Ministry of Health Annual Report on Drinking-water Quality 2018-2019: 78.7%	C
	12.0.2.1	Proportion of customers connected to water supply zones with an up-to-date Ministry of Health approved Water Safety Plan		100%			Quality & Compliance team report on water safety plans	A collaborative confident city	2023: 100% 2022: 100% 2021: 100% 2020: 100% 2019: 100%	Ministry of Health Annual Report on Drinking-water Quality 2018-2019: 98.3%	C

Level of Service statement (What we will provide)	LOS	Measures of success (What our community can expect)	Performance Targets/Outputs				Method of Measurement	Community Outcome	Historic Performance Trends	Benchmarks	C/M
			2024/25	2025/26	2026/27	2027 - 34					
	12.0.2.21	Proportion of micro-biological drinking water samples collected and analysed by an IANZ accredited and Ministry of Health/Taumata Arowai registered laboratory	100%				Number of samples analysed in an IANZ lab / Total number of samples analysed * 100	A collaborative confident city	2023: 100% 2022: 100% 2021: no data found 2020: 100% 2019: 100%		M
<b>Council provides high quality water</b>											
<b>Council provides high quality water that residents are satisfied with</b>	12.0.2.19	Proportion of residents satisfied with quality of Council water supplies	>=52%	>=54%	>=56%	Residents Satisfaction Survey	A collaborative confident city	2023: 53% 2022: 46% 2021: 45% 2020: 48% 2019: 37%	Dunedin 22/23: 72% (satisfaction with quality and pressure)	C	
	12.0.1.16	Total number of complaints received by Council about (DIA 4) (12.0.2.16): a) Drinking water clarity b) Drinking water taste c) Drinking water odour d) Pressure or flow e) Continuity of supply f) Council's response to any of these waster supply issues per 1,000 connections served per year	<=6.6				Total number of complaints received through Council's call centre about clarity, taste, odour, pressure, flow, continuity of supply, or responses to complaints, multiplied by 1000/number of connections.  <i>Department of Internal Affairs, Water Supply Non-Financial Performance Measure 4.</i>	A collaborative confident city	Per 1,000 properties 2023: 10 2022: 0.067 New measure in 2022	Water NZ National Performance Review 2021/22: 4.82 2018/19: 6.07	C
	12.0.2.13	Number of water clarity complaints per 1,000 connections per year (DIA 4a)	<=1.0				The number of complaints about water clarity received through the call centre, expressed per 1,000 properties connected to the Council's water supply system.  <i>Department of Internal Affairs, Water Supply Non-Financial Performance Measure 4a.</i>	A collaborative confident city	2023: 0.44 2022: 0.70 2021: 0.41 2020: 0.33 2019: 0.35	Water NZ National Performance Review 2021/22: 0.702	M
	12.0.2.14	Number of water odour complaints per 1,000 connections per year (DIA 4c)	<=0.5				The number of complaints about water odour received through the call centre, expressed per 1,000 properties connected to the Council's water supply system.  <i>Department of Internal Affairs, Water Supply non-financial performance measure 4c</i>	A collaborative confident city	2023: 0.16 2022: 0.18 2021: 0.44 2020: 0.28 2019: 0.44	Water NZ National Performance Review 2021/22: 0.18	M
	12.0.2.15	Number of water taste complaints per 1,000 connections per year (DIA 4b)	<=0.5				The number of complaints about water taste received through the call centre, expressed per 1,000 properties connected to the Council's water supply system.  <i>Department of Internal Affairs, Water Supply Non-Financial Performance Measure 4b.</i>	A collaborative confident city	2023: 0.34 2022: 0.479 2021: 0.498 2020: 0.45 2019: 0.81	Water NZ National Performance Review 2021/22: 0.478	M

Level of Service statement (What we will provide)	LOS	Measures of success (What our community can expect)	Performance Targets/Outputs				Method of Measurement	Community Outcome	Historic Performance Trends	Benchmarks	C/M
			2024/25	2025/26	2026/27	2027 - 34					
<b>Council operates water supplies in a reliable manner</b>											
<b>Council operates water supplies in a reliable manner</b>	12.0.1.1	Weekly average of the number of unplanned interruptions of greater than 4 hours duration each year (12.0.1.1)		<=1.2		<=1.2 – <= 2.0	Monthly Contractor reports giving the total number of unplanned interruptions longer than 4 hours from notification to resolution each week divided by weeks to date.	A thriving prosperous city	2023: 5.45 2022: 1.71 2021: 0.63 2020: 0.98 2019: 1.3		M
	12.0.1.2	Number of unplanned interruptions per 1,000 properties served per year		<=41		<=41 – <=42	Monthly Contractor reports giving the total number of unplanned interruptions to date in a year divided by the number of properties served multiplied by 1,000.	A thriving prosperous city	2023: 9.73 2022: 9.75 2021: 9.94 2020: 38.43 2019: 17.72	Watercare: 2.56 2021/22: 2.25	C
	12.0.1.13	Proportion of residents satisfied with reliability of water supplies		>=80%		>=80% – >=60%	Resident satisfaction surveys	A thriving prosperous city	2023: 79% 2022: 77% 2021: 75% 2020: 72% 2019: 81% Not measured prior to 2018.	Water NZ National Performance Review 2021/22: 28.09 2018/19: 7.9	C
	12.0.1.7	Number of continuities of supply complaints per 1,000 connections served per year (DIA 4e)			<=2.0		Number of complaints divided by the total number of properties connected to the water supply network divided by 1,000.  <i>Department of Internal Affairs, Water Supply non-financial performance measure 4e</i>	A thriving prosperous city	2023: 1.06 2022: 1.83 2021: 1.59 2020: 1.27 2019: 1.57		M
	12.0.1.8	Number of pressure or flow complaints per 1,000 connections per year (DIA 4d)			<=2		The number of complaints about water flow or pressure received through the call centre, expressed per 1,000 properties connected to the Council's water supply system  <i>Department of Internal Affairs, Water Supply non-financial performance measure 4d</i>	A thriving prosperous city	2023: 1.88 2022: 2.12 2021: 0.99 2020: 0.80 2019: 0.85	Water NZ National Performance Review 2015/16: 4.17	M
<b>Council operates water supplies in a responsive manner</b>											
<b>Council staff and contractors respond to customers feedback and quickly resolve issues</b>	12.0.1.10	Median time (in hours) from notification to attendance of urgent call-out (DIA 3a)			<=1		The median response time measured from the time that the Council receives notification of the issue to the time that service personnel reach the site.  Reported in monthly contract reports from the Contractor.  <i>Department of Internal Affairs, Water Supply non-financial performance measure 3a</i>	A thriving prosperous city	2023: 39 minutes 2022: 1 hour 11 minutes 2021: 1.07 2020: 0.68 2019: 0.62	Water NZ National Performance Review 2021/22: 0.39 2018/19: 0.5 2017/18: 0.51	C
	12.0.1.12	Median time (in hours) from notification to resolution of urgent callouts (DIA 3b)			<=5		The median resolution time measured from the time that the Council receives notification of the issue to the time that	A thriving prosperous city	2023: 2 hours 48 minutes 2022: 5 hours 20 minutes	Water NZ National Performance Review	C

Level of Service statement (What we will provide)	LOS	Measures of success (What our community can expect)	Performance Targets/Outputs				Method of Measurement	Community Outcome	Historic Performance Trends	Benchmarks	C/M
			2024/25	2025/26	2026/27	2027 - 34					
							service personnel confirm resolution of the issue.  Reported in monthly contract reports from the Contractor.  <i>Department of Internal Affairs, Water Supply non-financial performance measure 3b</i>		2021: 3.87 2020: 2.35 2019: 2.02	2021/22: 4.56 2018/19: 2.4	
	12.0.1.9	Median time (in hours) from notification to attendance of non-urgent callouts (DIA 3c)		<=72			The median response time measured from the time that the Council receives notification of the issue to the time that service personnel reach the site.  Reported in monthly contract reports from the Contractor.  <i>Department of Internal Affairs, Water Supply non-financial performance measure 3c.</i>	A thriving prosperous city	2023: 9.22 hours 2022: 41 hours 19 minutes 2021: 71 hours 2020: 19.0 2019: 4.6	Water NZ National Performance Review 2021/22: 41.19 2018/19: 6.2	C
	12.0.1.11	Median time (in hours) from notification to resolution of non-urgent callouts (DIA 3d)		<=96			The median resolution time measured from the time that the Council receives notification of the issue to the time that service personnel confirm resolution of the issue.  Reported in monthly contract reports from the Contractor.  <i>Department of Internal Affairs, Water Supply non-financial performance measure 3d</i>	A thriving prosperous city	2023: 15.67 hours 2022: 44 hours 16 minutes 2021: 76 hours 24 minutes 2020: 21 hours 7 min 2019: 6 hours 53 minutes	Water NZ National Performance Review 2021/22: 44.16 2018/19: 20.2	C
	12.0.1.14	The proportion of residents satisfied with Council responsiveness to water supply problems	>=65%		>=70%		Resident satisfaction surveys	A thriving prosperous city	2023: 59% 2022: 57% 2021: 52% 2020: 54% 2019: 60% Not measured prior to 2018.	Wellington Water: 65% (Jul-Sep 2023) customer satisfaction with service)	C
	12.0.1.15	Number of complaints regarding Council's response to complaints about drinking water taste, odour, clarity, pressure or flow, or continuity of supply per 1,000 properties connected to the Council's water supply system per year (DIA 4f)		<=0.6			The number of complaints about the Council's response to complaints received under 12.1.1 Target 4, 12.1.1 Target 10, 12.3.1 Target 2 and 12.3.1 Target 3 received through the call centre, expressed per 1,000 properties connected to the Council's water supply system.  Department of Internal Affairs, Water Supply non-financial performance measure 4f	A thriving prosperous city	2023: 0.013 2022: 0.06 2021: 0.06 2020: 0.01 Not measured prior to 2019.		M

**Council water supply networks and operations are sustainable**

Level of Service statement (What we will provide)	LOS	Measures of success (What our community can expect)	Performance Targets/Outputs				Method of Measurement	Community Outcome	Historic Performance Trends	Benchmarks	C/M
			2024/25	2025/26	2026/27	2027 - 34					
Council water supply networks and operations are sustainable	12.0.4	Annual average power (kWh of electricity) used to pump each cubic metre of water	<=0.35				Total power used from all water supply pump stations divided by total volume of water pumped	A green, liveable city	2023: 0.39 2022: 0.4 2021: 0.33 2020: 0.37 2019: 0.34	Water NZ National Performance Review 2021/22: 0	M
	12.0.5	Number of infringement notices for major or persistent breaches of resource consents regarding the operation of the water supply network, as reported by ECan or Council	0				Number of infringement notices received in relation to resource consents for water supply	A green, liveable city	2023: 0 2022: 0 2021: 0 2020: 0 2019: 0	Wellington Water: 0	M
	12.0.7	Average consumption of drinking water in litres per resident per day (DIA 5)	<=220	<=210	<=200		Total volume of water abstracted minus the leakage from the public network divided by the total population served by Council's water supply networks  <i>Department of Internal Affairs, Water Supply non-financial performance measure 5</i>	A green, liveable city	2023: 261 2022: 278 2021: 398 2020: 229 2019: 209	Water NZ National Performance Review 2021/22: 611 2018/19: 294	C
	12.0.6	Percentage of real water loss from Council's water supply reticulated network (DIA 2)	<=25%		<=25% - <=15% <sup>2</sup>		Calculated from night time flow measurement and total water abstraction.  <i>Department of Internal Affairs, Water Supply non-financial performance measure 2</i>	A green, liveable city	2023: 27.3% 2022: 25.5% 2021: 23.5% 2020: 20.2% 2019: 23.0%	Water NZ National Performance Review 2021/22: 22%	C
	12.0.6.2	Average Infrastructure Leakage Index (ILI) for all Council water loss zones	<=3.28		<=3.28 - <=3.35		Infrastructure Leakage Index = Real losses (L/connection/ day)/ Unavoidable real losses (L/connection/ day).	A green, liveable city	2023: 4.25 2022: 4.12 2021: No data found 2020: No data available 2019: 3.73	Water NZ National Performance Review 2021/22: 4.1 2018/19: 3.125	M
	12.0.10	Peak day demand of drinking water in L per connection per day	<=1400		<=1400 - <=1000		Total volume of water abstracted from the public network on the peak day divided by the total number of properties served by Council's water supply networks	A green, liveable city	2023: 1,204 2022: 1,275 2021: No data found 2020: 1,617 2019: 1,402		M
	12.0.11	Peak hour demand of drinking water in L per connection per hour	<=95		<=95 - <=85		Total volume of water abstracted from the public network on the peak hour divided by the total number of properties served by Council's water supply networks	A green, liveable city	2023: 70 2022: 74 2021: No data found 2020: 103 2019: 96		M
	12.0.15	10 year rolling historic ratio of renewals to depreciation	>=70%		>=85%		Historic 10 year average renewals expenditure / Historic 10 year average depreciation	A green, liveable city	2023: 61.2% 2022: 55.3% 2021: No data found	IPWEA Asset management financial indicator :	M

<sup>2</sup> Target to be 20% by 2030 and 15% by 2034

Level of Service statement (What we will provide)	LOS	Measures of success (What our community can expect)	Performance Targets/Outputs				Method of Measurement	Community Outcome	Historic Performance Trends	Benchmarks	C/M
			2024/25	2025/26	2026/27	2027 - 34					
								New Metric 2019: 32.6%	100%		
	12.0.16	Increase Water Supply Asset Management Maturity towards agreed, appropriate level		77			Conduct assessment on alternate years Asset Management Maturity assessment (AMMA) to be conducted every two years by an external assessor until appropriate level of maturity target is achieved.	A green, liveable city	2023: 82 2022: 82 2021: No data found 2020: 82 2019: 76	NZ Treasury Investor Confidence Rating (ICR) Asset Management Maturity Assessment (AMMA) Tool	M

## A.3. Levels of Service changes from Long-term Plan 2021-31, and why

Related Levels of Service (now known as Measures of Success and Targets) have been grouped together under *Level of Service Statements*. This provides a *reduced suite of levels of service that are most critical and meaningful*, rationalising the overall number to be presented in the LTP and included in future performance reporting to ELT, Council and the community, while ensuring continued *transparency of non-financial performance across services*. Applying this process has resulted in no material changes to Measures of Success or Targets beyond those changes specifically set out below.

### Deletions

Activity / Level of Service	Change from 2021-31 LTP	Reason/Rationale	Options for Consultation
LoS 12.0.9 (M) Total volume of water abstracted for urban water supplies in millions of cubic metres per year  Target: ≤ 55	Delete Level of Service	Having a target will be part of our resource consent requirements and monitored through resource consent compliance reports to ECan. See Level of service 12.0.5.	Management measure, no consultation required.

### New

**This Activity has no new levels of service.**

### Amendments

Activity / Level of Service	Change from 2021-31 LTP	Reason/Rationale	Options for Consultation
LOS 12.0.6 (C) Percentage of real water loss from Council's water supply reticulated network (DIA 2)	Target changed <ul style="list-style-type: none"> <li>from ≤26% in year 10,</li> <li>to: ≤20% by 2030 and ≤15% by 2034</li> </ul>	Council amendment as put forward and accepted during the LTP draft adoption meeting on 14, 21, and 27 February 2024.	Standard consultation through elevation into the Consultation Document.
LOS 12.0.7 (C) Average consumption of drinking water in litres per resident per day (DIA 5)	Target changed <ul style="list-style-type: none"> <li>from ≤210 in year 2023/24 and ≤180 in year 10,</li> <li>to “≤ 220” in year 24/25, “≤ 210” in year 25/26, “≤ 200” in</li> </ul>	The targets have been set based on the figures that the business is aiming for by continuing to operate the network using some of the Smartwater initiatives already installed and continuing the benefits that are already	Standard consultation through elevation into the Consultation Document.

	year 26/27, and “<= 200” in year 10	being seen with the excess water charges. Due to there being limits to what can be expected by customer habit changes due to excess water charging, the 10 year target remains at <=200 as there is insufficient OPEX funding to expand upon the Smartwater network within this LTP.	
LOS 12.0.16 (M) Increase Water Supply Asset Management Maturity towards agreed, appropriate level (Advanced 93)	Target changed <ul style="list-style-type: none"> <li>• from &lt;=82 in year 2023/24 and &lt;=93 in year 10,</li> <li>• to “77” across all years,</li> <li>• “(Advanced 93)” removed as no appropriate level has been set</li> </ul>	The targets in the 2021-2031 LTP were based on the Asset Management Maturity Assessment (AMMA) carried out in 2020, and the proposed improvement levels recommended. The most recent AMMA carried out rated 3 waters at a Core/Intermediate level of maturity. As there was no overall score given as per previous AMMA results, we have taken the minimum score of an Intermediate rating as being representative of where we currently are - 77. As no OPEX funding has been provided for asset management improvement within this LTP, asset management maturity is not expected to improve.	Management measure, no consultation required.
LOS 12.0.2.2 (C→M) Proportion of High Hazard commercial connections with compliant backflow prevention device tested within the last year	Changed from a Community measure to a management measure.	These are more technical management measures that will contribute to the success of the community measures than actual community measures.	Consultation not specifically required as LOS is retained in the Activity plan. Change also noted in the Statement of Service Provision.
LOS 12.0.2.20 (C→M) Proportion of Medium Hazard commercial connections >38mm diameter with compliant backflow prevention device tested within the last year			Consultation not specifically required as LOS is retained in the Activity plan. Change also noted in the Statement of Service Provision.



## B. Appendix B: Possible issues impacting the Activity & the mitigations planned

Information for future impacts was collated in preparation of the draft LTP 2024-34 to inform Councillor decisions and community consultation. This section was not updated for final LTP adoption.

### B.1. Changing customer needs

#### Population / demographic changes (high impact)

Issue/driver	Present Position	→ Projection	Impact on services	Mitigating plans/actions
Population growth	389,300 in 2022	<ul style="list-style-type: none"> <li>Council's city wide water master plan is based on a population projection of 500,000 in 2068. The Water Supply activity is currently using the latest available growth model (2021). The updated growth forecast is unknown and not specifically planned for</li> </ul>	<ul style="list-style-type: none"> <li>Network upgrades and new pump stations required to accommodate growth</li> </ul>	<ul style="list-style-type: none"> <li>Fund WS network upgrades and new pump stations as aligned to the growth projection</li> <li>Incorporate updated growth projections and modelling into planned water supply works</li> </ul>
Population growth (general and in specific areas)		<ul style="list-style-type: none"> <li>Change in population intensity in parts of the network</li> <li>Change in demand density in parts of the network</li> </ul>	<ul style="list-style-type: none"> <li>Capacity issues</li> </ul>	<ul style="list-style-type: none"> <li>Demand management (that reduces the need for new infrastructure) – e.g. continued water use charging</li> <li>New infrastructure to increase capacity</li> <li>Upgrade existing infrastructure to increase capacity</li> </ul>
Shifts within city (e.g., growing communities, possible future managed retreat)		<ul style="list-style-type: none"> <li>It is considered that changes will be seen in the number and location of growth as a result of Plan Change 14 (Housing and Business Choice Plan Change) and concurrent spatial planning activities;</li> </ul>	<ul style="list-style-type: none"> <li>Growth may exceed the capacity of infrastructure at a localised level and can lead to reduced levels of service;</li> <li>The WS Master Plan on which this Activity Plan is based may</li> </ul>	<ul style="list-style-type: none"> <li>Water master planning to be reviewed and updated with population growth changes</li> <li>Waiting on Central Government decisions legislation around managed</li> </ul>

		<ul style="list-style-type: none"> <li>• It is as yet uncertain what the quantum and rate of intensification will be across the City</li> <li>• Unknown extent of possible managed retreat, but some policy, actions and directives are inevitable for coastal areas</li> </ul>	<ul style="list-style-type: none"> <li>• not provide adequately for the upgrades that may be needed to accommodate growth</li> <li>• Unfeasible to service some areas</li> </ul>	retreat. Then developing and following policy on managed retreat
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### Equity and access (low impact)

Issue/driver	Present Position	→ Projection	Impact on services	Mitigating plans
Incomes/discretionary income	In 2019, the city's median equivalised household income was \$62,300	<ul style="list-style-type: none"> <li>• Rising cost of living putting pressure on rates increases</li> </ul>	<ul style="list-style-type: none"> <li>• Reduction in levels of service if required funding is not in place</li> </ul>	<ul style="list-style-type: none"> <li>• Front foot public debate and engage with customers regarding the value of water supply services</li> </ul>
Growing gap rich and poor	The bottom 20% of households had a median income of \$32,300. The top 20% of households had a median income of \$105,700.	<ul style="list-style-type: none"> <li>• Household charges subject to change with new legislation</li> </ul>	<ul style="list-style-type: none"> <li>• Change in funding model and perception will bear differently on different customers</li> </ul>	<ul style="list-style-type: none"> <li>• Any changes in charging mechanisms will be led by any new changes to the way that 3-waters services are provided to the public.</li> </ul>

### Identity and social cohesion (low impact)

Issue/driver	Present Position	→ Projection	Impact on services	Mitigating plans
Sense of place and community		<ul style="list-style-type: none"> <li>• Worse (or better) customer satisfaction with drinking water supply</li> <li>• Adverse community views on chlorine disinfection</li> <li>• Adverse community views on fluoridation (if required)</li> </ul>		<ul style="list-style-type: none"> <li>• Engage with customers regarding regulation and impacts on the Christchurch drinking water supply</li> </ul>

Rising crime, rallies, protests (safety)		<ul style="list-style-type: none"> <li>Increased vandalism and theft</li> </ul>		<ul style="list-style-type: none"> <li>Acknowledge need to invest in security features</li> </ul>
Safety staff and public		<ul style="list-style-type: none"> <li>Increased risk for frontline staff and contractors</li> </ul>		<ul style="list-style-type: none"> <li>Acknowledge need to invest in training and staff safety protocols</li> <li>Budget for additional operational costs</li> </ul>

## B.2. Tiriti Partnerships (medium impact)

Issue/driver	Present Position	→ Projection	Impact on services	Mitigating plans
Mana whenua cultural awareness	There is a general lack of awareness for many staff on the effects that the business has on the Mauri of water, being of high cultural and spiritual significance to Maori.	<ul style="list-style-type: none"> <li>Increased genuine engagement and collaboration with mana whenua</li> <li>Increased training for staff on how the business affects Māori values.</li> <li>Provision of sincere guidance from Management to staff</li> </ul>	<ul style="list-style-type: none"> <li>Minor (generally) increase cost in projects due to engagement time and cost.</li> <li>Minor cost to look at updating the 3 Waters Strategy Implementation Plan</li> </ul>	<ul style="list-style-type: none"> <li>Review and update the 3W Strategy Implementation Plan with mana whenua.</li> <li>Guidance and leadership from management with a focus on co-governance</li> </ul>
Te mana o te wai	As above, more direction is needed.	<ul style="list-style-type: none"> <li>Changes required to give effect to Te mana o te wai</li> </ul>	<ul style="list-style-type: none"> <li>Provision of funding required to meet the requirements of the Action Plan</li> <li>Minor (generally) increase cost in projects due to engagement time and cost.</li> </ul>	<ul style="list-style-type: none"> <li>Review and update 3W Strategy Implementation Plan with respect to Te mana o te wai</li> <li>Increased level of engagement and planning on individual project levels</li> </ul>

## B.3. Technological growth (high impact)

Issue/driver	Present Position	→ Projection	Impact on services	Mitigating plans
Changing technology	Council has invested in the installation of smart water technology to better manage the water network within a trial area – the Rawhiti Water Zone	<ul style="list-style-type: none"> <li>Better monitoring data</li> <li>New methods of data collection</li> <li>More digital solutions</li> </ul>	<ul style="list-style-type: none"> <li>Technology increase reliance on new plant that must be suitably maintained to ensure the performance and desired benefits are realised.</li> <li>Increased requirements for staff to monitor the technology and report on it.</li> <li>Additional costs for network licences and software resource.</li> </ul>	<ul style="list-style-type: none"> <li>Smart Water Network - improved operations, asset management, planning, safety, value)</li> <li>Smart customer water meters</li> </ul> <p>Additional OPEX funding requested to operate the smart water network through the 2024-2034 LTP process.</p>
Digital security	Standard IT security processes are relied upon for asset operation and data security.	<ul style="list-style-type: none"> <li>More water supply data available and administered by Council</li> <li>More sophisticated hacking and cyber-attack technology and techniques</li> </ul>	<ul style="list-style-type: none"> <li>May affect the operation and security of water network</li> </ul>	<ul style="list-style-type: none"> <li>Maintain separate operations communication network</li> </ul>

## B.4. Resilience and environmental considerations

### Climate change & adaptation (medium impact)

Issue/driver	Present Position	→ Projection	Impact on services	Mitigating plans
Sea Level Rise	**Refer table above (Section 2.3)	<ul style="list-style-type: none"> <li>Limitations in asset life due to corrosion from salt water intrusion for coastal infrastructure</li> <li>More frequent, more extensive coastal inundation, contributing to service limitations and potentially health consequences</li> <li>Potential increased need for pumping and associated energy costs due to need to retreat from coastal areas</li> </ul> <p>Saltwater intrusion to water sources, causing more treatment requirements, noted as minor risk as work has been completed regarding security of bores</p>		**Refer table above (Section 2.3)
Rainfall and Flooding Related	**Refer table above (Section 2.3)	<ul style="list-style-type: none"> <li>Higher groundwater levels, making repairs difficult and requiring dewatering</li> <li>Increased sediment, organic carbon, and nutrients due to flooding and event intensity</li> </ul>		3-waters has supported the CHAP team's bid for additional funding to be able to plan for the climate change resilience and adaptability.

		<ul style="list-style-type: none"> <li>On-site flooding and damage to treatment plants during storm events – additional effect on staffing transport and supply of chemicals to plants</li> <li>Changes in rainfall intensity and seasonality may mean reduced water availability, especially on Banks Peninsula</li> </ul> <p>Heath risks from contamination during flood events</p>	
Heat, Drought, Fire Related	**Refer table above (Section 2.3)	<ul style="list-style-type: none"> <li>Higher water losses from vegetation absorption and evaporation due to higher temperatures</li> <li>Potential reduced recharge of groundwater supply due to less surface runoff and snowmelt</li> <li>More frequent drought which may impact water source availability</li> <li>Increased peak water demand from customers due to prolonged dry periods</li> <li>Higher concentration of contaminants and pathogens in source water due to increased temperatures</li> <li>Increased firefighting demands and usage due to increased fire risk</li> </ul>	
Other	**Refer table above (Section 2.3)	<ul style="list-style-type: none"> <li>Scarcity of water may lead to consideration of other technologies such as wastewater reuse</li> <li>Increased requests for additional connections from non-connected properties due to inability to no longer self-sustain supply</li> <li>Population growth from areas which are affected by climate related displacement requires additional service measures</li> <li>Human health risks from climate change including waterborne disease</li> <li>Increased building intensification and land-use changes could increase demand</li> <li>Increased demand from non-residential development</li> </ul>	
Population movement due to managed retreat and adaptation	**Refer table above (Section 2.3)	<ul style="list-style-type: none"> <li>Yet to be advised</li> </ul>	<ul style="list-style-type: none"> <li>Changes in demand</li> <li>Water infrastructure in coastal environments may need to be relocated</li> </ul> <p>An initial focus on infrastructure that supports:</p> <ul style="list-style-type: none"> <li>Short-term (now, and LTP years 1-3)</li> <li>Medium term (LTP years 4-6)</li> <li>Longer term (LTP years 6 – onwards)</li> </ul>

## Sustainable development (medium impact)

Issue/driver	Present Position	→ Projection	Impact on services	Mitigating plans
Managing GHG emissions (per table above)	**Refer table above (Section 2.3)	<p>Key sources of greenhouse gas emissions from this activity includes:</p> <ul style="list-style-type: none"> <li>• Electricity usage for activities such as pumping</li> <li>• Construction of new infrastructure or renewal of existing infrastructure</li> <li>• Travel associated with operations and maintenance activities</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>	<p>Water Supply are taking the following actions to reduce greenhouse gas emissions:</p> <p>**Refer table above (Section 2.3)</p> <p>Comparative assessment of greenhouse gas emissions to be completed and therefore used to inform future investment decisions towards reducing the carbon footprint of Council and Christchurch District</p>
Ethical markets & procurement		<ul style="list-style-type: none"> <li>• Change in political and cultural expectations about how procurement happens (local and mana whenua suppliers)</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Use indicator score for measuring local supply chain including community benefits</li> <li>• 3 Waters reform will likely prompt change that comes with new Entity, water regulator, and economic regulator</li> </ul>
Resilience & risk	Staff generally consider resilience and risk on an individual project basis. There is no policy giving guidance to the business for managing resilience and risk to the asset base.	<ul style="list-style-type: none"> <li>• Increased expectation for climate resilient to be built into infrastructure solutions</li> </ul>	<ul style="list-style-type: none"> <li>• The way that providing services is considered i.e. solely focussed on the “engineering solution” needs to consider environmental changes and effects on public perceptions and well-being.</li> </ul>	<ul style="list-style-type: none"> <li>• Develop 3 waters climate change resilience framework</li> </ul>

Natural hazards	Staff generally consider natural hazards on an individual project basis. There is no policy giving guidance to the business for managing resilience and risk to the asset base.	<ul style="list-style-type: none"> <li>Flood, earthquake, tsunami, and fire risk continue to be planned for – with an increasing hazard impact exacerbated by climate change</li> <li>Increasing design and planning parameters to further include climate change predictions</li> </ul>	<ul style="list-style-type: none"> <li>Provision of services in areas of high groundwater may not be feasible as Council will need to pump ground water to maintain a level of service. This level of planning – or even considering this as an option – has not been undertaken.</li> <li>Accelerated asset deterioration due to site conditions not designed for.</li> </ul>	<ul style="list-style-type: none"> <li>Maintain natural hazard risk and resilience framework, and incorporate 3 waters climate change resilience framework</li> <li>Work carried out under the LDRP 97 Multi-Hazard Analysis project continues to provide essential information for informing capital planning and avoiding maladaptive works.</li> </ul>
Triple bottom line		<ul style="list-style-type: none"> <li>Increased expectation for financial, social and environmental bottom line reporting</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li>Continue to incorporate triple bottom line analysis and reporting at a strategic planning level</li> </ul>

## B.5. Infrastructure (high impact)

Issue/driver	Present Position	→ Projection	Impact on services	Mitigating plans
Delivering on what we say and looking after what we've got	Current level of investing in renewals, means we “sweat” our assets. Delivery is too slow to meet the requirements of the work that is needed for meeting the needs of both	<ul style="list-style-type: none"> <li>The continual level of investment in renewals will lead to an asset base that is continually being “sweated” relying on an increased OPEX through reactive maintenance repairs.</li> <li>There is no current method within the corporate data and financial structure to be able to track the effects of delaying capital spend on</li> </ul>	<ul style="list-style-type: none"> <li>Reduced ability to carry out well informed asset renewals programme to replace asset base that has reached full depreciation in a timely manner.</li> <li>Growth projects are slow to deliver, risking breach of consent conditions.</li> </ul>	<ul style="list-style-type: none"> <li>Working with Councils procurement teams to change the way we deliver projects to increase capital delivery with selected current Tier 1 contractors.</li> <li>Develop programmes of work to review and inspect assets so we have a better</li> </ul>

	<p>growth/improvement projects and renewal projects.</p> <p>We need to increase the investment over time in asset management to improve our data, how we plan for renewals, and how we collect and use information.</p>	<p>OPEX costs meaning that decisions on optimising CAPEX vs OPEX costs for renewals is unable to be carried out.</p> <ul style="list-style-type: none"> <li>• The delivery of growth projects is extended due to the currently followed systemic process not being efficient through the design and procurement process.</li> <li>• There is an unquantifiable risk to public/private infrastructure due to failure of lined drains which do not have a current process for renewal forecasting beyond what the operations team report.</li> </ul>	<ul style="list-style-type: none"> <li>• Increased overall project costs.</li> </ul>	<p>understanding of the condition and performance of our assets.</p> <ul style="list-style-type: none"> <li>• Improvement items have been recommended in the previous 2 AMP's, these items will improve the ability to look after what we've got.</li> <li>• Ensure whole-of-life maintenance costs are identified and the required OPEX is factored into future budgets before asset investment decisions are made.</li> </ul> <p>Some additional OPEX funding has been provided to the planning teams through the 2024-2034 LTP to allow some asset management improvement plan items to be carried out to better manage the asset base smarter or more cost effectively.</p>
<p>Resilience to impacts of climate change</p>	<p>**Refer table above (Section 2.3) &amp; Appendix B.4</p>	<ul style="list-style-type: none"> <li>• Increases in water use</li> <li>• Uncertain scenarios around coast area servicing and/or retreat. Waiting for policy direction</li> <li>• Unknown extent of climate change impacts but future policy, actions and directives are inevitable</li> </ul>	<ul style="list-style-type: none"> <li>• Infrastructure capacity issues</li> <li>• Unfeasible to service some areas</li> </ul>	<ul style="list-style-type: none"> <li>• Demand management (that reduces the need for new infrastructure)</li> <li>• Waiting on Central Government direction. Then developing and following policy on managed retreat</li> </ul> <p>No additional OPEX funding in the 2024-2034 LTP to address any</p>



				climate change challenges, other than embedding it within our planning processes. Any additional work in this space will need to be managed through existing budgets and reprioritising current commitments.
Planning and investing for growth	See Appendix B.1	<ul style="list-style-type: none"> <li>• Population increase</li> <li>• Population intensification in parts of the network</li> </ul>	<ul style="list-style-type: none"> <li>• Infrastructure capacity issues</li> </ul>	<ul style="list-style-type: none"> <li>• Demand management that reduce the need for new infrastructure)</li> <li>• Water loss reduction programme</li> <li>• New infrastructure to increase capacity</li> <li>• Upgrade existing infrastructure to increase capacity</li> </ul> <p>Reprioritising of spend is required to be able to renew network licensing to access data or access smart meters. This means no real time data can be used for demand management, water loss programme, or assisting with better asset upgrade decision making.</p>
Understanding and maintaining the condition of our infrastructure	We have good condition information and a robust forward planning process	<ul style="list-style-type: none"> <li>• Deterioration of network condition</li> <li>• Increased percentage of pipes with a condition grade of 4 or 5 (poor and very poor)</li> </ul>	<ul style="list-style-type: none"> <li>• Increased failures</li> </ul>	<ul style="list-style-type: none"> <li>• Prudent budget forecasts</li> <li>• Sufficient capital expenditure for renewal</li> <li>• Acknowledge the need for specific condition assessment budgets and a dedicated resource</li> </ul>

## B.6. Regulations & reform (high impact)

Issue/driver	Present Position	→ Projection	Impact on services	Mitigating plans
Three Waters reform	Recent changes to the legislation has slowed down the timeframe for reform, with some question if there is a change in central government.	<ul style="list-style-type: none"> <li>• Organisational change and upheaval with move from Council delivery to new Entity model</li> <li>• Increased water supply regulation and standards</li> <li>• Requirement for chlorination (and potential fluoridation)</li> </ul>	<ul style="list-style-type: none"> <li>• Disruption to services</li> <li>• Increased costs of meeting regulation</li> <li>• Ongoing/additional chemical treatment required</li> </ul>	<ul style="list-style-type: none"> <li>• Participate with the National Transition Unit Process</li> <li>• Prudent budgets and forecasts, with additional budget provisions</li> <li>• Make provision for likely additional requirements</li> <li>• Engage with customers regarding regulation changes</li> </ul> <p>Update – with the change of government, Three Waters reform has been stopped. It is unclear what this means for council and how 3-waters infrastructure will be managed in the future.</p>
Resource Management reforms	Multiple pieces of legislation were proposed and being developed by the government that affect the 3-waters business, particularly the National Environmental Standards and regulations coming from Taumata Arowai	<ul style="list-style-type: none"> <li>• Increased regulation and standards</li> </ul>	<ul style="list-style-type: none"> <li>• Unknown impacts until the legislation is put into effect and various teams have had a chance to review and comment.</li> </ul>	<ul style="list-style-type: none"> <li>• With the change of government, reform has been stopped. It is unclear what this means for council and how 3-waters infrastructure will be managed in the future to meet any required environmental standards.</li> </ul>

## B.7. Identified Business Unit Risks

The main risks to the activity have been discussed in Section 3.2.3 of the Wastewater Asset Management Plan. Below are some risks that are more general and affect the 3-Waters Business. Risks are recorded and periodically reported to the Executive Leadership Team and the Audit and Risk Management Committee.

Strategic priorities risk is associated with	Risk Description	Impact	Likelihood	Inherent Risk Rating	Controls / Mitigations	Residual Risk Rating
<ul style="list-style-type: none"> <li>Manage ratepayers' money wisely, delivering quality core services to the whole community and addressing the issues that are important to our residents.</li> </ul>	<p><b>Economic Environment on Capital Programme</b></p> <p>There have been significant financial increases affecting Council due to changes in the current economic environment that started with the onset of the Covid-19 Pandemic.</p> <p>There is a risk of:</p> <ul style="list-style-type: none"> <li>Capital programme forecasts will be underdeveloped requiring additional funding.</li> <li>Inability to source key materials/products.</li> <li>Failure to meet levels of service</li> <li>Inability to meet compliance requirements</li> </ul>	Moderate	Highly Likely	High	<ul style="list-style-type: none"> <li>Ensure realistic contingency amounts are included in the project/programme estimates.</li> <li>Ensure that suitable escalation calculations are carried out and used.</li> <li>Ensure projects are carried out in a timely fashion to prevent undue escalation during the design phase of the project.</li> <li>Consider having a stand-alone “escalation” budget that can be called upon to top up projects if needed over the financial year and returned to the general Council funds if not required.</li> </ul>	Medium
<ul style="list-style-type: none"> <li>Manage ratepayers' money wisely, delivering quality core services to the whole community and addressing the</li> </ul>	<p><b>Three waters reform</b></p> <p>Give the change to a new coalition government There is considerable uncertainty on the reform process, what changes may be required, how the reform process will progress – if at all -</p>	Moderate	Likely	Medium	<ul style="list-style-type: none"> <li>More open and transparent information to be provided from internal CCC staff involved with decision making on the reform process.</li> </ul>	Medium

Strategic priorities risk is associated with	Risk Description	Impact	Likelihood	Inherent Risk Rating	Controls / Mitigations	Residual Risk Rating
issues that are important to our residents.	<p>what staff will be affected, and how work flows will be managed in the future.</p> <p>There is a risk of:</p> <ul style="list-style-type: none"> <li>• Staff well-being and stress levels as the process continues</li> <li>• Disengagement of staff.</li> <li>• Loss of institutional knowledge if staff leave.</li> <li>• Lack of advice from the Department of Internal Affairs (DIA) to give any surety to staff.</li> <li>• Disillusionment with the current way that 3-waters is being underfunded and resourced within council may cause staff to leave for the private market.</li> </ul>					
<ul style="list-style-type: none"> <li>• Be an inclusive and equitable city which puts people at the centre of developing our city and district, prioritising wellbeing, accessibility and connection.</li> </ul>	<p><b>Staff wellbeing</b></p> <p>If the level of organisational demands continues to be highly ambiguous and reactive, then staff will feel pressured and have unreasonable workloads.</p> <p>There is a risk of:</p> <ul style="list-style-type: none"> <li>• Staff burnout and related health issues</li> </ul>	Moderate	Highly Likely	High	<ul style="list-style-type: none"> <li>• Increased leadership engagement with teams on wellbeing</li> <li>• Increased EAP, People and Culture connections</li> <li>• Wellbeing activities embedded into day-to-day working culture.</li> <li>• Development of unit programme of work to prioritise activities and manage individual workloads.</li> </ul>	Medium

Strategic priorities risk is associated with	Risk Description	Impact	Likelihood	Inherent Risk Rating	Controls / Mitigations	Residual Risk Rating
<ul style="list-style-type: none"> <li>Manage ratepayers' money wisely, delivering quality core services to the whole community and addressing the issues that are important to our residents.</li> </ul>	<ul style="list-style-type: none"> <li>Absenteeism and productivity impacts</li> <li>Increased recruitment costs if retention impacted.</li> </ul>					
<ul style="list-style-type: none"> <li>Be an inclusive and equitable city which puts people at the centre of developing our city and district, prioritising wellbeing, accessibility and connection.</li> <li>Manage ratepayers' money wisely, delivering quality core services to the whole community and addressing the issues that are important to our residents.</li> </ul>	<p><b>Recruitment and retention of skilled staff</b></p> <p>If Council and the activity have a high level of staff turnover, then there is less skilled and experienced staff to deliver the activities.</p> <p>There is a risk of:</p> <ul style="list-style-type: none"> <li>Staff wellbeing negatively impacted by workload changes.</li> <li>Level of service achievement is impacted.</li> <li>Increased cost of external resourcing to achieve schedule requirements</li> </ul>	Moderate	Likely	Medium	<ul style="list-style-type: none"> <li>Increased staff wellbeing programmes</li> <li>Work with staff on personal development opportunities including internal secondments.</li> <li>Use exit interviews to identify opportunities for improvement.</li> <li>Development of leadership opportunities and training</li> <li>Increase remuneration to closer match the private sector.</li> </ul>	Low

Strategic priorities risk is associated with	Risk Description	Impact	Likelihood	Inherent Risk Rating	Controls / Mitigations	Residual Risk Rating
<ul style="list-style-type: none"> <li>Manage ratepayers' money wisely, delivering quality core services to the whole community and addressing the issues that are important to our residents.</li> </ul>	<p><b>Asset Management Policy advice and performance</b></p> <p>If Asset Management advice is not understood and taken into consideration across the organisation, then Elected Members and Community expectations of Council Assets will not be met.</p> <p>There is a risk of;</p> <ul style="list-style-type: none"> <li>Clear asset management priorities will not be embedded at the needed operational level to see the required changes.</li> <li>Decision-making is not informed by evidence-based advice.</li> <li>The necessary investment into asset management will not occur.</li> <li>Councils Asset management will not align with national legislation or best practice</li> </ul>	Major	Highly Likely	High	<ul style="list-style-type: none"> <li>Develop a comprehensive communication plan to ensure that Asset Management advice is effectively communicated to all relevant stakeholders, including elected members, staff, and the community.</li> <li>Use clear and concise language to explain Asset Management principles, objectives, and benefits. Avoid jargon and technical terms that may hinder understanding.</li> <li>Foster a collaborative culture by creating forums, workshops, or focus groups where stakeholders can exchange ideas, share experiences, and contribute to Asset Management discussions.</li> <li>Provide training programs and resources to enhance the knowledge and skills of staff members and elected members regarding Asset Management principles, processes, and decision-making frameworks.</li> </ul> <p>Some additional OPEX funding has been provided to the 3-waters Asset Management teams through the 2024-2034 LTP to investigate asset management improvement items. However, no changes to this risk are likely over the LTP period.</p>	High