

Three Waters

Quarterly Report

April – June 2024

ccc.govt.nz/water-and-drainage

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Executive summary

Our latest Three Waters Quarterly Report provides an update on our work to deliver safe and reliable water services for Christchurch residents.

We saw a significant milestone in the last quarter, as Christchurch City Council agreed its Long Term Plan 2024–2034 outlining what the city’s \$16.8b budget will be spent on over the next ten years. This includes \$2.75 billion for clean drinking water, developing and maintaining our stormwater and flood protection networks, and improving wastewater treatment facilities. During consultation residents told us that water supply remains one of the services needing the most improvement.

Looking forward, we’re gearing up for the next stage of Local Water Done Well. We have also started house to house surveys in Akaroa looking for water leaks and cross connections between our stormwater and wastewater networks.

We hope this new look report makes it easier to see how we’re investing in our water network to make it safer and more reliable.




*More detailed Three Waters project and financial information is available in reports from the Health and Safety Committee, PMO and finance.

Here's a snapshot of our network...

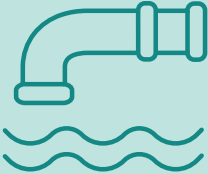
We're responsible for more than you might think.

Our three waters network...

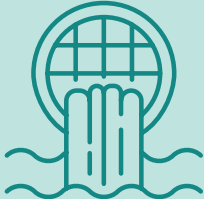
Christchurch City Council owns and operates the city's water supply, wastewater and stormwater network.



Water supply




Wastewater




Stormwater


Strengthening our networks



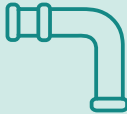
Pump stations




Reservoirs




Well heads



Pipes



Treatment plants



Drainage

Helping our communities



Education



Community engagement



Flood control



Customer service



Growth planning



Incident response

Looking after our environment



Waterways



Stormwater basins



Wetlands - lake openings

Our water supply network

Christchurch City Council owns and operates a network of wells, intakes, treatment plants, reservoirs and pipes that deliver water to our residents. We do regular testing and maintenance to make sure our water is safe, and we're also carrying out upgrades to comply with the Government's drinking water rules.

What we did, in numbers – April to June 2024



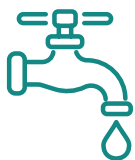
99%

of water supply resource consent conditions are compliant.

397

out of 401

resource consent conditions were met.



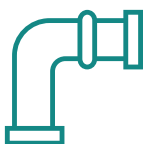
Water use across the city

12,108,667m³



6 incidents

reported to Taumata Arowai. (More about this on page 7).



2,801m

of water supply mains, submains and crossovers installed.

The quarter ahead (July to September 2024)

Training exercise – water contamination response

A training exercise is planned for late August. Staff from Three Waters, Communications, Civil Defence Emergency Management and contractors will take part in an exercise in which multiple water contamination and other related events take place at the same time. This provides an opportunity for staff to learn what a water response event involves, refresh old and learn new skills, develop resources and get to know colleagues.



We're building out this report and in future we'll include information on leak management, laboratory sampling, and service requests. We'll continue to review the report to see how we can give you a better understanding of what we're doing.

Drinking water compliance

We manage a high-quality and safe water supply network, which we monitor closely so we can quickly respond to any issues. Christchurch and Banks Peninsula water supplies are chlorinated to meet New Zealand drinking water laws. We're also working on additional upgrades to our water supply network to ensure we meet all Government rules and regulations.

While we upgrade our water supply network there are areas where our water supply isn't compliant. However, the requirement to treat our water with chlorine means our water has an extra level of protection against contamination. Many of the non-compliances will be resolved once we have completed upgrades to assets or completed longer term testing to confirm the quality of our water.

While we acknowledge that our water supply has non-compliances, we're focused on doing the work needed to achieve compliance while continuing to provide safe drinking water.

The Drinking Water Quality Assurance Rules include a range of rules, the most significant of which relate to the source (S rules), distribution (D rules) and treatment of water (T rules), which are key to making our supply compliant.

There are other non-compliances that aren't related to the S, D and T rules. These will also be resolved over time.

Here's how we're tracking:

S Source rules relate to the quality of water at its source.

We expect to be able to demonstrate Class 1 status for most of the city's water supply, which would mean some treatment barriers for protozoa aren't required.



87%

of the Class 1 sampling programme is completed with the remainder of the programme on track to be completed by April 2025.

D Distribution rules relate to water in the distribution network.

They require a low level of chlorine to be present in water distributed across our network from treatment plant to tap.



17/17

distribution zones were compliant during the quarter.

T Treatment rules relate to protection against bacteria and protozoa.

We're non-compliant with these rules while we upgrade our water supply, but have other protections in place to keep our water safe.



To achieve compliance, we need to install continuous water quality monitoring as well as complete some treatment plant upgrades in Banks Peninsula and Christchurch.

The Christchurch Supply (including Brooklands/Kainga) has 128 registered sources. 8 cannot be classified as Class 1 (Tanner Pump Station and Main Pumps).

The Banks Peninsula supply has 5 registered sources. Only Birdlings Flat well could be classified as Class 1.

For water sources that don't meet the Class 1 status criteria we have work under way to make the supplies compliant. This includes:

- A project to upgrade the Tanner Pump Station to include a protozoa barrier is included in the Long Term Plan with funding allocated for 2024/25. The project is currently in the concept design phase and planning is well under way.
- A project to upgrade the Wainui Treatment Plant to include a protozoa barrier is also included in the Long Term Plan with funding allocated for 2024/25. The project is currently in the concept design phase and the barrier is expected to be installed by the end of 2025.
- We're working with Taumata Arowai on research into viruses in groundwater. We're hopeful this research could inform future changes to the Drinking Water Quality Assurance Rules requirements in relation to groundwater.
- Our Main Pumps Station already operates with a protozoa barrier in place.
- All other non-Class 1 sources have been abandoned.

Quarterly water supply controllable non-compliance

We test the water regularly to ensure it is safe to drink.

When we do have controllable non-compliances, we take immediate action to assure the water supply and notify Taumata Arowai.

Controllable non-compliances are those we can control and avoid by improving our processes and procedures. To reduce the amount of these, we analyse the cause and undertake an action plan so they don't happen again.

These are the controllable non-compliances recorded during the last quarter:

Supply details	Drinking Water Safety, Compliance or Sufficiency Category	Date	Details	How was it resolved
BIR001 Birdlings Flat	Water is non-compliant	18/04/2024	FAC in water leaving the treatment plant was measured to be less than 0.5 mg/L (indicating non-compliance with rule T2.19).	Treatment was adjusted.
BIR001 Birdlings Flat	Water is non-compliant	04/04/2024 18/04/2024 22/04/2024 13/05/2024 22/06/2024	pH of water leaving the treatment plant was measured to be 8.1 (indicating non-compliance with rule T2.21).	Treatment was adjusted.
CHR009 Christchurch	Water is non-compliant	24/04/2024	Chlorine dosing pump was turned off at Farrington Treatment Plant between 24th and 26th April. A total of 2,498 m3 of unchlorinated water entered the Northwest distribution network during this period.	An investigation was undertaken and procedure was improved. All other treatment plants into the distribution zone were dosing correctly.
CHR009 Christchurch	Drinking water is or may be unsafe	06/06/2024	Total Coliforms detected at a level of 17 MPN per 100 mL in a sample taken from Murray Aynsley 2 Reservoir.	The reservoir was isolated, chlorine dose was increased, and daily samples were taken until 3 clear days was achieved. A formal programme of deep cycling of reservoir was setup for winter months when low turnover. Replacement of the sampling point was scheduled.
PIG001 Pigeon Bay	Water is non-compliant	09/04/2024	FAC in water leaving the treatment plant was measured to be less than 0.5 mg/L (indicating non-compliance with rule T2.19).	Treatment was adjusted.
WAI138 Wainui	Water is non-compliant	24/06/2024	FAC in water leaving the treatment plant was measured to be less than 0.5 mg/L (indicating non-compliance with rule T2.19).	Treatment was adjusted.

Our wastewater network

Christchurch City Council maintains wastewater systems to provide the community with a safe and healthy environment through the appropriate treatment and discharge of wastewater.

What we did, in numbers – April to June 2024



93%
of wastewater resource
consent conditions are
compliant.

693
out of 747
resource consent
conditions were met.

Non-compliance figures – April to June 2024

We operate our wastewater networks under several resource consents from Environment Canterbury. When we do have non-compliances we take action and notify Environment Canterbury. We didn't have new non-compliances recorded during the last quarter, but the following non-compliances remain in place:

Resource Consent – Condition	Activity	Reason for significant non-compliance grading
CRC213608 - 2	To discharge treated domestic wastewater onto land temporarily from the Wainui Wastewater Treatment Plant.	The discharge is not in the consented area as outlined in this condition.
CRC164462 - 3	To discharge contaminants into air from Christchurch Wastewater Treatment Plant.	Offensive and objectional odour has been detected on multiple occasions beyond the property boundary.
CRC231955 - 6	CSNDC – To discharge water and contaminants to land and water from the stormwater network.	The submitted versions of the Opawaho/Heathcote, Huritini/Halswell and Otukaikino Stormwater Management Plans do not meet the purpose of Condition 6.

The quarter ahead (July to September 2024)

Ilam wastewater upgrade

A large wastewater upgrade will start in Ilam in early September 2024 and is expected to finish in mid-2026. We are upgrading wastewater infrastructure along Clyde, Creyke and Maidstone roads to help meet increasing demand from our growing city. This will be carried out in stages and will be disruptive, with one-way traffic measures in place to allow the work to happen.

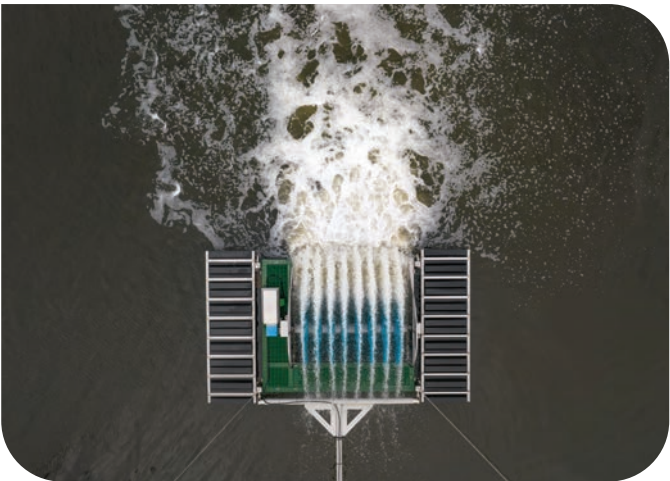
Akaroa wastewater

From late August we'll visit every property in Akaroa to look for sources of stormwater entering the wastewater network on private properties. If we identify an issue we'll get in touch with the property owner. This is being done as part of ongoing work to reduce the volume of stormwater getting into the wastewater network. Having less of this water in the system will improve the capacity of the network to convey wastewater and reduce the risk of overflows onto private property, streams and the harbour during wet weather. This work will continue until the end of the year.

Christchurch Wastewater Treatment Plant

We work hard to keep the damaged Christchurch Wastewater Treatment Plant operating, while keeping odours to a minimum for residents.

- During this quarter the oxidation ponds transitioned into winter mode, with the algae having died off for the winter. This was managed with minimal odour.
- A number of projects related to the plant are under way or have been approved. These include:
 - A new ventilation system which complies with the hydrogen sulphide safe working limits.
 - Improvement on the automatic water spray scum removal system.
 - Upsizing the pipework, aiming to reduce the emergency release of biogas. This is expected to be complete by the end of 2026.
 - A trial with a small number of suppliers of technological, biological and chemical products that address odours.
 - Carrying out an operating optimisation project of the temporary treatment system.



13,249,966m³
total treated wastewater.



2397 MWh
electricity generated from waste.



6
times H₂S went over 0.03ppm.



approximately
10,000
plants planted.



10
e-newsletters.

1635
webpage views.



1
school visit.

12
students.

Our stormwater network

Our stormwater system is being continually maintained and improved to make the city a safer and healthier place to live. The network includes open drains, pipes, pump stations, stopbanks, basins and more.

What we did, in numbers – April to June 2024



99%

of stormwater and drainage resource consent conditions are compliant.

1051 out of 1060

resource consent conditions were met.



Submitted the Ōtākaro Avon Stormwater Management Plan to Environment Canterbury for review.

Submitted the CSNDC Annual Report to Environment Canterbury for review.



The quarter ahead (July to September 2024)

Comprehensive Stormwater Network Discharge Consent

We will submit the Surface Water Quality Annual Report by the end of August. This is an Appendix to the CSNDC report submitted in June.

With the Long Term Plan confirmed we're working on the Comprehensive Stormwater Network Discharge Consent Implementation Plan and expect to submit it to Environment Canterbury next quarter, after consultation with Mahaanui Kurataiao Ltd and the Department of Conservation.

The implementation plan must include:

- A list and map of proposed stormwater mitigation methods and devices.
- A programme of stormwater works for Christchurch City Council and anticipated private development.
- A plan for regulatory, investigative, educational, and preventative activities or programmes relating to stormwater discharges.
- Details of budgets for capital works or resourcing that is linked to the Christchurch City Council Long Term Plan.

The Community Waterways Partnership (CWP)

The Community Waterways Partnership supports the development of community-based initiatives to improve the ecological health, indigenous biodiversity, cultural, and amenity value of our urban waterways.

The Partnership involves Christchurch City Council, Environment Canterbury, Department of Conservation, Ministry for the Environment, Te Whatu Ora – Health New Zealand Waitaha Canterbury, universities, schools, industry representatives, river care and other community groups.

What we did:

- Delivered waterways education to three schools.
- Took part in a working group focused on a community restoration project of the Linwood Canal.
- Co-delivered the ‘Mother of All Clean Ups’ – an annual community event to clean up litter along waterways.
- Organised Green Drinks social networking events with waterways themes.
- Presented an Avon-Ōtākaro Network event, aimed at bringing together people who are focused on the Ōtākaro and its tributaries.
- Provided a behaviour change workshop with Christchurch’s National Science Challenge Research Team for the Community Waterways Partners.
- Held a Steering Group meeting and welcomed new members from the Christchurch West Melton Water Zone Committee and Te Ngāti Tūāhuriri Rūnanga onto the group.
- The Banks Peninsula Water Zone Committee signed up to the partnership.



What people are telling us

Water was one of the top things people submitted on during the Long Term Plan 2024–2034 consultation held earlier this year.

Residents told us that water supply remains one of the services needing the most improvement. The majority of submitters who provided feedback on our proposed investment in water supply infrastructure said they want us to improve the quality/smell/taste of our water, with many wanting to see chlorine removed permanently.

During this quarter we consulted on the Draft Ōtākaro Avon Stormwater Management Plan. This is the sixth of seven plans being prepared that sets out the ways in which we'll meet the requirements of our stormwater resource consent. Three Community Boards, six recognised organisations, and 18 individuals made 27 submissions between them. All submissions were unique with no themes able to be drawn from them.

During this period we heard from key community contacts in Wainui and Birdlings Flat who assisted us in detecting leaks following an increase in water usage in the areas.

Reaching our communities

During the last quarter we:



Published **4** Newsline stories related to Three Waters.

The stories covered were:

1. The Akaroa wastewater scheme.
2. The lifting of water restrictions around Akaroa Harbour.
3. Essential water upgrades around Te Kaha.
4. The Ōtākaro Avon Stormwater Management Plan.



Had **77,349** views across our water webpages.

This represented **3.59%** of total views across the website.

The top five pages were:

1. Our floor level map for building and resource consents, flood risk and property information.
2. The Water Reporter – used by residents to check their water use.
3. The Three Waters asset network map.
4. The water status map showing real-time water shut-off information.
5. The page with more information about excess water charges.



Our online floor level map tool.