Hutt City Council

Part 3: Asset Management Plan

For Release, Version 9, 27 February 2025

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Context, purpose and assumptions

Context

- This Asset Management Plan (AMP) provides the shareholder council with details on each of its 3 Waters physical assets including the scale and extent, condition and performance, financial forecasts and associated risks.
- This council-focused AMP is supported by three linked, higher tier AMPs, covering physical assets at a metropolitan scale by each of water supply, wastewater and stormwater.
- This AMP has been produced based on the most relevant data available at the time e.g., shareholder council adopted Long Term Plan (LTP 2024-2034); 30-Year capital programme forecast provided as part of council's infrastructure strategy development– see s8.1; LTP 10-Year budget – see s8.2, 8.3 and 8.4; and National Transition Unit (NTU) 30-year unconstrained capital forecasts (April 2023) – see s9.1 and s9.2.
- There are a relatively high proportion of assets still in service operating beyond their expected service life therefore renewals planning has forced a more reactive approach than is ideal under good asset management practice e.g., robust risk-based renewal prioritisation.

Purpose

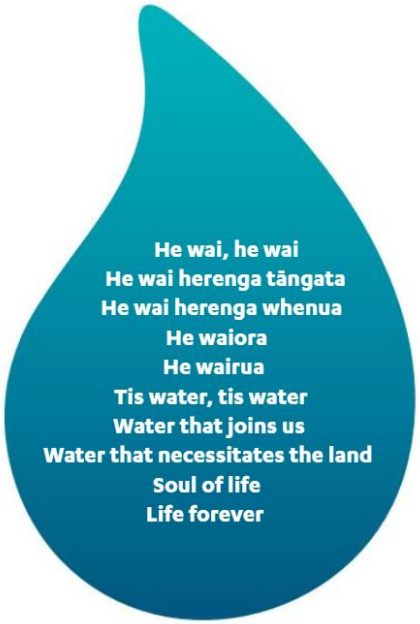
- This AMP is produced for the shareholder council so it can understand key aspects of the respective physical assets and be aware of uncertainties, confidence and risks.
- Elements of this AMP and the higher tier AMPs may be used to support production of Water Service Delivery Plans (WSDP). Material differences between data presented in the AMP and WSDP may arise e.g., through WSDP funding scenario modelling.

Assumptions

The following key assumptions apply to this shareholder councils AMP:

1. LTP-related asset values are based on unit rates obtained from specific, representative capital projects identified by Wellington Water Limited (WWL) and has 'Level zero - 100% contingency' applied – see the WWL Cost Estimation Manual.
2. NTU projects and programmes reflect the upper limit value of all 3 Waters activities required to deliver all projected metropolitan scale renewals, levels of service, and growth requirements as assessed at that time. Due to financial constraints driven by council affordability levels some NTU projects are not accommodated in the LTP 10-Year plan.
3. WWL financial data has by necessity been drawn from several sources which reflects the focus/refocus from Water Service Entities to shareholder council requirements.
4. The scale (including cost), extent and timing of renewals across all physical assets has been estimated based on various methodologies including desktop, physical inspections, and inferred analysis (same materials, installation years etc).
5. The financial constraints of shareholder councils have not enabled WWL to fully adopt a best practise approach to critical and non-critical asset renewal based on criticality, condition (failure risk), and levels of service, as councils have been unable to fund the required level of asset renewals.

Contents



Wellington Water's Purpose:

Wellington Water exists so that people in the Wellington Region have safe, reliable, compliant, and affordable drinking water, stormwater, and wastewater services.

1. Introduction

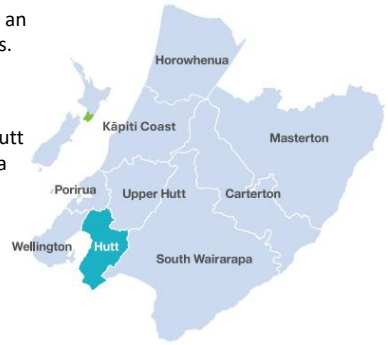
1.1 Council overview

Hutt City is located approximately 15kms north-east of Wellington CBD. It is also adjacent to Wellington, Porirua, Upper Hutt and the South Wairarapa District. The city stretches from Petone in the west, Stokes Valley in the north, and down to Cape Palliser in the south. The floor of the Hutt Valley is the most densely populated flood plain in New Zealand and the central area of Hutt City serves as the main urban centre of the Hutt Valley.

Hutt City encompasses an area of 37,600 hectares.

3 major waterways (Orongorongo River, Hutt River and Wainuiomata River).

Population
113,000 pa.



Population Data: HCC LTP 24-34

1.2 Community outcomes

HCC key priorities are described below:

- Investing in infrastructure
- Increasing housing supply
- Caring for and protecting our environment
- Supporting an innovative, agile economy and attractive city
- Connecting communities
- Being financially sustainable

Source: HCC LTP 24-34

Three Waters contribution to these are:

- **Safe and healthy water.** We provide water services to ensure safe drinking water and work to eliminate the public health risks from Three Waters services over time.
- **Respectful of the environment.** When we provide water services, we seek to avoid harm to the natural and built environment and over time enhance it for the benefit of future generations.
- **Resilient networks** support our economy. We provide reliable day-to-day water services that can withstand shock and stresses and support a strong and growing regional economy.
- **Optimal performance**. We have a capable, adaptive, and collaborative workforce competent in applying asset management practices, using innovative practices and exchanges of knowledge to drive optimal performance.

1.3 Three Waters services objectives

Water supply: Provision of a safe, high quality, reliable and resilient water supply that aims to support the achievement of Council's goals by protecting the health and safety of the community and supporting economic growth and development.

Wastewater: Provision of a secure, efficient and resilient wastewater service that aims to support the achievement of Council's goals by protecting the health of the community and our waterways from the harmful effects of wastewater and supporting economic growth and development.

Stormwater: Provision of a stormwater service that aims to efficiently manage and control flows and support the achievement of Council's goals by protecting the public and property from the effects of flooding and minimising the impact of runoff on the environment.

Source – HCC AMP

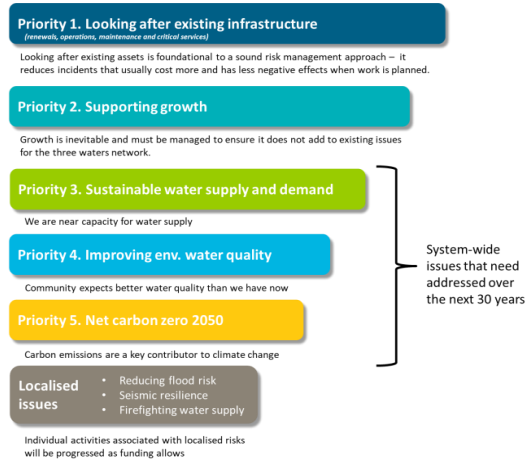
1.4 Key facts and figures

Water Type	Asset Type	Quantity
Water Supply	Reservoirs	24 Sites
		26 Tanks
	Pipes	706.24km
	Pump Station Sites	15
Wastewater	Pipes	590.06km
		102.19km (HVJV)
	Pump Station Sites	35
		21 (HVJV)
	Treatment Plants	1
Stormwater	Pipes	545.97
	Pump Station Sites	12 (+3 not yet accepted)

Source: WWL HCC Completeness Confidence Summary info for AMP

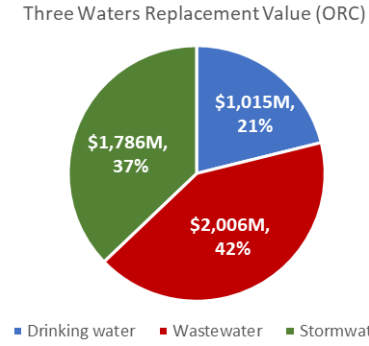
1.5 Three Waters challenges and priorities

The WWL priorities below support Hutt City Council's vision for its community:



1.6 Asset valuation information

The chart below provides an overview of the Three Waters Asset replacement cost:



Source: WWL 2024 May Valuation

The related Hutt City Council's Three Waters Assets asset data reliability and condition information is described in Section 3.

2. Partnerships and stakeholders

2.1 Mana Whenua partnership

Tākai Here – Mana Whenua/Partnership with Mana Whenua

Manaaki whenua, manaaki tangata, haere whakamua.

If we take care of the land and take care of the people, we will take care of the future.

Hutt City Council, Mana Whenua and hapori Māori (Māori communities) have strong and trusting relationships working collectively to support and enhance the wellbeing of everyone living and working in Te Awa Kairangi ki Tai Lower Hutt. This 10 Year Plan outlines many of the ways we seek to do this.

Central to Council's work with Mana Whenua are the Tākai Here. Through these partnership agreements we work together to create a more inclusive and sustainable future for all our people. We all acknowledge there is much work to do to address the inequities across our tāone so that all people living and working in Te Awa Kairangi ki Tai Lower Hutt thrive.

The community consultation-derived priorities for the 10 Year Plan are:

- fit-for-future infrastructure, financial sustainability, enhanced environment, liveable city, and vibrant communities
- promoting wellbeing of all people, climate change, and working in partnership with stakeholders and communities. These focus areas speak to what Council should prioritise, how we do this and with whom we should work alongside.

Mana Whenua support these priorities, and especially the call to enhance both the wellbeing of whānau and te taiao. This aligns with the values and beliefs of Mana Whenua in Te Awa Kairangi ki Tai Lower Hutt. The ambition to thrive outlined in the 10 Year Plan holds the interest of Mana Whenua and Māori at heart. The expression of kaitiakitanga, kotahitanga and manaakitanga throughout this document is supported by Mana Whenua and demonstrates the various ways Council is committed to keeping Te Tiriti o Waitangi and its legislative obligations at the heart of its work programme.

When all parts of our community are thriving, we are much better off as a city and community. This plan along with other strategies ensures the aspirations and outcomes for Māori to be a priority.

Three Waters Iwi and community engagement
Iwi and community consultation is undertaken for abstraction/discharge consents and all significant projects.

2.2 Key customers and stakeholders

The Three Waters activities exist to meet the needs and requirements of customers, partners and key stakeholders. The table below identifies the areas of interests, expectations and involvements of these groups.

Customers/Stakeholders	Area of Interest	Involvement/Expectations
Homeowners, businesses, organisations, health and medical facilities, education facilities, community groups, tourists and visitors	Water, wastewater, stormwater usage	These customers realise the benefits provided by the water supply, wastewater and stormwater activities
Iwi-Māori	Te Mana o te Wai Iwi & Hapū cultural heritage	All water to be respected and mauri of water to be protected and enhanced. Mana whenua to be involved in management of water supply, wastewater and stormwater issues
Greater Wellington Regional Council	Development, usage and discharge plans	Asset owner - drinking water intakes, treatment and bulk conveyance. Administers and enforces effective resource management in the region. Applications are processed through Regional Council
Water Services Regulator Taumata Arowai & Ministry of Health	Drinking water safety Three Waters service performance	Compliance with drinking water standards, resource consents, regulations (including environmental).
Audit New Zealand	Compliance and financial regulation	Carries out annual audits of Council on the Auditor-General's behalf to give ratepayers assurance that Council is appropriately reporting on how they spend public money, and, on the services they have provided.
Other Government agencies, Ratepayers Associations, Environmental groups, Fish and Game	Development, usage and discharge plans	These groups liaise with Council in relation to three waters services. Affected parties to Council's resource consents.
Utility providers	Service delivery (Term Service Contracts)	Access to assets for operations and maintenance, including planned and reactive works. Payment for services provided within contract terms.
Other utility providers	Operations, performance and management of works	New Zealand Utilities Advisory Group (NZUAG) requirements for co-ordinating networks
Emergency Management/Civil Defence	Emergency Operations	In the event of a Civil Defence emergency, they provide advice and work alongside emergency services, lifeline utilities and government departments
Elected Members, Committees, CEO, Management and Staff	Performance and management of services	Key internal stakeholders responsible for the management and operation of the Three Waters system

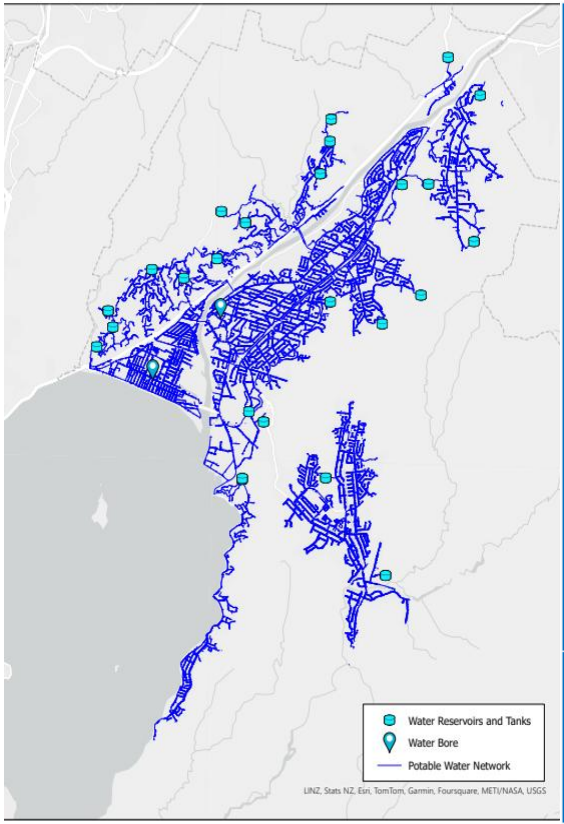
3. Three Waters services and assets we manage

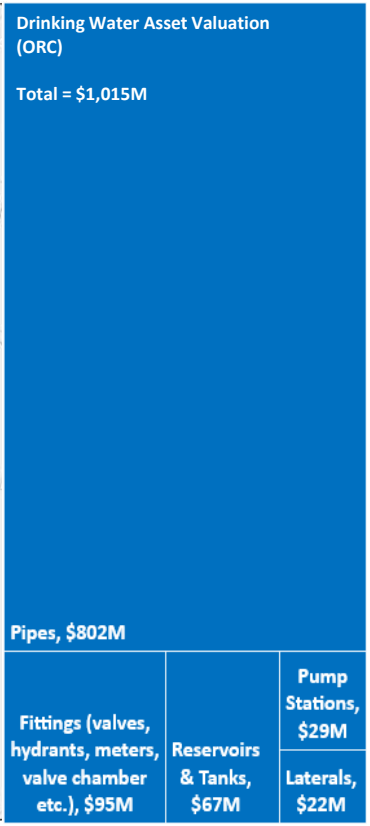
Source – WWL May 2024 Valuation, MAPs WWL

3.1 Water supply

The water supply network receives treated water from the Greater Wellington Regional Council's bulk water network. This is stored in local reservoirs and distributed via a pressurised pipe network to consumers at their point of connection (boundary toby).

The figure below summarises the extent and value of water network assets.



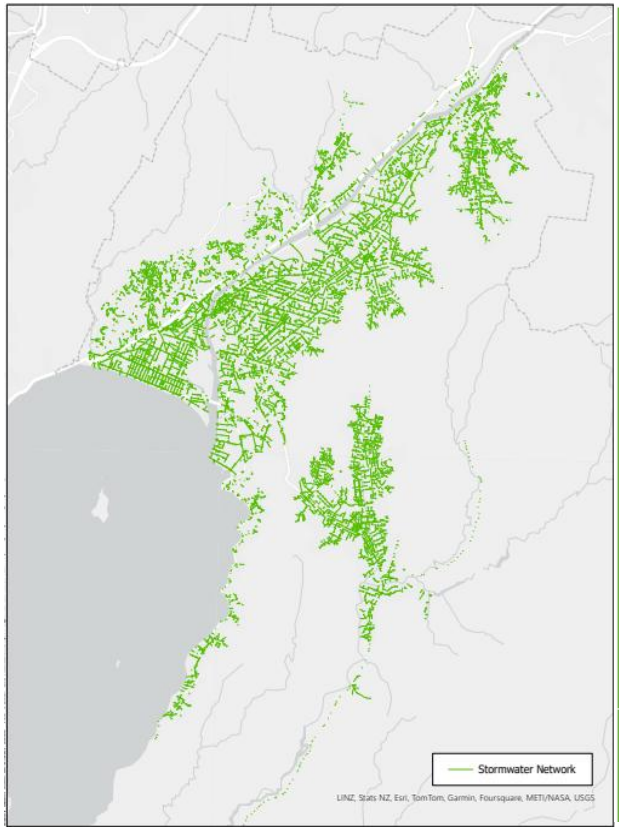


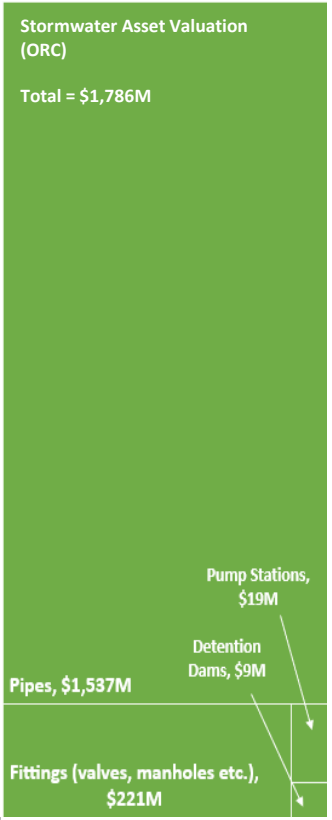
3.2 Stormwater

The HCC stormwater network collects runoff via constructed networks and overland flow paths. transport all flow to coastal discharge points. As Hutt City is primarily located in a river valley floodplain, pumping is required to convey stormwater from many low-lying areas. HCC is also responsible for a pressured stormwater network, dams and the discharge points to the Hutt River.

The management of the overland flow paths and infrastructure are spread amongst multiple parties and not managed solely by WWL or HCC.

The figure below summarises the extent and value of stormwater network asset.





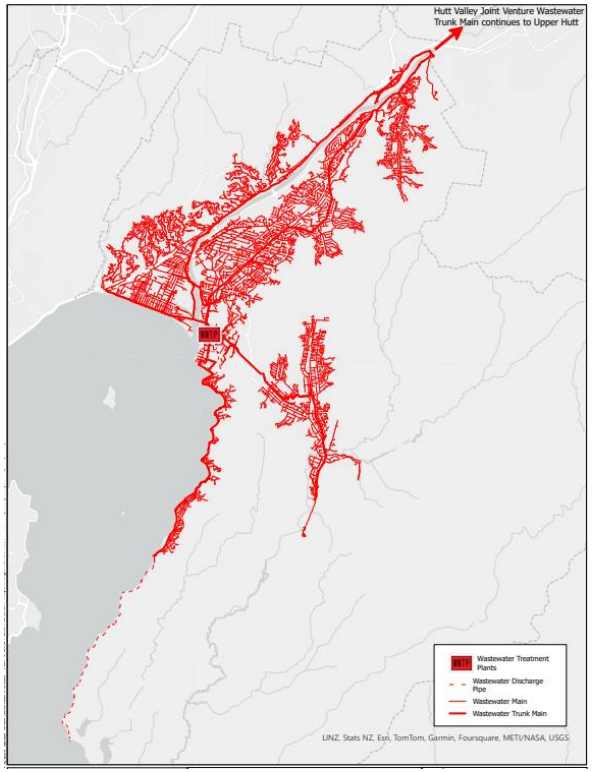
3. Three Waters services and assets we manage cont.

Source – WWL May 2024 Valuation, MAPs WWL

3.3 Wastewater

The wastewater network is made up of local collecting sewers that take wastewater from individual property lateral connections, through gravity pipelines, pump stations and pressurised (rising) mains to be treated and discharged via the Seaview Wastewater Treatment Plant. The treatment plant and associated works are jointly owned by Upper Hutt and Hutt City councils. Hutt City's share is approximately 70 percent, which provides the basis for a capital contribution to the Hutt Valley joint venture wastewater activity.

The figure below summarises the extent and value of wastewater network assets.



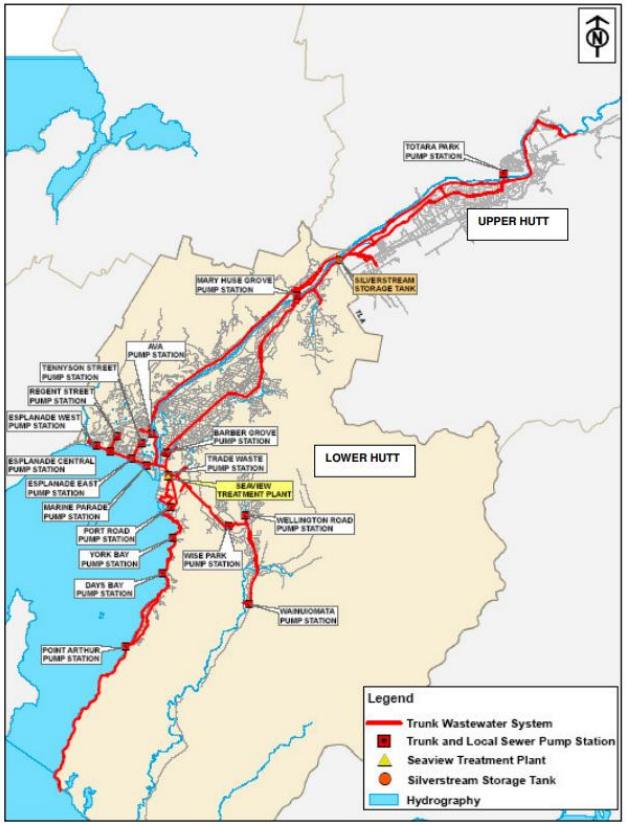
3.4 Hutt Valley Trunk Wastewater System

The joint wastewater system serves the two Councils – Hutt City and Upper Hutt. It was originally developed by the Hutt Valley Drainage Board, administered under the Hutt Valley Drainage Act 1967.

The extent of the shared assets includes:

- Approximately 102km of trunk pipelines
- 21 wastewater pumping stations
- Seaview WWTP and main pumping station
- 18km Main Outfall Pipeline to Pencarrow Outfall

Wainuiomata was incorporated into the system as part of the Hutt Vallet & Wainuiomata Wastewater Design Build Operate project. The Wainuiomata portion is funded solely by HCC, The allocation of costs is recalculated annually – dependant on design capacity, water use and population.



3.4 State of the assets

3.4.1 Asset Condition, Criticality and Reliability Definitions. Critical Assets.

The tables below describe the asset condition, criticality and reliability definitions. An outline of this Councils critical asset groups is provided.
To determine the condition and physical state of an asset, the asset's age is used to indicate replacement and timing, as well as the identification of maintenance or other interventions that may be required.

	Asset Condition	Data Reliability	Critical Assets
Definitions	Determined based on the performance of a physical, visual, desktop, or modelled condition assessment activity. Inspection techniques differ by asset class. See chart below: **Very Good (1):** No observable defects or deterioration. **Good (2):** No defects evident that if worsened would result in asset failure. **Moderate (3):** Defects evident that if worsened could result in asset failure. **Poor (4):** Significant defects and/or serious deterioration affecting an asset's structural integrity evident. **Very Poor (5):** If the asset has not already failed, it could fail at any time.	Determined based on the type of inspection method and extent of that inspection method. The determination may differ between asset classes: **(A) Highly Reliable:** Data based on sound records, procedures, investigations, and analysis which is properly documented and recognised as the best method of assessment. **(B) Reliable:** Data based on sound records, procedures, investigations and analysis which is properly documented but has minor shortcomings; for example, the data is old, some documentation is missing, and reliance is placed on unconfirmed reports or some extrapolation. **(C) Uncertain:** Data based on sound records, procedures, investigations, and analysis which is incomplete or unsupported, or extrapolation from a limited sample for which grade A or B data is available. **(D) Very Uncertain:** Data based on unconfirmed verbal reports and/or cursory inspection and analysis. **(E) Unknown:** None or very little data held.	Determined based on an assessment of the asset(s) failing against Wellington Water's service goals and four criticality factors. See Asset Criticality Framework for details. **VLCA (1):** Very Low Critical Asset **LCA (2):** Low Critical Asset **MCA (3):** Moderate Critical Asset **HCA (4):** High Critical Asset **VHCA (5):** Very High Critical Asset
Actions	There is a programme in place to improve understanding of the condition of the assets we manage. Through the collection and analyses of condition data, we will be able to progress to a more condition-based remaining life approach.	There is an ongoing programme in place to improve asset data reliability. This takes place through the analysis of asset data completeness and accuracy and through the update of asset data information, from field checks, audits and condition assessments. The aim is to move the asset data reliability rating up to reliable and very reliable.	An asset criticality framework exists and renewals and replacement priority is given to the 'Very High Critical Assets' (VHCA).

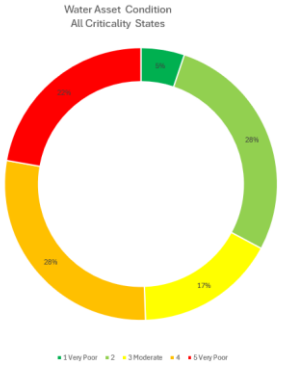
Critical Assets	Critical Assets		
	Water Supply • Pump stations and reservoirs and trunk mains with no redundancy/contingency • Assets servicing a very large % of the connected/vulnerable population • Location based watermains that intersect a state highway/buildings or a water course • Water sources and treatment plants are owned and managed by GWRC	**Wastewater** • Wastewater treatment plants • Pump stations and trunk mains with no redundancy/contingency • Assets servicing a very large % of the connected/vulnerable population • Location based Pipes that intersect state highways /buildings or are within 20 metres of a water course (includes pipe bridges)	**STORMWATER** • Stormwater pump stations, detention ponds and soakage cells • Pipes with diameter >=225mm (pre 2000's) and >=300mm (2000's onwards)

3.4.2 Water supply

Network Assets. The HCC water supply network asset register details are provided below.

Water Type	Asset Type	Quantity	Completeness	Confidence
Water Supply	Reservoirs	24 Sites	A	A
		26 Tanks		
	Pipes	706.24km	B	B
	Pump Station Sites	15	A	A

Network Condition. The HCC water supply network asset condition is provided in the figure below.



Water Supply – Summary of Network Issues and Challenges. There is a significant portion of the network that is overdue for replacement (Approx 22 % is past its expected life with an additional 7% reaching its end of life in the next 10 years) . The high renewal requirements are because of the amount of asbestos cement pipe that was installed post World War 2 and the amount of cast iron pipe laid prior to World War 2 that remains in service. In addition, there are heavily corroded galvanized iron ridermains that have been found to be the cause of high leakage and are in immediate need of replacement. The asbestos cement pipes were installed with specific housing development in areas like Stokes Valley, Taita, Naenae and Wainuiomata. Cast iron pipes are mainly located in Petone. As a consequence, asset replacement will need to focus on specific geographic areas as failure levels accelerate.

The asbestos cement and cast-iron pipes are brittle, slowly corroding and vulnerable to failure immediately after an earthquake. Priority for renewal in current plans must be given to pipes with historic failures, service interruptions and high repair costs as well as the HCA or VHCA assets that have been validated as close to failure through condition assessment. If HCA or VHCA asset are not replaced until failure because of delays, lengthy and extensive service interruptions will occur.

Reservoirs . All reservoirs are regarded as VHCAs. If reservoirs are removed from service, widespread loss of water supply will result. All reservoirs have been visually assessed with emphasis on contamination and health and safety risks. There are known reservoirs (eg Gracefield and Naenae) where structural condition or contamination risk means that replacement or significant modification is the only solution. In the interim all health and safety and contamination risks can be mitigated through minor works and good maintenance. Funding for minor works has been allocated, and work continues to prevent risks identified.

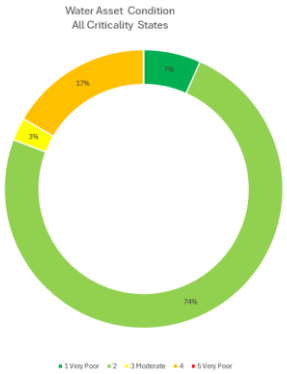
Pump Stations (3 Waters). Pumps stations (water supply, wastewater and stormwater) are critical facilities. Within these facilities are also critical mechanical and electrical assets that on failure would result in supply disruption health and safety risks in the immediate vicinity, flooding and environmental pollution. Condition assessment of pump station assets is ongoing and critical asset renewal dates have been identified. Deferral of renewal funding will simply heighten the likelihood of the consequences listed above.

3.4.3 Stormwater

Network Assets. The HCC stormwater network asset register details is provided below.

Water Type	Asset Type	Quantity	Completeness	Confidence
Stormwater	Pipes	545.7km	B	B
	Pump Stations	12	A	A

Network Condition. The HCC stormwater network asset condition is provided adjacent.



Stormwater network – Summary of Network Issues and Challenges. Generally, the condition of the stormwater network is in better condition than the drinking water and wastewater networks (3% past its expected life with an additional 2% in the next 10 years). Furthermore, the nature of the water carried is less corrosive than for wastewater pipes although materials used are similar. Structural failure of critical stormwater pipes is likely to be hazardous to public safety, roadways and buildings. Because of the high groundwater table in the Hutt Valley a number of the very highly critical stormwater pipes have bespoke construction (ie not circular pipes). This means that their repair can be expensive.

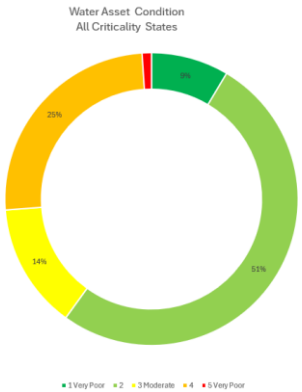
Planning for renewals must be integrated with capacity assessment to protect against floods and climate change. Nevertheless, condition assessment remains vital to adequately plan the renewal or upgrade of critical stormwater pipes. Renewal priority must be given to condition grade 4 and 5 assets combined with flood risk assessment.

3.4.4 Wastewater including Treatment Plants

Network Assets. The HCC wastewater network asset register details are provided below.

Water Type	Asset Type	Quantity	Completeness	Confidence
Wastewater	Pipes	590.06km	B	B
		102.19km (HVJV)		
	Pump Station Sites	35	A	A
		21 (HVJV)		
	Treatment Plants	1	A	A

Network Condition. The HCC wastewater Network asset condition is provided below.



Wastewater network – Summary of Network Issues and Challenges. There is a smaller portion of the local wastewater network compared to water supply (8%) that is overdue for replacement but a significant amount reaching its end of life in the next 10 years (an additional17%). The Hutt Vally wastewater joint venture includes pipe assets that are of very high criticality because they are the "trunk" delivery pipes to the Seaview wastewater plant. Failure of HCA and VHCA wastewater pipes will result in structural collapse and lengthy overflows of untreated wastewater into the immediate receiving environments such as beaches, harbours or waterways. The high level of renewals likely to be needed in the next 10 years is primarily an outcome of materials selected and date of installation. Wastewater pipes made of concrete and earthenware are always vulnerable to corrosion and this has been evidenced through the condition assessment of the VHCAs such as the main interceptor. In addition, significant funding will need to be committed to replace the Seaview to Pencarrow outfall that was laid in the late 1950s and found to have pipe joint failures Priority for renewal in current plans must be given to pipes with historic failures, service interruptions and high repair costs as well as the HCA or VHCA assets that have been validated as close to failure through condition assessment. Recent assessment of critical assets such as the interceptor near Melling across and alongside SH2 that identified significant internal corrosion highlight the importance to intervene before failure occurs.

Wastewater Treatment Plants. The Seaview wastewater treatment plant is a highly critical facility. Within this facility are critical assets that on failure would result in supply disruption, health and safety risks in the immediate vicinity, offensive odour, flooding and environmental pollution. The plant was significantly modified as a DBO that ran its time in 2020 after 20 years of service. The nature of many of the mechanical and electrical assets means that a significant renewals burden has arisen post termination of the contract. Failure of these assets heightens the risk of consent non-compliance and unplanned discharges to the environment. A significant replacement item in the immediate future is the gas fired dryer.

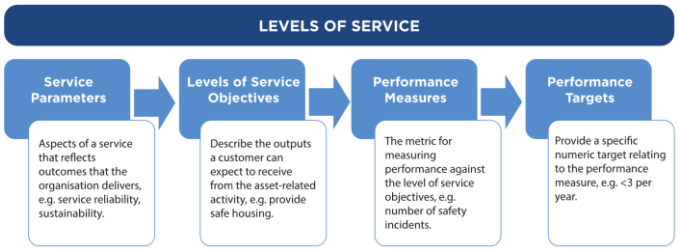
4. Three Waters current Levels of Service and performance measures

4.1 Levels of Service

Levels of service define the type and extent of services delivered to the customer. They are written from a customer viewpoint such that Council can set targets against the levels of service to demonstrate outputs and performance against the community outcomes.

Levels of service are a link between Council's strategic goals and key priorities, AM objectives, detailed operational objectives and performance measures. They are based on user expectations, statutory and national standard requirements.

The levels of service framework, outlined below includes service parameters, objectives, performance measures and targets.



4.2 HCC key priorities

HCC key priorities identified in the LTP are summarised in this diagram.

- Investing in infrastructure
- Increasing housing supply
- Caring for and protecting our environment
- Supporting an innovative, agile economy and attractive city
- Connecting communities
- Being financially sustainable

The HCC Three Waters levels of service contribute towards achieving these key priorities:

- Provision of Three Waters infrastructure to meet regulatory requirements, growth demand
- Compliance with resource consent requirements and undertaking operations and maintenance activities to ensure the environment is always protected
- Provision of Three Waters Infrastructure that underpins and supports the local economy
- Planning and delivery of financially sustainable Three Waters Services

4.3 Wellington Water customer outcomes and goals

As the HCC Three Waters service provider Wellington Water has developed customer outcomes and goals detailed in the table adjacent. These outcomes and goals guide Wellington Water's service delivery and the achievement of the HCC's Three Waters Levels of Service detailed in the next three sections (Sections 4.4-4.6).

The levels of service and performance measures detailed in these sections align with HCC's LTP Three Waters performance measures.

There are also more technical performance measures included in operational plans and service contracts.

Safe and healthy water	Respectful of the environment	Resilient networks support our economy
We provide safe and healthy drinking water	We manage the use of resources in a sustainable way	We minimise the impact of flooding on people's lives and proactively plan for the impacts of climate change
We operate and manage assets that are safe for our suppliers, people and customers	We will enhance the health of our waterways and the ocean	We provide three water networks that are resilient to shocks and stresses
We provide an appropriate region-wide fire-fighting water supply to maintain public safety	We influence people's behaviour so they are respectful of the environment	We plan to meet future growth and manage demand
We minimise public health risks associated with wastewater and stormwater	We ensure the impact of water services is for the good of the natural and built environment	We provide reliable services to customers

4.4 Water supply Level of Service and performance

4.4.1 Water Supply - Safety of Drinking Water

Measure: The Council provides safe and reliable potable water for household and business use in urban areas

The table below shows that Council drinking water supplies have not fully complied with the following criteria for the last three years: (a) part 4 of the drinking-water standards (bacteria compliance criteria), and (b) part 5 of the drinking-water standards (protozoa compliance criteria).

Performance Measure	Target	2023/24 Result	2024/25 Forecast	2025/26 Forecast	2026/27 Forecast	2027-34 Trend
The extent to which the local authority's drinking water supply complies with part 4 of the drinking-water standards (bacteria compliance criteria)	100%	Non-compliant	Non-compliant	Compliant	Compliant	Compliant
The extent to which the local authority's drinking water supply complies with part 5 of the drinking-water standards (protozoal compliance criteria)	100%	Non-compliant	Compliant	Compliant	Compliant	Compliant

Outlook: With the indicative level of investment, Council can expect to comply with protozoa compliance criteria. The bacteria compliance criteria are forecast to be met from the end of 2025 once related initiatives that will increase the contact time for chlorine with water leaving the Waterloo Water Treatment Plant are delivered.

4.4.2 Water Supply - Fault Response Times

Measure: The Council provides a responsive call-out service to attend to customers' issues with their water supply

The table below shows the median times to attend and resolve call-outs in response to a fault or unplanned interruption to the water supply system for Urgent and Non-urgent call-outs.

Performance Measure	Target	2023/24 Result	2024/25 Forecast	2025/26 Forecast	2026/27 Forecast	2027-34 Trend
Median response time to attend urgent call-outs	<=90 mins	101 mins	Meet LOS	Meet LOS	Meet LOS	Meet LOS
Median response time to resolve urgent call-outs	<= 8 hours	4.6 hours	Continue to meet LOS	Continue to meet LOS	Continue to meet LOS	Continue to meet LOS
Median response time to attend non-urgent call-outs	<= 72 hours	191 hours	Stabilisation but not meeting LOS.	Stabilisation but not meeting LOS.	Stabilisation but not meeting LOS.	Stabilisation but not meeting LOS.
Median response time to resolve non-urgent call-outs	<= 20 working days	16 working days	Stabilisation, meeting LOS.	Stabilisation, meeting LOS.	Stabilisation, meeting LOS.	Stabilisation, meeting LOS.

Outlook: With the indicative level of investment, we can expect to see increased incidence of leaks and bursts as the network continues to age and condition worsens. The rate of increase in non-urgent works begin to stabilise with increased maintenance activities, however we are unable to determine in detail to what extent the recommended budget will mitigate or reverse the trend of increased non-urgent response times.

4.4.3 Water Supply - Demand Management and Water Loss

Measure: The Council promotes the efficient and sustainable use of water

The table below shows:

- the average consumption of drinking water per day per resident
- the percentage of real water loss from the Council's water networks

Performance Measure	Target	2023/24 Result	2024/25 Forecast	2025/26 Forecast	2026/27 Forecast	2027-34 Trend
The percentage of real water loss from the local authority's networked reticulation system	<= 20%	35%	Incremental improvement	Incremental improvement	Incremental improvement	Stabilisation (likely above 20% target)
Average consumption of drinking water per day per resident	<385L	422L	Stabilisation or small improvement	Stabilisation or small improvement	Stabilisation or small improvement	Improving after Water Meters

Outlook: The level of funding in the council preferred budget will likely begin to stabilise and reverse this trend. We are unable to determine in detail to what extent the recommended budget will mitigate or reverse this trend.

4.4.4 Water Supply - Customer Satisfaction

Measure: The Council provides a responsive call-out service to attend to customers' issues with their water supply

Performance Measure	Target	2023/24 Result	2024/25 Forecast	2025/26 Forecast	2026/27 Forecast	2027-34 Trend
The total number of complaints received about drinking water taste, clarity, odour, water pressure or flow, continuity of supply or the response to any of these issues; expressed per 1000 connections	<=20	31.7	Improvement	Improvement	Improvement	Meet LOS

Outlook: Complaints are tied strongly to investment in the network. As above, we can expect to see a decrease in complaints under the council's preferred budgets and better performance, with the recommended budgets.

4.4.5 Water Supply - Volume of Water Abstracted

This performance measure is applicable to GWRC as the bulk water supplier.

4.5 Wastewater Level of Service and performance

Source – Stage 4 – WWL Final LTP close-out advice & HCC 2023-24 Annual Report

4.5.1 Wastewater - System and Adequacy

Measure: Adequate wastewater services for household and business use will be provided in currently serviced urban communities

Performance Measure	Target	2023/24 Result	2024/25 Forecast	2025/26 Forecast	2026/27 Forecast	2027-34 Trend
The number of dry weather sewerage overflows from the territorial authority's sewerage system, expressed per 1000 connections	<20	1.7	Continue to meet LOS	Continue to meet LOS	Continue to meet LOS	Deteriorating due to growing renewal backlog & network degradation

Outlook: In the longer term, the dry weather overflows and complaints may increase as the network deteriorates and because of less wastewater maintenance due to flatline Opex budgets.

4.5.2 Wastewater - Fault Response Times

Measure: Council will respond as required to faults and complaints received from its customers

Performance Measure	Target	2023/24 Result	2024/25 Forecast	2025/26 Forecast	2026/27 Forecast	2027-34 Trend
Median response time to attend a sewage overflow resulting from a blockage or other fault in the sewerage system	<= 90 mins	159 mins	Improvement	Improvement	Improvement	Improvement
Median response time to resolve a sewage overflow resulting from a blockage or other fault in the sewerage system	<= 8 hours	12.4 hours	Improvement	Improvement	Improvement	Improvement

Outlook: As it is difficult to draw strong conclusions, we can only say that the Council level of investment will necessarily see an improvement in the performance (reflected in customer satisfaction) of the wastewater network in the short term. It is unclear if this improvement will meet LOS targets for wastewater response and resolution times.

4.5.3 Wastewater - Customer Satisfaction

Measure: Council will respond as required to faults and complaints received from its customers

Performance Measure	Target	2023/24 Result	2024/25 Forecast	2025/26 Forecast	2026/27 Forecast	2027-34 Trend
The total number of complaints received about sewerage odour, sewerage system faults, sewerage system blockages and the response to any of these issues; expressed per 1000 connections	<=30	24.1	Continue to meet LOS	Continue to meet LOS	Continue to meet LOS	Deteriorating due to growing renewal backlog & network degradation

Outlook: As with Fault Response Times, it is difficult to draw strong conclusions, we can only say that the Council level of investment will necessarily see an improvement in the performance (reflected in customer satisfaction) of the wastewater network in the short term.

4.5.4 Wastewater - Discharge Compliance

The Council's wastewater services do not negatively impact on public health or the natural environment in line with legislative requirements

Performance Measure	Target	2023/24 Result	2024/25 Forecast	2025/26 Forecast	2026/27 Forecast	2027-34 Trend
Number of abatement notices received in relation to the resource consents for discharge from sewerage systems	0	0	Improvement at WWTP leading to less regulatory action	Improvement at WWTP leading to less regulatory action	Improvement at WWTP leading to less regulatory action	Increasing compliance
Number of infringement notices received in relation to the resource consents for discharge from sewerage systems	0	15	Improvement at WWTP leading to less regulatory action	Improvement at WWTP leading to less regulatory action	Improvement at WWTP leading to less regulatory action	Increasing compliance
Number of enforcement orders received in relation to the resource consents for discharge from sewerage systems	0	0	Improvement at WWTP leading to less regulatory action	Improvement at WWTP leading to less regulatory action	Improvement at WWTP leading to less regulatory action	Increasing compliance
Number of successful prosecutions in relation to the resource consents for discharge from sewerage systems	0	0	Improvement at WWTP leading to less regulatory action	Improvement at WWTP leading to less regulatory action	Improvement at WWTP leading to less regulatory action	Increasing compliance

Outlook: The preferred level of investment from the council will see improvements at the wastewater treatment plants which should result in less actions from the regulator.

4.6 Stormwater Level of Service and performance

Source – Stage 4 – WWL Final LTP close-out advice & HCC 2023-24 Annual Report

4.6.1 Stormwater – Performance Measures

The Stormwater performance measures are detailed in the table below:

Performance Measure	Target	2023/24 Result	2024/25 Forecast	2025/26 Forecast	2026/27 Forecast	2027-34 Trend
The number of flooding events that occurred throughout the year	<=2	0	Weather dependant	Weather dependant	Weather dependant	Weather dependant
For each flooding event, the number of habitable floors affected; expressed per 1000 connections	<0.24	N/A - No flooding events	Weather dependant	Weather dependant	Weather dependant	Weather dependant
Median response time to attend a flooding event	<=8 hours	N/A - No flooding events	Weather dependant	Weather dependant	Weather dependant	Weather dependant
The number of complaints received by a territorial authority about the performance of its stormwater system, expressed per 1000 connections	<=20	8.5	Deteriorating	Deteriorating	Deteriorating	Not meeting LOS

Outlook: The preferred level of investment will likely see the number of complaints about the stormwater network performance continue to rise or start to even out. Current level of investment will not be sufficient to mitigate damage to people, property, or infrastructure from the effects of climate change into the future.
Coordinated engagement with councils and communities will be required to determine a future path to protect people, property, and infrastructure.

4.6.2 Stormwater - Discharge Compliance

The Council minimises the environmental impact of protecting habitable areas from flooding

Performance Measure	Target	2023/24 Result	2024/25 Forecast	2025/26 Forecast	2026/27 Forecast	2027-34 Trend
Number of abatement notices received in relation to the resource consents for discharge from stormwater systems	0	0	N/A	N/A	N/A	N/A
Number of infringement notices received in relation to the resource consents for discharge from stormwater systems	0	0	N/A	N/A	N/A	N/A
Number of enforcement orders received in relation to the resource consents for discharge from stormwater systems	0	0	N/A	N/A	N/A	N/A
Number of successful prosecutions in relation to the resource consents for discharge from stormwater systems	0	0	N/A	N/A	N/A	N/A

5. Demand and planning for the future

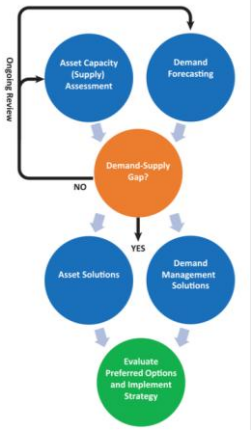
5.1 Understanding demand

Demand represents the quantity of products or services wanted by customers at a specified price and time. Demand forecasting helps provide an understanding of future service demand trends and helps with planning to meet changing demand over time. There is a level of inherent uncertainty and risk in the demand management process outlined in the diagram shown.

Demand management involves:

- Assessment of asset capacity
- Identifying demand drivers
- Forecasting future demand
- Assessing Demand-Supply gaps
- Identifying demand management solutions

Demand management planning is vital to ensure services are available at the required levels to meet customer requirements and expectations. It is also important to help effectively manage constraints and shortages of supply.



5.2 Key Three Waters demand drivers

Understanding and monitoring demand drivers helps plan for future service demand and the development of organisational growth and demand strategies, policies and plans.

Demand drivers	
Demographics	Trends in population growth, age demographics
Tourism	Seasonal peaks and tourism trends
Economic development	Economic climate and growth trends
Legislation	Legislation and regulatory requirement changes
Climate change	Climate change impacts and trends
Land use and land development	Land use and land development demand and trends

5.3 Demand management and forecasting

Wellington's demand for water is increasing Wellington Water currently supplies approximately 175 million litres of drinking water per day on average to residents and businesses within the metropolitan area. Demand for water has increased by around 30% over the last 10 years - close to 3 time the rate of population growth. This has been caused by a rapid increase in water loss in the city council reticulation networks.

Challenges for future supply Looking ahead there are significant challenges that will affect supply and demand, and impact Wellington Water's ability to provide appropriate standard of water security. These include:

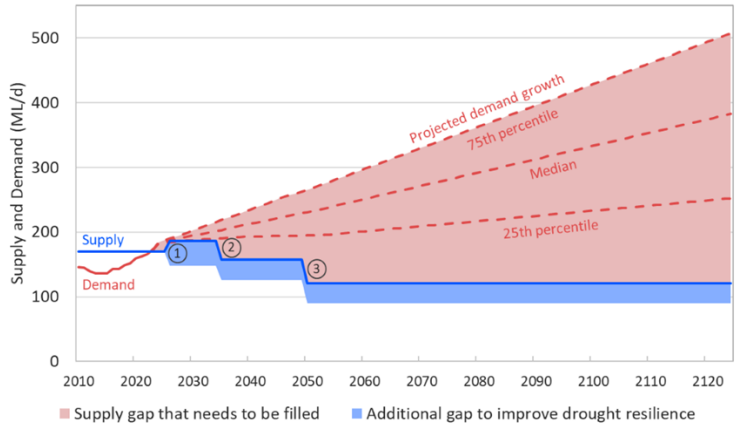
- Population growth – an additional 130,000 people over the next 30 years is expected to drive up the demand for water.
- Environmental enhancements – less water available during summer in response to recommendations from the Whaitua Te Whanganui-a-Tara Committee.
- Water loss – which has increased over recent years and is currently a substantial component of the overall demand for water. Water loss will also need to be reduced to meet water efficiency requirements in the Natural Resources Plan.
- Climate change and sea level rise –expected to impact demand, water availability and sustainable yield from the Waiwhetū aquifer.
- Water shortage level of service (LoS) – the current 1-in-50 year LoS is low by national and international standards. Pressure from public, political or regulatory sources could result in the LoS increasing to a 1-in-200 or 1-in-500 year standard.

There is uncertainty and variability in how and when these challenges might impact the supply / demand balance, because they largely depend on external factors outside of Wellington Water's direct control. Instead of creating a single plan based on a single scenario, Wellington Water has developed an adaptive plan that responds to these challenges and their effects as they change over time.

Baseline supply / demand balance The baseline supply / demand balance for the Wellington metropolitan water supply is shown in the figure. This illustrates the supply gap that is predicted to occur with population growth if no action is taken to increase supply and/or reduce demand.

Timing and sequencing of options A Dynamic Adaptive Pathways approach was taken to testing different sequences, or pathways, of options to increase supply or reduce demand. The pathway that was found to be most robust was:

- Investment in water loss management (with investment increasing over time);
- Residential metering (with volumetric charging and demand management);
- Pākuratahi Lakes Stage 1 (lakes 1 and 2);
- Managed Aquifer Recharge;
- Wainuiomata Storage;
- Pākuratahi Stage 2 (lake 3 and WTP upgrade); and
- Purified Recycled Water or seawater desalination.



Source WWL Water Source Options Assessment 2023

Assessment of options using many combinations of future scenarios showed that the first three options are required in the 2024-34 period. This is referred to as the "Keep, Reduce, Add" sustainable water supply strategy, meaning:

- Keep water in the pipes by managing water loss and replacing old infrastructure.
- Reduce water demand through universal metering and demand management.
- Add more supply by completing the Te Marua WTP optimisation project and constructing the proposed Pākuratahi Lakes 1 and 2.

The timing for interventions beyond the mid 2030's will depend on how growth and other factors change over time and will be the subject of ongoing monitoring.

Key Capital Investment-Storage Capacity Improvement. For HCC, a new Naenae Reservoir #2 (14,000 cu.m) will be built adjacent to the existing Naenae Reservoir #1 (11,300 cu.m) that is due for renewal in approximately 25 years. The new reservoir is sized to meet the existing shortfall in storage volume for the zone and to meet a portion of the requirements for future growth. When the existing reservoir is replaced, it is planned to review and design for the remaining storage requirements.

5.4 Managing demand

	5.4.1 Water supply	5.4.2 Wastewater	5.4.3 Stormwater
Meeting Existing Demands	There are a range of Water demand management and mitigation measures to help manage the increasing Water demand challenges, including: • Water restrictions • Education programmes • Leak detection programmes • Network efficiency programmes • Effective demand forecasting to ensure that future demand for the service is understood • Water hydraulic modelling programmes to assist with growth and demand analysis and forecasting • Management of customer demand, to reduce demand for over-utilised assets, through pricing, regulation and education • Capital investment planning	• Treatment plant optimisation strategies • Review contingency plans and readiness • Undertake wastewater hydraulic modelling to assist with growth and demand analysis and forecasting • Effective demand forecasting to ensure that future demand for the service is understood • Investigate disposal options and optimisation of liquids and solids • Management of customer demand, to reduce demand for over-utilised assets, through pricing, regulation and education	• Undertake stormwater hydraulic modelling to assist with growth and demand analysis and forecasting • Network upgrades • Risk and hazard planning and management • Effective demand forecasting to ensure that future demand for the service is understood • Management of customer demand, to reduce demand for over-utilised assets, through pricing, regulation and education
Meeting Future Demands	• Participate in wider organisation future planning and strategy development • Infrastructure planning and budget forecasting • Adopt “right sizing” the infrastructure assets approach • Capital project implementation • Network efficiency and optimisation programme implementation • Renewals projects with an element of upsizing due to growth capacity requirements have funding allocations split between renewals, levels of service and growth	• Participate in wider organisation future planning and strategy development • Identify and prioritise growth projects based on planning discussions with the large developers • Better growth forecasting by use of analysis of subdivision and building consent data and trends • Funding timing and allocations are based on the outcomes of negotiations with developers and budget estimates are used in the development contributions model • Renewals projects with an element of upsizing due to growth capacity requirements have funding allocations split between renewals, levels of service and growth	• Participate in wider organisation future planning and strategy development e.g., new properties required to have ‘hydraulic neutrality’ • Monitor, plan and implement appropriate responses to future climate change impacts • Identify and prioritise growth projects based on planning discussions with the large developers • Better growth forecasting by use of analysis of subdivision and building consent data and trends • Funding timing and allocations are based on the outcomes of negotiations with developers and budget estimates are used in the development contributions model • Renewals projects with an element of upsizing due to growth capacity requirements have sufficient funding allocations split between renewals, levels of service and growth. Note there is a significant cost escalation impact c3-4x diameter increase is equivalent to c5-10x cost increase at a 10% AEP LoS increase.

6. Risk management and resilience

6.1 Risk Management Approach and Key Risks

Council has developed a Risk Management Policy and a corporate Risk Management Framework. The Risk Management Framework ensures that all key risks have been identified, assessed and mitigation measures developed and implemented wherever possible. Wellington Water also operates a risk management framework aimed to identify, mitigate and report on risks and hazards. Key risks (Critical & High rated risks) for the Three Waters network are listed below.

6.2 Key Risks and Mitigation Measures – Three Waters (Sources WWL 2021 AMP and 2023-24 LTP Final Information Pack, WIML, Scotts)

Activity	Risk Item	Key Mitigation Measures (Waugh Added)
	Looking After Existing Infrastructure	
Three Waters	Current 10-year LTP investment is well short of what is required to renew ageing parts of the network (approximately 50% of what is required). Growth will put pressure on undersized assets (blockages, dry weather overflow, areas with no fire flow capacity) Drinking Water - 110km of galvanized water pipe that is failing and requires urgent replacement along with significant amount of AC pipe that is failing earlier than expected Stormwater - Current 10-year LTP investment is short of what is required to renew ageing parts of the network Wastewater - There is a significant quantity of wastewater pipework indicated by theoretical aged based backlog. 10 Year LTP investment focusses on critical high-risk assets and condition assessments are ongoing to confirm condition and remaining life	• Condition Assessment of Assets in Theoretical backlog, taking a criticality and risk approach to prioritising assessment work • Updating asset data based on assessment findings and reassessment of backlog • Planning and implementing risk-based priority renewals within funding limits. This may require a review of the balance of renewals funding between the Three Waters as new asset information comes to light • WWL are developing a predictive failure model for AC pipes and other pipe materials to improve evidence base for critical renewals funding and planning
Three Waters	O&M budgets are insufficient for the amount of planned maintenance needed and will result in increased reactive maintenance (leaks, bursts)	• Review and develop risk-based O&M works priorities • Develop an understanding of critical risks and hazards within the operational works areas, monitor and report and adapt programme to allocate resource to areas of highest priority • Work with other utility providers e.g., power, gas to renewal assets where they are undertaking work
Two Waters	Achievement of global wastewater network and stormwater discharge consents is estimated at $4.7B (2040 standards, unbudgeted) and there is no certainty investment will achieve GWRC targets	• None identified at present

6.3 Key Risks and Mitigation Measures – Water Supply (Sources WWL 2021 AMP and 2023-24 LTP Final Information Pack, WIML, Scotts)

Activity	Risk Item	Key Mitigation Measures (Waugh Added)
	Looking After Existing Infrastructure	
Water Supply	Water demand for Hutt City is outstripping supply due to water loss in the network and growth (population growth of 10%, demand increase 40%). The key risks related to this (and identified in the WWL Risk register) are: • WWL will be unable to meet peak demand (acute); and • WWL will be unable to meet future demand (strategic).	• Network optimisation programmes • Water loss management programmes • New water reservoir on Eastern Hills planned to meet growth and improve resilience • Capital investment in the additional lakes/storages is a mitigation for item (b)
Water Supply	Water supply reliability over summer is at risk and a new water supply is needed.	• Implement a water metering programme • Invest in operational maintenance • Minimising the future cost of water infrastructure by exploring ways of reducing the demand for water and influencing water use behaviour
Water Supply	Reservoirs condition means that contamination can occur (non-conformance with safe drinking water). There is insufficient funding for renewals.	• LTP funding • Increased monitoring including using Storage Management Plan processed
Water Supply	There is insufficient existing reservoir storage (design, growth, fire demand). Additional water storage capacity to meet resilience and the current growth shortfall is needed.	• Immediate demand management plan implementation • Storage upgrade planning, funding and mitigation • Eastern Hills reservoir programme (by FY 30/31)

6.4 Key Risks and Mitigation Measures - Stormwater (Sources WWL 2021 AMP and 2023-24 LTP Final Information Pack, WIML, Scotts)

Activity	Risk Item	Key Mitigation Measures
Stormwater	HCC Specific Growth Study notes that approximately $800m of investment is required to upgrade stormwater across the City to meet growth and achieve target standards. This is not currently funded. Unbudgeted costs may arise.	• Network optimisation programmes • Hydraulic modelling and planning • Contingency planning and monitoring • Network upgrade design, funding and implementation
	Climate Change and Zero Carbon	
Stormwater	Coastal stormwater outfalls experiencing sea level rise resulting in increased sedimentation and need for more frequent clearing. Climate change may drive an increase in the frequency and extreme (impacts) of storm event.	• Adaptive climate change modelling and planning • Long term stormwater planning

6.5 Key Risks and Mitigation Measures - Wastewater (Source WWL 2021 AMP, WIML, Scotts WSDP)

Activity	Risk Item	Key Mitigation Measures
	Looking After Existing Infrastructure	
Wastewater	Contamination events will increase, with mana whenua and community expectations not being met as renewals investment is not at the right level	• Rapid response to notifications (onsite, stop overflows)
Wastewater	Wastewater pump station renewal funding is not keeping pace with asset deterioration leading to capacity constraints and potential surcharge risks (environment and property damage). Note – also see Three Waters above for network pipe renewals	• Condition assessment of assets in the theoretical backlog group, applying a criticality and risk approach to prioritising assessment work • Updating asset data based on assessment findings and reassessment of backlog • Planning and implementing risk-based priority renewals within funding limits
Wastewater	Seaview main outfall pipe working at around 50% capacity needs renewing or upgrading with no budget provision for physical works - expected to be around $700M (HCC specific). There is a consequential increase in opex and increase in treated discharges to Waiwhetū Stream	• Review and improve operations plans and procedures to optimise performance within the known asset constraints • Develop contingency plans • Plan and seek funding for outfall upgrades as part of an integrated wastewater strategy for HCC • Review the demand management data (including I &I reduction) benefits and any current implementation as part of an integrated wastewater strategy for HCC
Wastewater	Erosion occurring on the Hutt River potentially undermining 825mm bulk wastewater pipeline adjacent to Taita rock (HCC specific). This pipe services Upper Hutt	• Monitor and assess erosion impacts on bulk pipeline • Contingency plan development • Plan and seek funding for pipeline upgrades/erosion mitigation works
Wastewater	Sludge dryer at Seaview WWTP is nearing its end of life (JV specific) with increased community dissatisfaction (odour)	• Monitor and assess dryer performance • Contingency plan development • Sludge dryer upgrades funded in the LTP
Wastewater	The redundancy of Seaview WWTP is inadequate for major maintenance while ensuring compliance can be met (JV specific). There is no funding to increase WWTP redundancy	• Contingency plan development, funding and implementation
Wastewater	Capacity of parts of the wastewater network are insufficient to meet growth projections with current I&I and will cause overflows and will also not meet anticipated consent requirements	• Network optimisation programmes • Hydraulic modelling and planning • Contingency planning and monitoring • Network upgrade design, funding and implementation
Wastewater	Streams, rivers and harbours contain faecal material	• Wastewater network hydraulic modelling and optimisation • Network upgrade planning and funding • Contingency planning and work e.g., detention areas • Stormwater discharge treatment options, planning and implementation

6.6 Building resilience

Resilience within Council is built on aspects such as response and recovery planning, financial capacity, crisis leadership organisational preparedness i.e. robust risk management, emergency response plans and business continuity plans developed and understood by staff. Infrastructure resilience includes the physical robustness of assets, the level of redundancy (contingencies and backups) and the management of the consequences of interdependencies between assets and organisations.

The headline challenges for water

Wellington Water

Hutt City and the region face pressing issues for three waters

- ***Water assets are aging at a faster rate than renewals.*** Historic underinvestment has resulted in aged infrastructure increasingly prone to failure
- We are facing ***acute water shortages***, with demand increasing while supply is becoming more vulnerable
- The extent and speed of ***urban growth is putting pressure on existing and future three waters infrastructure and services***, increasing the likelihood and consequences of network disruption and failure to meet performance expectations
- The ***quality of water in the environment must be improved*** to meet community expectations and regulations, by avoiding overflows from wastewater and stormwater pipes
- Risks from ***natural hazards and climate change are leaving communities and water assets vulnerable*** to disruption and economic loss

Source – 221. HCC stage 1 advice – pre-circulation material

6.8 Other localised issues and risks

6.8.1 Reducing flood risk

Challenge:
Flooding is one of the costliest natural hazards and can be severe and long-lasting for many households and communities. Flooding risk in our cities is increasing due to changing land use, forms of building construction, climate change and growth. Minimising the impacts of flooding on people's lives is an important focus for the region, as climate change is likely to aggravate the frequency and severity of flooding events.

Benefit to addressing the challenge:
Level of flood risk to homes and businesses is known and managed.

Investment advice:
Managing urban flood hazards involves an integrated combination of infrastructure, urban planning, community preparedness and emergency response.

To avoid costly damages in extreme rainfall, our cities have relied on overland flow paths and buildings with elevated floor levels, though buildings have been constructed in these flow paths.

To supplement this, WWL will continue to perform catchment modelling to understand the extent of flood risk and develop appropriate responses, such as flood water storage and the upgrade of pipes or pump stations to address known risks.

For HCC, we identified stormwater the need for upgrades in Petone, Stokes Valley, Eastbourne, the northern CBD and Wainuiomata/Black Creek to protect residents and businesses from repeated flooding by up-sizing pipes. In some cases, however e.g., Petone (flat, constrained by Hutt River and tides) improving overland flow is not possible.

6.8.2 Seismic resilience

Challenge:
Wellington Water networks cross several fault lines, including the Ohariu and Wellington faults, which makes them particularly vulnerable to seismic events. The bulk water supply pipeline from the Te Mārua Treatment Plant to Porirua and Wellington crosses the Wellington Fault at Te Mārua, Silverstream and Karori. The Waterloo bore field and treatment plant is also vulnerable to a seismic event, which would impact the supply of drinking water. Our wastewater pipelines also cross fault lines, with many pipelines sitting within landslide or liquefaction zones.

Benefit to addressing the challenge:
Provide 80 percent of our customers, within 30 days of a reasonable seismic event, with at least 80 percent of their water supply needs (80-30-80 strategy). Aim to improve resilience of wastewater and stormwater services through personal (customer) resilience, operational readiness, and long-term infrastructure improvements.

Investment advice:
Through asset assessments, Wellington Water will identify assets that require strengthening and sequence upgrades based on priority. For example, we identified seismic strengthening at the Gawler, Point Howard and Kingsley reservoirs as significant projects to initiate over the next ten years. These projects will improve the reservoirs' ability to withstand a major Wellington Fault earthquake. There are also two new reservoirs planned for construction in the next 15 years that will be constructed to a higher seismic resilient standard than existing reservoirs.

6.8.3 Firefighting water supply

Challenge:
The protection of people's lives and property from fire is dependent on an adequate supply of water for fire protection and firefighting. The design of water supply networks must have adequate water pressure and flows for in-property fire protection systems and for use by Fire and Emergency NZ personnel. Sufficient water storage is also critical, should supply to networks become unavailable. Our water supply networks are generally adequate for firefighting purposes. However, there are localised areas where water pressure and available flows could be improved.

Benefit to addressing the challenge:
Firefighting water supply is sufficient.

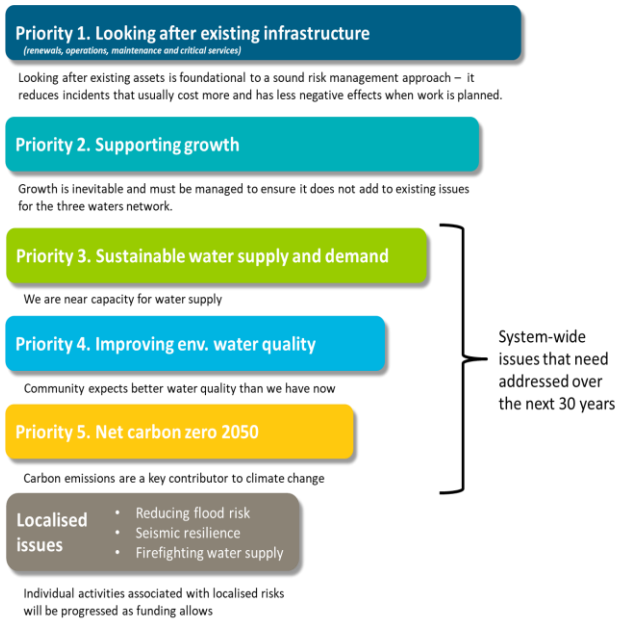
Investment advice:
Firefighting is a critical service that must be available to all our communities within the region. Most firefighting upgrade funding has been deferred, instead being targeted at renewals. When funded, improvements will be based on improved knowledge of network performance and through dialogue with Fire and Emergency NZ. To support these efforts, Wellington Waters Zone Implementation Plans (ZMPs) provide the basis for understanding the extent of fire risk due to inadequate water supply and pressure and develop appropriate responses, such as water storage or the upgrade of pipes/pump stations to address known risks.

For HCC, we identified the need to create zone management plans to assess the adequacy of fire flows across the city and are planning for upgrades to assist fire flows and improve security of the water supply in local areas. We are also considering fire flow requirements as a key design criterion for new reservoirs, such as Naenae #2.

7. How we deliver Three Waters services (Lifecycle Management Plans)

7.1 Strategic Priorities

As the Three Waters Service Provider Wellington Water has developed strategic priorities that aim to look after existing assets, support growth and meet levels of service and customer expectations.



These strategic priorities and specific challenges and impacts are addressed through the following lifecycle management sections of the AMP.

7.2 Three Waters Service Delivery Overview

The Three Waters service delivery arrangements are summarised in the table below:

Task	Planning	Delivery
Operations and Maintenance	WWL	WWL-Contractors
Capital	WWL	Contractor
Renewals	WWL	Contractor
Compliance	WWL	WWL

7.2.1 Strategic Priority and Service Delivery Linkages

Task	O&M	Renewal	Capital
Priority 1: Looking after Infrastructure	⊙	⊙	
Priority 2: Supporting Growth			⊙
Priority 3: Sustainable Water Supply and demand	⊙		⊙
Priority 4: Improving Environ. Water quality	⊙	⊙	
Priority 5: Net Carbon Zero 2050	⊙	⊙	⊙

7.3 Overview of Key Lifecycle Management Issues

	Water	Wastewater	Stormwater
Compliance Issues	Meeting drinking water standards	Meeting wastewater discharge standards	Meeting stormwater discharge quality standards
Priority tasks and activities	**Operations:** Routine maintenance and monitoring performance and compliance **Capital:** Treatment upgrades and improvements		
Meeting Growth and Demand	Supplying sufficient volume and quality water	Providing treatment and discharge capacity	Providing adequate stormwater drainage capacity
Priority tasks and activities	**Operations:** Efficient network mgt., water loss mgt. **Capital:** Source augmentation, Storage improvement, network extensions	**Operations:** Efficient treatment monitoring and mgt. **Capital:** WWTP upgrades and improvement network extensions	**Operations:** Efficient network mgt., Stormwater modelling, Discharge monitoring **Capital:** Network capacity upgrades and improvement, network extensions
Renewal of Ageing Infra-structure	Addressing renewal requirements to maintain LoS		
Priority tasks and activities	**Operations:** Collection and review of faults data, Reactive maintenance **Capital:** Renewals prioritising, planning and delivery		

7.4 Operations and maintenance plan

7.4.1 Operations and maintenance requirements

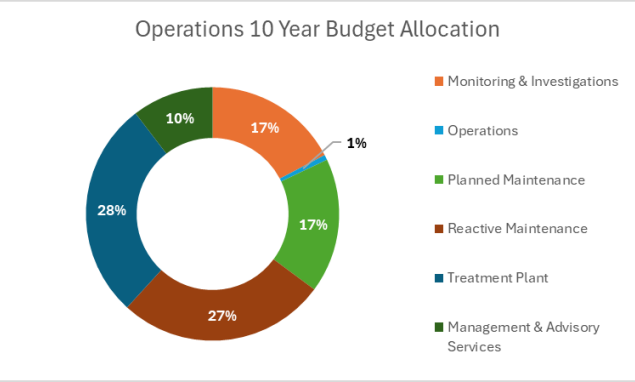
Operational and maintenance strategies address Strategic Priority 1- Looking After Existing Infrastructure.

The operational and maintenance activities cover the practices for optimising operation and maintenance activities of the Three Waters facilities and infrastructure to ensure:

- Reliable supply of safe water
- Achieve the optimum use of the asset at the agreed service levels
- Keeps the Three Waters facilities suitable, accessible, safe and well maintained
- Minimise total maintenance costs
- Levels of service are achieved across Three Waters
- Compliance requirements are met

Council outsources the Three Waters service delivery to Wellington Water.

The diagram below outlines the approximate Operations and maintenance activities budget allocations:



Source: WWL HCC Final 2024-34 LTP Advice Memo – May 2024

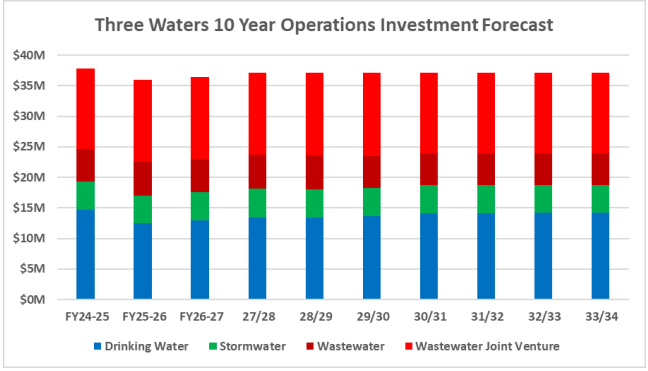
7.4.2 Operational processes and asset maintenance

Operation and maintenance involves the two key types of activities:

- **Proactive maintenance** – proactive/scheduled inspections and maintenance works planned to prevent asset failure
- **Reactive maintenance** – reactive activities in response to unexpected asset malfunctions and failures, on an as-required basis (i.e. emergency repairs)

The optimal maintenance mix is a balance of planned and reactive maintenance activities. Maintenance also includes minor repairs that cannot be capitalised. Operations and maintenance activities cover the Three Waters networks (including pipelines and pump stations) and Plants and disposal facilities (including Water Treatment Plants, Wastewater Treatment Plants and outfalls).

There are several operational activities considered unavoidable that need to be covered by Council. These relate to activities that are mandatory. For example, costs required for the day-to-day operation of critical services where the consequence of failure is very high or for maintaining compliance with legislation, regulation, or industry standards.



Total Three Waters Opex 10 Year Budget: $370.0M

Budget Source: WWL Final Council OPEX LTP 2024-25

7.4.3 Operations and maintenance plan

The operation and maintenance activities of Three Waters infrastructure are categorised into the following key operational areas:

- **Reactive Response**
  - Unplanned operations
  - Leak detection
  - Response to blockages and flooding
- **Preventative Response**
  - Planned operations (day-to-day operations)
  - Peak period operations
  - SCADA operation and maintenance
  - Resource consents
  - Ongoing monitoring
  - Water meter reading
  - Backflow prevention
  - Water treatment plant/Filter Station audits
  - Pump Station/Reservoir audits
  - Valve/Hydrant audits
  - Condition Surveys
  - Trade waste monitoring
  - Wastewater treatment plant/disposal facilities audits
  - Manhole audits
  - Pre storm and seasonal readiness
  - Stormwater Pump Stations/Detention Ponds Audits
- **Emergency Response**
  - Emergency Response Planning
  - Business continuity
- **Compliance**
  - Monitoring and reporting
- **Contract Management**
- **H&S**
  - Systems and processes
  - Monitoring and reporting
- **SOPs**
  - Establishment
  - Training
  - Monitoring and update

7.5 Renewals plan

7.5.1 Renewals Planning

Renewals Planning also falls within Strategic Priority 1: Asset renewal is the process of restoring the level of service delivered by an asset to its original design level, by upgrading or replacing the degraded components. The purpose of the renewal strategy is to maintain the levels of service by identifying the most cost-effective time to renew individual or groups of assets. Despite an uplift in renewals expenditure, the average age of the asset base continues to increase and there remains a significant amount of assets needing renewal over the short to medium term and there is a focus on undertaking asset condition assessments to confirm the extent and timing of asset renewal requirement.

Renewal Approach

7.5.2 Confirming the Renewals Extent

To improve network reliability, Wellington Water recommends renewing and upgrading the network based on **performance and criticality**, as well as improving service performance and capacity.

Capturing better data will improve the quality of decisions and enable more prioritised and targeted investment. We are proposing an investment strategy to improve performance by reducing the backlog (and risk) in renewals over the next 30 years. Specific renewals budgets are proposed aimed at achieving a sustainable asset base that is renewed at a pace that matches deterioration. These budgets have been built from:

- Requirements for treatment plants, reservoirs and storage, pump stations and pipe networks
- Looking at forward requirements over the lifecycle of the asset base
- Retain a level of budget for reactive renewals (based on history) to ensure that failed items can be replaced immediately

To note:

- Renewals needs are heavily dominated by pipe networks. That does not mean very high criticality facilities including pumpstations should receive necessary funding as well
- The recommended programme has been prioritised to achieve a balance between critical and non-critical assets

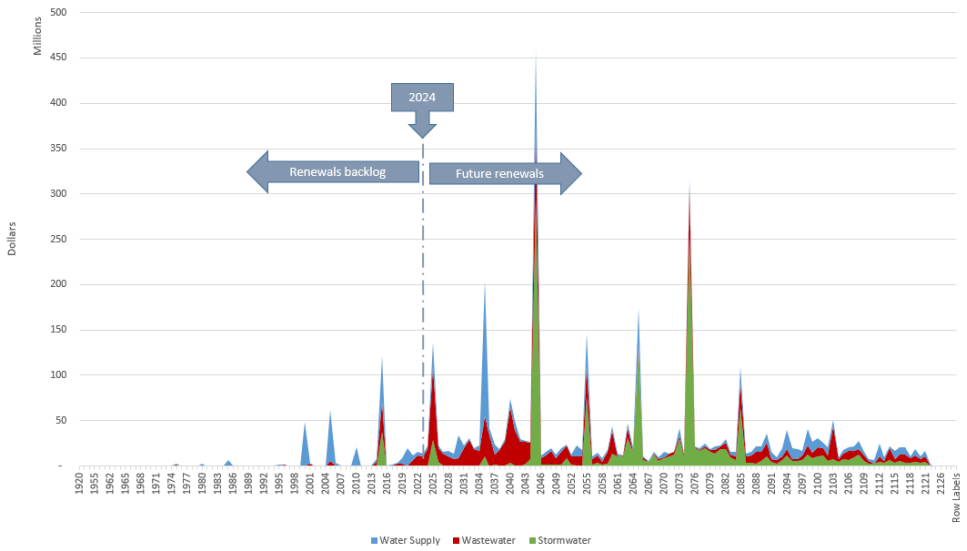
Deferral of renewal projects is resulting in increased service failures. These are observed by the customers as interrupted water supply (no water), increasing pipe leakage and bursts, unplanned overflows from wastewater pipes. Across all failure modes, there is a resulting elevated health and safety risks e.g., contaminated water, collapsed roads, paths. Further there are consequential increases in unplanned (reactive) maintenance costs.

The extent of the HCC Three Waters pipe renewals challenge is provided in the figure below.

WWL renewals planning approach is criticality and risk based where highest criticality and risk rated assets have the highest renewals priority.

Ongoing condition assessments are used to confirm that actual work is required (condition evidence), rather than relying on theoretical aged based renewals alone.

Source : WWL Pipe Network Renewals Profiles 2024

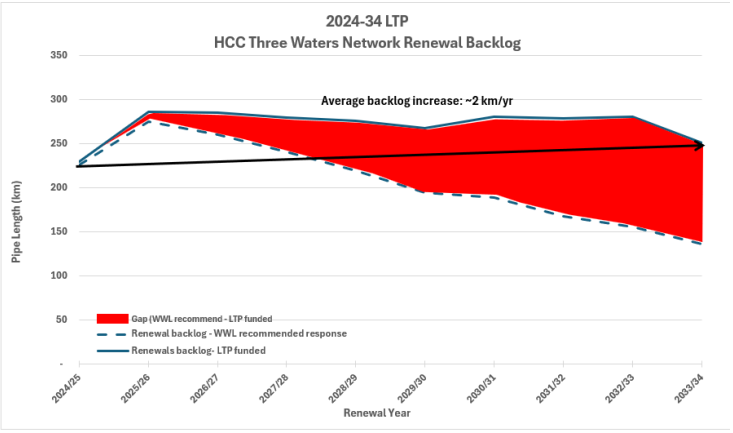


The 3Waters network backlog and funding profile are provided in the figure adjacent.

There is a significant gap between funded and calculated network renewals.

The network renewal backlog, based on asset age and end of typical life values, provides a strong indication of the gap between assets which have reached the end of their typical life and those funded for renewal by HCC.

Network renewal is confirmed through techniques including visual inspection.



7.5 Renewals plan (cont.)

7.5.3 Renewals Approach-Long term Stewardship

Wellington Water's approach to asset renewal focuses on long-term stewardship of the asset, which means planning for renewals at a pace that meets asset deterioration over time, according to the lifecycle of the asset. Based on this key principle, a renewal profile was developed using the following approach:

- Determine expected life of an asset based on age and material for every pipe
- Identify current backlog of pipes past their expected life
- Provide consistent regional approach to estimating replacement costs based on valuation data (assuming like-for-like replacement)

The asset renewal raw data produces a complex spend profile that is difficult for councils to manage and fully afford. To address this, the required spend was simplified using the following philosophy:

- A sustainable level of investment over 30 years; if extended, the backlog could not be addressed
- Year 1-2 spend (21/22 & 22/23) is at the same level as forecasted in the 2018 LTP, which focuses on "no regrets" capex projects
- From year 3, programme spend is increased over two LTP cycles to reach a steady state by year 7
- A renewed focus on condition assessments (increased opex spend the next 3-5 years) to provide better field data to determine the most critical projects going forward
- A reduction in reactive maintenance costs is not expected until years 8-10

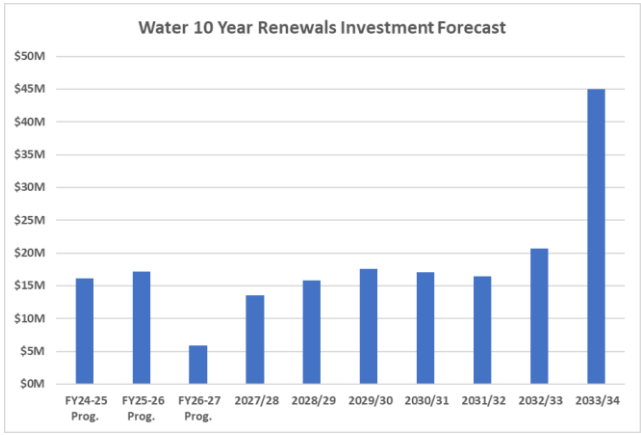
There is a level of cost estimation risk (excludes contingency or risk uplift) concerning the renewal profile based on the latest valuation data, as actual costs could be different from those modelled.

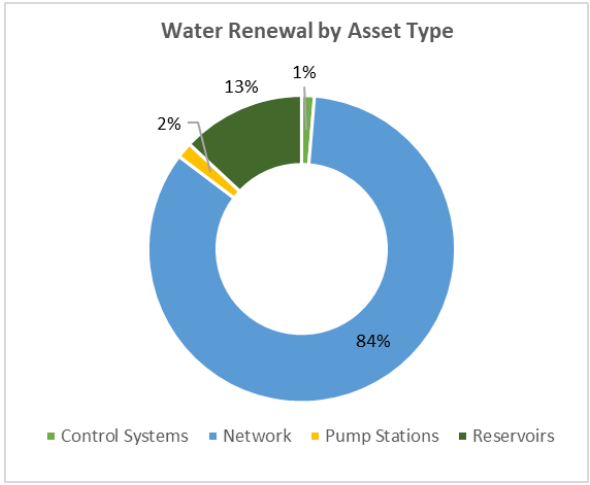
Source : WWL 2024-34 LTP Regional Baseline Programmes - 2024.10.20

Renewal Plan

Water supply

The charts below show the proposed 10 Year Water Supply renewals investment forecast:

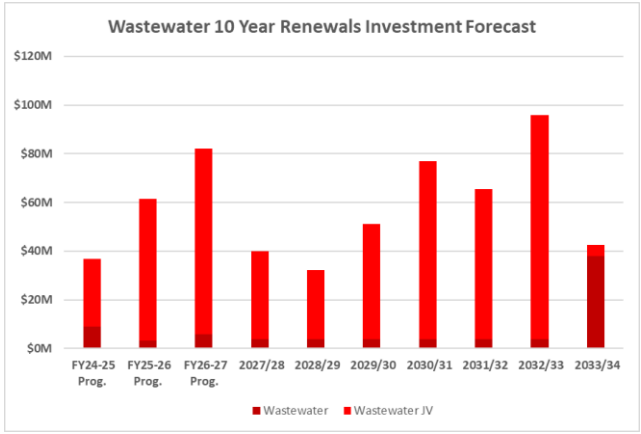


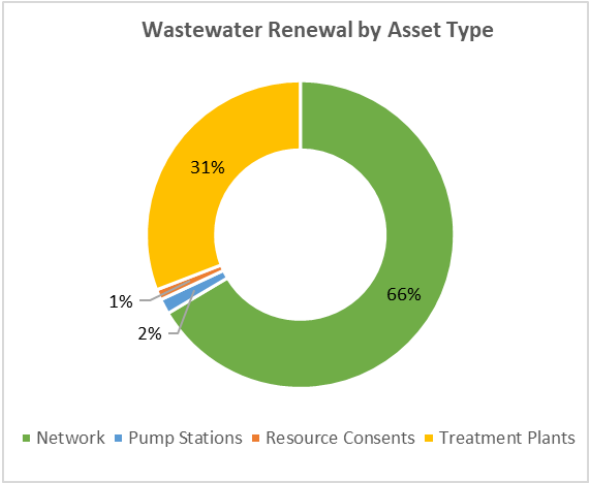


The network renewals makes up the majority of the renewals programme followed by reservoir storage, then pump stations and control systems renewals.

Wastewater

The charts below show the proposed 10 Year Wastewater renewals investment forecast:

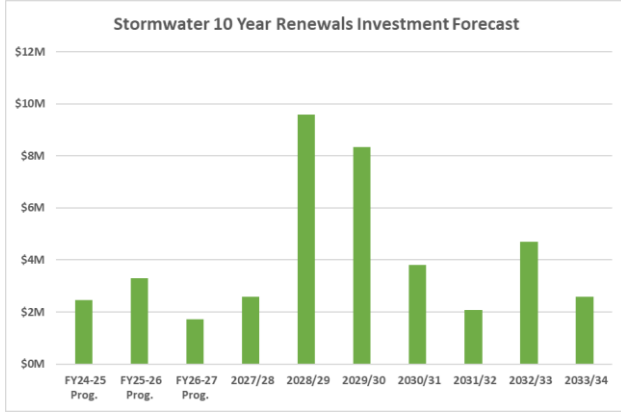


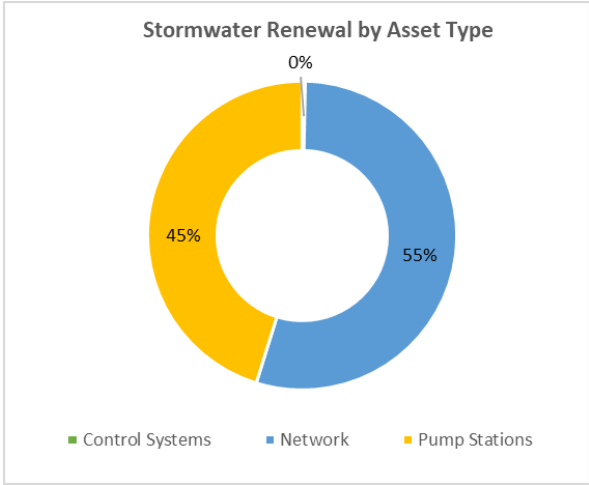


The network renewals makes up the majority of the renewals programme followed by treatment plant, pump station and resource consent renewals.

Stormwater

The charts below show the proposed 10 Year Stormwater renewals investment forecast:





The network renewals makes up 55% of the renewals programme followed by pump stations renewals (45%), and a small portion of control systems renewals.

7.6 Capital plan

7.6.1 Capital Works Drivers

Asset creation is the process driven by consumer growth or levels of service and most importantly water safety drivers. New capital investment involves the design and construction of new assets that will increase the capacity and/or performance of the Three Waters networks.

Key Asset Creation Drivers Are:

- To meet legislative compliance including DWSNZ where possible
- To meet the demands of growth by supplying water to Council's customers through efficient utilisation of natural resources
- To meet the levels of service with respect to safe and effective supply of water in every town where applicable

Capital planning priorities are highlighted below:

Three Waters

- Asset condition assessments
- Asset data updated based on assessments
- Improvement of asset data quality and completeness
- Improvement and further development of renewals planning and programme development
- Review of Capital delivery framework
- Responding to legislative and compliance requirements

Water

- Resource consent review and improvement programme to ensure all consent conditions are met on time
- Ongoing Drinking Water Safety infrastructure upgrade programme implementation
- Drinking water standards compliance
- Investigations and master planning for water supply expansion in the district

Wastewater

- Seeking resource consent and improvement programme to ensure all consent conditions are met on time
- Treatment plant upgrade planning and budgeting in response to performance and emerging changes to discharge quality standards
- Investigations and master planning for wastewater expansion in the district

Stormwater

- Resource consent review and improvement programme to ensure all Regional Plan conditions are met in the required timeframes
- Stormwater scheme planning and upgrade in response to current and emerging issues particularly climate change impacts
- Ensure compliance with comprehensive stormwater discharge consent

Source : WWL HCC Part 3

7.6.2 2024 LTP Capital Programme Planning and Outcomes

Source : WWL HCC Advice Note 3

WWL prepared four capital plan options for HCC's consideration. In developing Council's 2024-34 LTP CAPEX programme, Wellington Water initially presented to Council a view of:

- Council's unconstrained CAPEX need, a maximum deliverable level of investment that Wellington Water could make (noting this should be viewed as a share of an overall regional maximum deliverable level of investment. As such, there is flexibility to support investment above this level if other councils did not fund to their maximum deliverable level), and
- a baseline level of investment based on Council's 2021-31 LTP budget level.

HCC's preferred option was Option 2 - Programme to fit Council LTP Baseline budget plus the inclusion of universal residential smart meters. HCC also requested the following changes to two significant projects:

- Eastern Hills Reservoir (previously called Naenae No 2 Reservoir), Outlet Main and Pipeline – Start date of FY2028/29 in Option 2 to be brought forward to start in FY2026/27.
- Seaview Wastewater Treatment Plant Odour Control Renewal – Start date of FY2027/28 in Option 2 to be brought forward to start in FY2024/25.

Option 2 includes investment across the five strategic priorities but focuses investment on:

- Looking After Existing Infrastructure,
- Sustainable Water Supply and Demand,
- Improving Environmental Water Quality, and
- Supporting Growth.

While there are a limited number of specific growth projects in the Option 2 programme that WWL will deliver for HCC, there are many other level of service and renewal driven projects which also support growth. HCC, with WWL support, is also progressing growth and renewal driven water infrastructure projects outside of the three waters programme Wellington Water Delivers, e.g. through the CBD sewer bypass, IAF stormwater projects and the RiverLink programme.

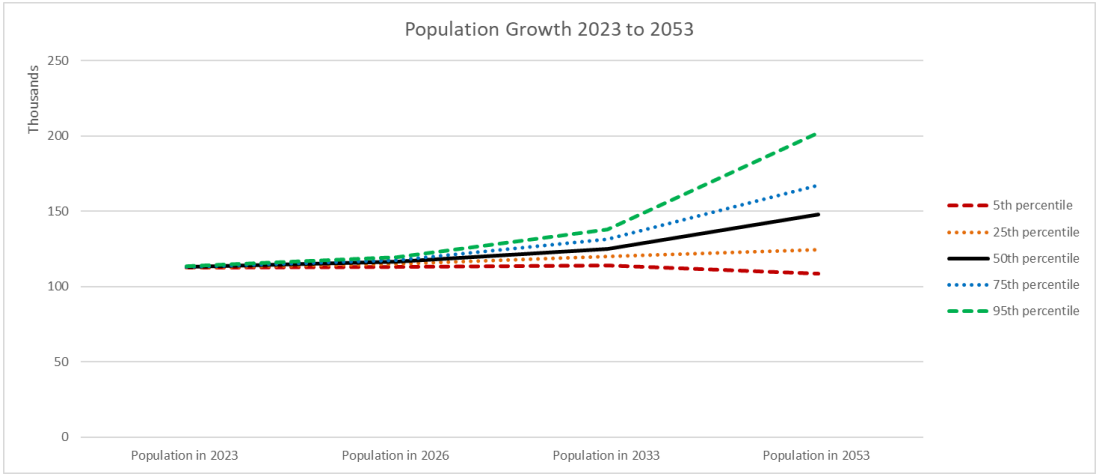
Under the Option 2 programme being delivered by WWL , there is minimal investment in activity to achieve net carbon zero and increase resilience to climate change (including flooding). Option 2 includes the following activity:

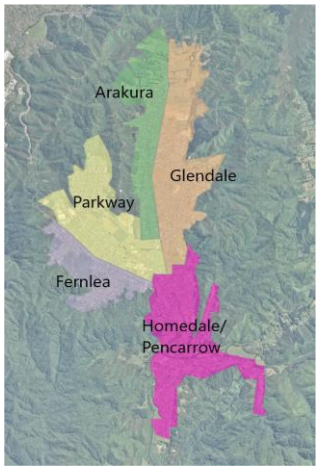
- Committed projects (inc. UHCC JV projects) – all projects underway such as the Seaview Wastewater Treatment Plant Wastewater Storage
- Compliance / consenting projects and programmes, for example for resource consent renewals and progressing the global stormwater and network overflow consents
- Control systems and modelling – programmes that are considered essential activity to manage assets and support other investment
- Reactive renewals for all asset classes (Covered in Section 7.5)
- Progressing the design and planning for the replacement of the Seaview main outfall pipe
- Continuation of planned network renewal activities to address assets known to be in poor condition or subject to frequent failures
- A small number of other level of service projects and growth projects, noting that some of these are deferred to start later than recommended by WWL due to HCCs funding constraints.

7.6.3 Capital Plan Priorities

Strategic Priority - Supporting growth

It is important to note that investment in growth is a Council-led decision, as it needs coordination with district planning, funding policies and the balanced needs of the community and developers.
Challenge: The region is experiencing and forecasting high growth, which impacts Hutt City due to its proximity to Wellington for commuters and potential for development. HCC is expecting significant growth in the short and medium term which puts extra pressure on three waters infrastructure. Significant investment is needed, especially in the wastewater network to enable growth to occur. Current forecasts indicates 24 percent population growth over the next 30 years (50th percentile, 34,800 people, approximately 8,000 new homes). *Source: WWL January 2025*





Hutt City population growth forecast investment advice: Wellington Water is working on a series of growth catchment studies and Plans (e.g., Wainuiomata, to improve our understanding of where the HCC networks can accommodate further growth and where they need to be upgraded. In some cases, developers will install this new infrastructure, in other cases they will make development contributions, and we will use this to build infrastructure that enables this growth. To accomplish this, HCC's LTP must include provisions for infrastructure to support growth. For the Wainuiomata growth catchment, we have proposed several three waters network improvements, including a new water reservoir, wastewater pump station, pipeline upgrades and stormwater improvements for Black Creek. Other improvements will be identified as growth catchment studies are undertaken across other areas of the city. *Source: HCC Catchment Plan for PC43 – Phase 1 Wainuiomata (published 2020).*

Priority - Wastewater Treatment and Compliance

The Seaview Wastewater Treatment Plant upgrades continue to be a regional priority. Wellington Water is upgrading the Wastewater Treatment Plant on behalf of Hutt City Council and Upper Hutt City Council to reduce odour and discharges of untreated or partially treated wastewater and future-proof the plant, starting with odour improvement. The first step in improving odour treatment - replacing the biofilter media - was undertaken in December 2023.

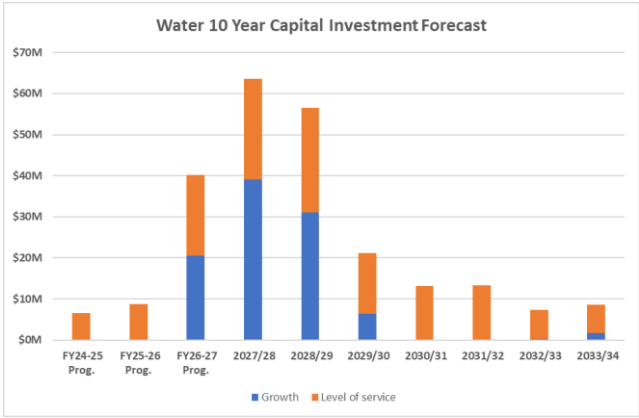
Work on the $13 million Odour Treatment Renewal Project is underway, with the project prioritising works that are most likely to make a significant impact on reducing odour escaping from the plant; the biofilter, milli screening odour management and sludge drying odour management. The second phase of the project will include two work packages; sludge dryer air treatment and further external ducting. Both will require an assessment of the effectiveness of the first phase in reducing odour issues. The sludge dryer air treatment also needs to be considered alongside plans to replace the sludge dryer.

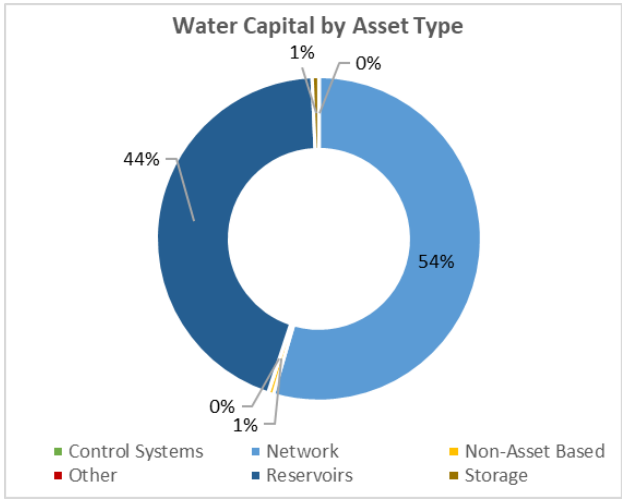
Source : WWL 2024-34 LTP Regional Baseline Programmes - 2024.10.20

Capital Plan

Water supply

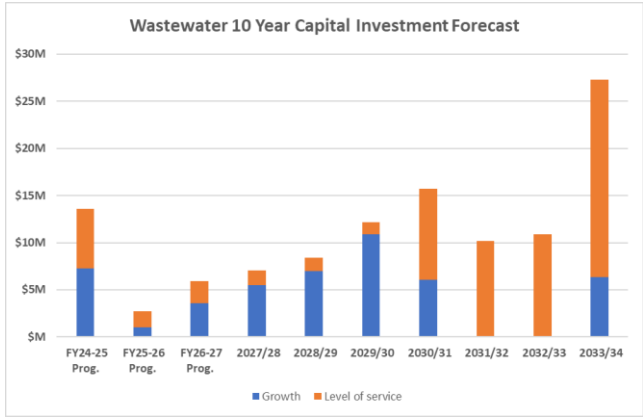
The charts below show the proposed 10 Year Water Supply capital investment forecast. See s8.5 for detailed programme forecasts.

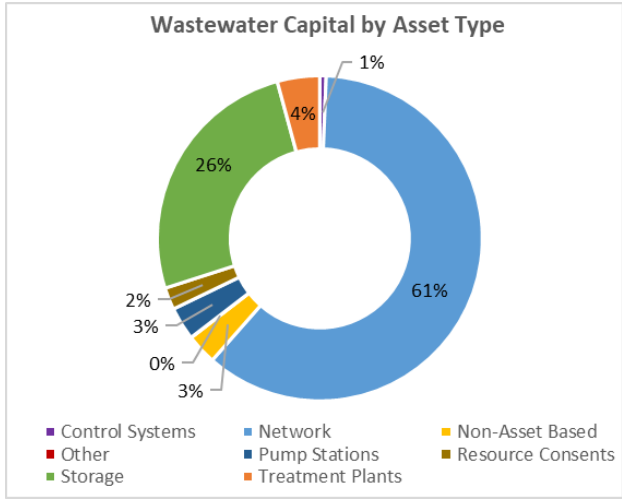




Wastewater

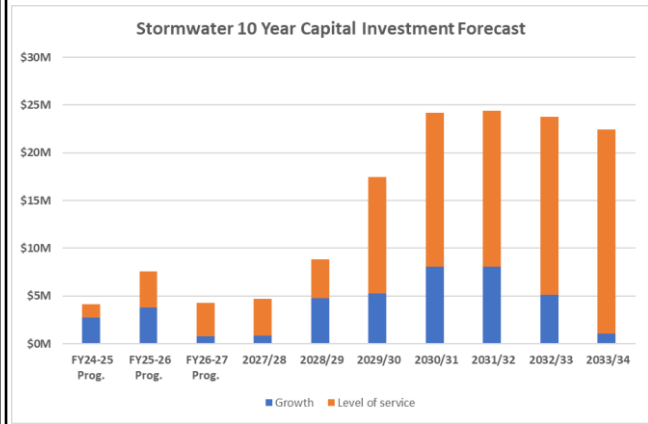
The charts below show the proposed 10 Year Wastewater capital investment forecast. See s8.5 for detailed programme forecasts.

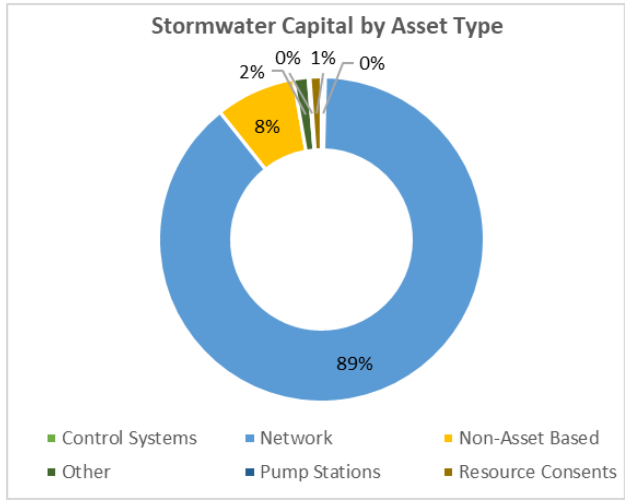




Stormwater

The charts below show the proposed 10 Year Stormwater capital investment forecast. See s8.5 for detailed programme forecasts.





7.7 Asset disposal plan

7.7.1 Asset Disposals

Disposal is the retirement or sale of assets whether surplus or replaced by new or improved systems. Assets may need to be disposed of for a number of reasons, particularly if they fall under some criteria, including those identified below:

- Under utilisation
- Obsolescence
- Cost inefficiency
- Policy change
- Provision exceeds required Levels of Service
- Service provided by other means (e.g. private sector involvement)
- Potential risk of ownership (financial, environmental, legal, social)

As part of the lifecycle asset management process, Council considers the costs of asset disposal in the long-term financial forecasts. These costs are generally incorporated in the capital cost of level of service increases or asset renewals. While there are assets that fit under one or more of the above criteria, the Local Government Act provides clear instances when assets can be disposed of.

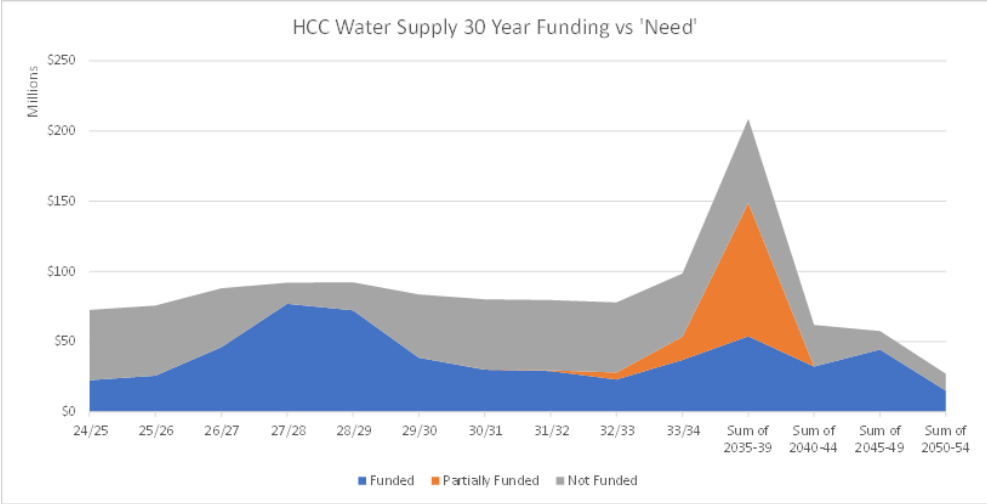
Council has no plans to dispose of any Three Waters assets other than those that become obsolete as a result of renewal or upgrading works.

8. 10-Year Three Waters investment forecasts

Source : WWL 2024-34 LTP Regional Baseline Programmes - 2024.10.20

8.1 The funding challenge

There are several major capital investment drivers such as aging infrastructure, regulatory compliance and growth and demand. This creates tension between funding demand and funding ability, that is managed though careful assessment, prioritisation and risk management. This will continue to be closely managed.

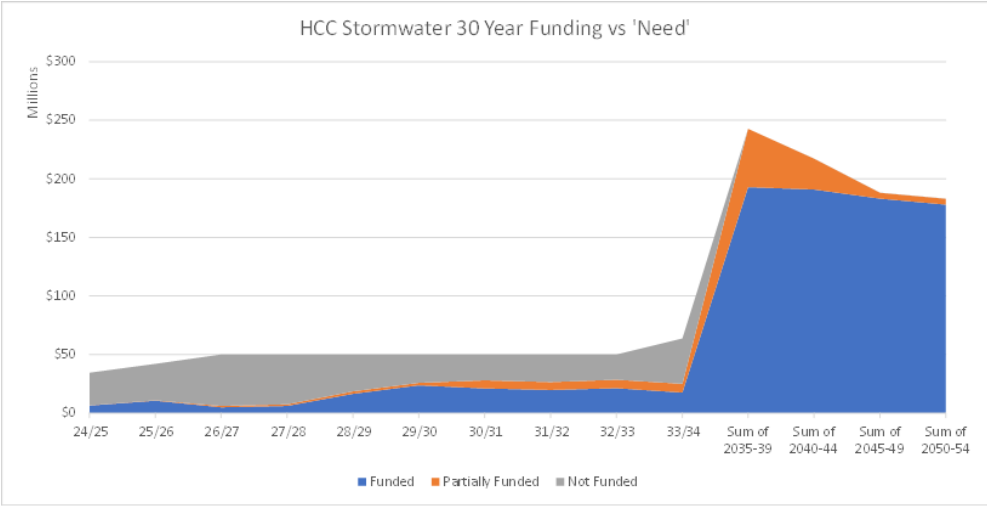


The water supply capital forecast (refer adjacent figure) covers all investment categories i.e., growth, levels of service, renewals.

Investment Projections. Funded and partially funded values [blue and orange bands] are taken directly from the Shareholder Councils adopted LTP 2024/2034. The 'need' funding profile [grey band], is based on the submission to the National Transition Unit (for Entity C) of June/July 2023 and covers all assets including networks, reservoirs, pumpstations and control systems.

Risks to achieving Levels of Service. The gap between funded and partially funded investment and the investment 'need' maybe observed by customers through increased water supply network leakage and possible water contamination events at reservoirs. Further risks are identified in the Risk section of this document.

Note: figure supplied by WWL



The stormwater service capital forecast (refer adjacent figure) covers all investment categories i.e., growth, levels of service, renewals.

Investment Projections. Funded and partially funded values [blue and orange bands] are taken directly from the Shareholder Councils adopted LTP 2024/2034. The 'need' funding profile [grey band], is based on the submission to the National Transition Unit (for Entity C) of June/July 2023 and covers all assets including networks, pumpstations and control systems.

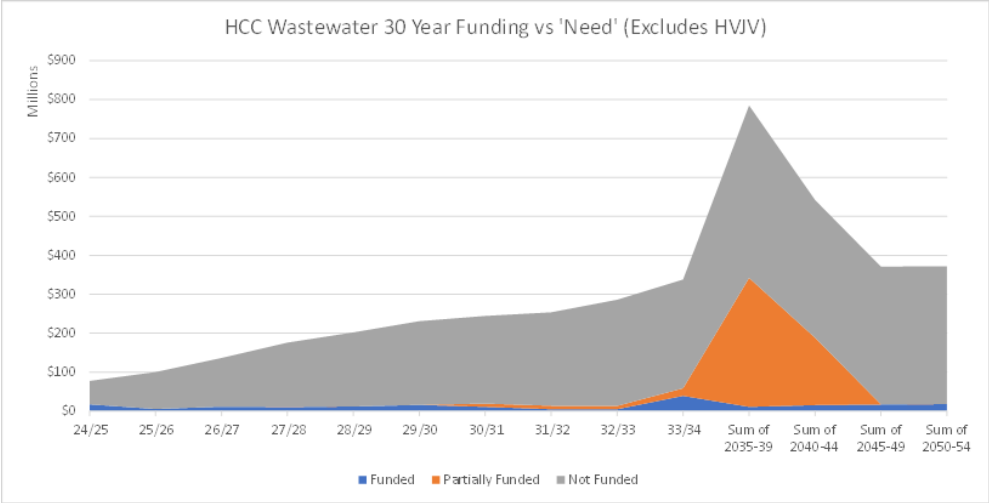
Risks to achieving Levels of Service. The gap between funded and partially funded investment and the investment 'need' maybe observed by customers through increased extent of flooding (additional to current known flood prone areas). In specific locations this may exacerbate waterway and coastal contamination events where overflow into poorly performing (poor condition) wastewater network renewals results in overflows. Further risks are identified in the Risk section of this document.

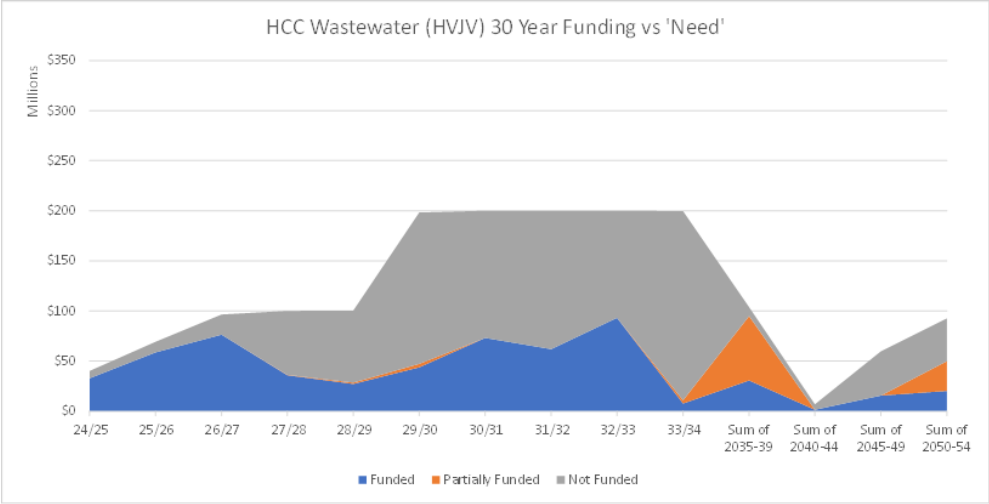
Note: figure supplied by WWL

8. 10-Year Three Waters investment forecasts cont.

8.1 The Funding Challenge

There are several major capital investment drivers such as aging infrastructure, regulatory compliance and growth and demand. This creates tension between funding demand and funding ability, that is managed though careful assessment, prioritisation and risk management. This will continue to be closely managed.





The wastewater service capital forecast (refer adjacent figure) covers all investment categories i.e., growth, levels of service, renewals.

Investment Projections. Funded and partially funded values [blue and orange bands] are taken directly from the Shareholder Councils adopted LTP 2024/2034. The 'need' funding profile [grey band], is based on the submission to the National Transition Unit (for Entity C) of June/July 2023 and covers all assets including networks, pumpstations and control systems.

Risks to achieving Levels of Service. The gap between funded and partially funded investment and investment 'need' maybe observed by customers through increased wastewater network overflows into streets and waterways along with surface water contamination events. The impact on communities and the partnership with mana whenua may be negatively impacted. Further risks are identified in the Risk section of this document.

Note: figures supplied by WWL

8. 10-Year Three Waters investment forecasts

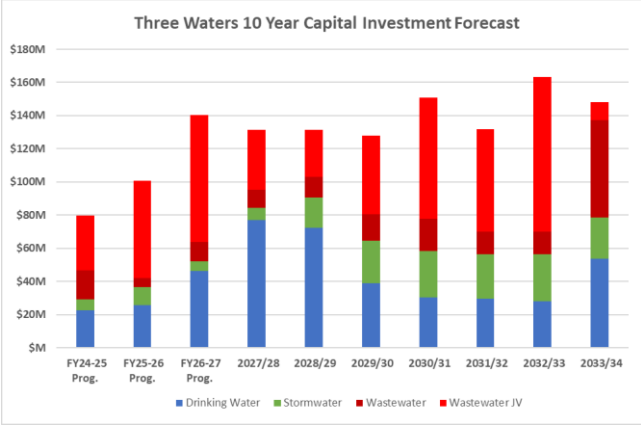
Source : WWL 2024-34 LTP Regional Baseline Programmes - 2024.10.20

8.2 Total 10-Year Capital Investment

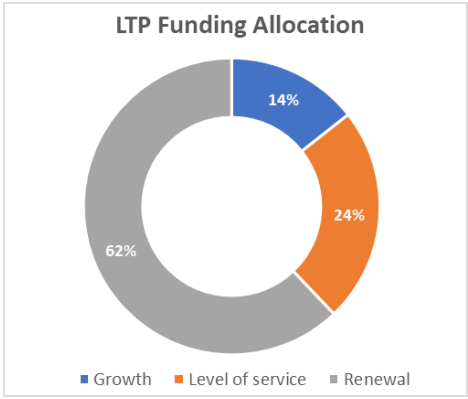
This section provides an overview of the final uninflated 2024 LTP Three Waters Capital Programme.
The Capital investment is spread across:

- Renewals - to replace existing assets at the end of design life
- Additional Capacity - to provide for growth
- Levels of Service - improvement to meet standards and regulations

The Three Waters Capital Programme - has been refined and prioritised though the 2024 LTP programme. There are a number of projects that have been deferred to the 11-20 year horizon due to funding constraints:



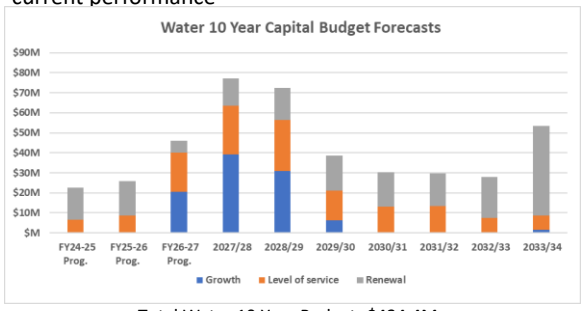
10 Year Capital Total (including renewals): $1.305 B -uninflated



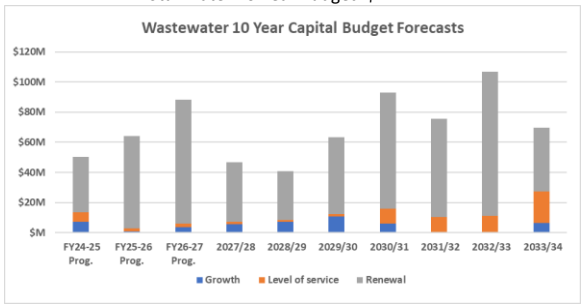
8.3 10-Year Capital Investment by Water Activity

The figures below estimate the Capital investment by water activity. The major projects include:

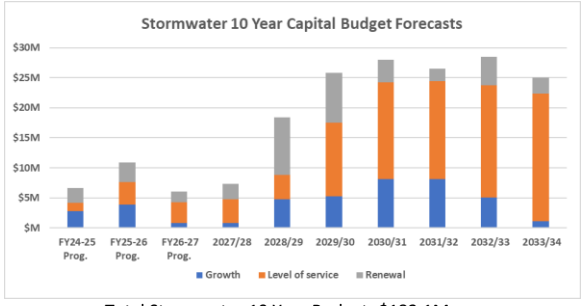
- Ongoing water treatment plant upgrades to ensure water is safe to drink
- Extending services to provide for growth and serviced areas
- Increasing capacity and treatment quality of wastewater treatment plants
- Renewing assets at the end of their service lives to maintain current performance



Total Water 10 Year Budget: $424.4M



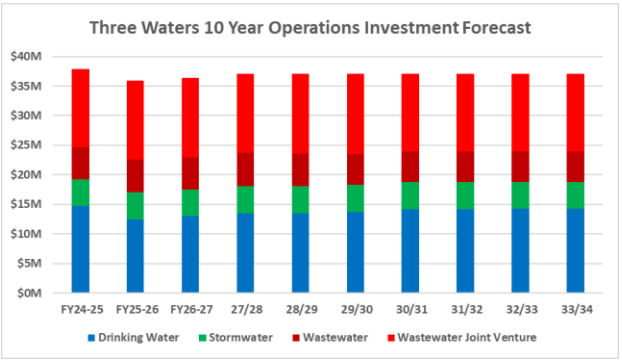
Total Wastewater 10 Year Budget: $698.3M



Total Stormwater 10 Year Budget: $183.1M

8.4 Total 10-Year Operational Investment

The figures below present the break-down of operational investment for the Three Waters activities. Future increases in Opex costs are anticipated due to increasing regulatory requirements and future maintenance contract costs. The operational needs expenditure is broken down to approximately $137.5 million (37%) on water supply, $186.6 million (50.7%) on wastewater and $45.9 million (12%) on stormwater.



Total Three Waters Opex 10 Year Budget: $370.0M
Budget Source: WWL Final Council OPEX LTP 2024-25

8.5 10-Year Three Waters capital programme forecast

8.5.1 Water supply projects

The 10-Year LTP Water Supply capital works budget forecasts are detailed in the table below:

	FY24-25 Prog.	FY25-26 Prog.	FY26-27 Prog.	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	TOTAL LTP
Growth	**105,830**	**103,500**	**20,593,965**	**39,080,000**	**31,020,000**	**6,337,000**	**100,000**	**100,000**	**200,000**	**1,600,000**	**99,240,295**
HCC Reactive Growth Development Projects - Drinking Water	105,830	103,500	103,500	100,000	100,000	100,000	100,000	100,000	100,000	100,000	1,012,830
Manor Park Water Storage Reservoir	-	-	512,325	1,980,000	7,920,000	6,237,000					16,649,325
Naenae No 2 Reservoir and Outlet Main	-	-	19,758,600	22,000,000	13,000,000						54,758,600
Naenae No2 Reservoir Pipeline	-	-	219,540	15,000,000	10,000,000						25,219,540
Wainuiomata Water Supply Storage and Network Upgrades	-	-	-						100,000	1,500,000	1,600,000
Level of service	**6,428,588**	**8,642,768**	**19,612,796**	**24,449,234**	**25,480,714**	**14,840,037**	**13,071,267**	**13,188,512**	**7,178,127**	**7,000,000**	**139,892,042**
Critical pipelines seismic upgrade - Maungaraki Reservoir inlet main	-	-	-							881,000	881,000
Gracefield Reservoir Replacement	-	-	-	103,500	500,000	5,000,000	10,000,000	10,000,000	5,000,000		30,603,500
HCC Authorised Tanker Fill Points	-	-	-	207,000	400,000	1,400,000					2,007,000
HCC Capital Carbon Modelling - Drinking Water	10,583	10,350	10,350	10,000	10,000	10,000	10,000	10,000	10,000	10,000	101,283
HCC Drinking Water Network Modelling	370,405	51,750	51,750	50,000	50,000	350,000	50,000	50,000	50,000	50,000	1,123,905
HCC Management of Fire Hydrant Use	1,058,299	-	-								1,058,299
HCC New Smart Services - Drinking Water	15,874	15,525	15,525	15,000	15,000	15,000	15,000	15,000	15,000	15,000	151,924
HCC Pressure Management Stage 2	952,469	1,035,000	1,035,000	1,000,000	1,000,000	650,000					5,672,469
HCC Reservoir Level of Service Improvements	-	337,852	255,645	283,000	281,000	247,127	247,127	247,127	247,127		2,146,005
HCC Rezoning Package 2a Rata and Sunville	1,164,129	-	-								1,164,129
HCC Security Locks Reservoirs	19,004	20,776	20,598	19,974	19,974	19,910	20,140	3,385			143,760
HCC Universal Residential Smart Metering	1,474,211	7,137,360	18,154,935	21,789,000	20,689,000	4,548,000					73,792,506
HCC Water Loss Level of Service Improvements	34,924	34,155	34,155	33,000	33,000	33,000	33,000	33,000	33,000	33,000	334,234
HCC Water supply rebuild, recalibration and Zone management plan	-	-	34,838	38,760	37,740						111,338
Install Bypass smart flow meter	-	-	-		1,500,000	1,575,000	1,654,000	1,736,000	1,823,000	1,914,000	10,202,000
Kamahi Street Pressure Control Valve Installation	1,328,690										1,328,690
Kingsley Reservoir Seismic replacement	-	-	-							1,500,000	1,500,000
Rata and Sunville Rezoning	-	-	-							662,000	662,000
Smart DMA Actuated Boundary Shut Valves (tell if open/close or partial open)	-	-	-	900,000	945,000	992,000	1,042,000	1,094,000			4,973,000
Smarter Water Network by installing network metering loggers (Water Loss)	-	-	-							1,935,000	1,935,000
Renewal	**16,105,139**	**17,117,225**	**5,929,401**	**13,578,810**	**15,853,042**	**17,556,554**	**17,075,820**	**16,444,017**	**20,664,218**	**44,959,076**	**185,283,302**
Gracefield Reservoir Urgent Structural Repairs	2,884	-	-								2,884
HCC District Meter Area Renewals	300,518	281,514	248,141	253,908	270,381	253,172	271,753	215,368	31,939	-	2,126,694
HCC DW Control Systems Renewals	52,915	31,050	31,050	30,000	50,000	30,000	30,000	30,000	30,000	30,000	345,015
HCC Pipe Network Planned Renewals - Drinking Water	-	959,240	500,000	10,060,128	12,036,436	13,176,505	13,065,197	13,032,716	12,929,251	28,552,738	104,312,211
HCC Pipe Network Reactive Renewals - Drinking Water	1,746,193	1,698,780	1,706,025	1,736,000	1,823,000	1,914,000	2,010,000	2,111,000	2,216,000	2,327,000	19,287,998
HCC Pressure Reducing Valve (PRV/PCV) Renewals	92,903	103,878	102,989	99,872	99,870	99,551	100,702	16,923	-		716,689
HCC Reservoir Renewals	115,674	109,795	87,574	99,872	99,871	99,552	100,317	101,339	15,969		829,963
HCC Residential smart meter renewals	-	-	-		355,894	359,943	364,101	368,361	372,749	377,262	2,198,310
HCC VHCA Reservoir Water Quality Renewals	1,916,150	1,835,232	-								3,751,382
HCC Water Pump Station Renewals	382,237	230,236	113,622	299,030	117,590	623,830	1,033,750	68,310	68,310	151,190	3,088,105
HCC Water Service Connection Renewals	1,034,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000					6,034,000
HCC WM Renewals Package 2 Rata St (Naenae Rd to Hay St)	3,704,047	2,587,500	-								6,291,547
HCC WM Renewals Package 3 Waddington Dr (Prouse Cres to Judd Cres)	-	2,070,000	-								2,070,000
HCC WM Renewals Package 5 Howard Rd and Church Lane	3,704,047	-	-								3,704,047
Maungaraki Reservoir Replacement	-	-	-				100,000	500,000	5,000,000	10,000,000	15,600,000
Maungaraki Reservoir Structural Repairs	434,280	-	-								434,280
Naenae Reservoir Number 1 replacement	-	-	-							3,520,886	3,520,886
Stokes Valley and Wainuiomata Galvanised Iron Ridermain Renewals	2,587,542	6,210,000	2,140,000								10,937,542
Wilkie Cres Watermains Renewal and Upgrade	31,749	-	-								31,749
Grand Total	**22,639,557**	**25,863,492**	**46,136,162**	**77,108,044**	**72,353,756**	**38,733,591**	**30,247,087**	**29,732,529**	**28,042,345**	**53,559,076**	**424,415,639**

Budget Source: WWL 2024-34 LTP Regional Baseline Programmes - 2024.10.20

8.5.2 Wastewater Projects

The 10-Year LTP Wastewater capital works budget forecasts are detailed in the table below:

	FY24-25 Prog.	FY25-26 Prog.	FY26-27 Prog.	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	TOTAL LTP
Growth	**7,299,089**	**1,028,790**	**3,585,678**	**5,461,890**	**7,017,180**	**10,884,720**	**6,088,510**	**100,000**	**100,000**	**2,993,770**	**44,559,627**
Alicetown Wastewater (excl JV) pump station and storage improvements	-	-	512,325	2,475,000	495,000						3,482,325
Boulcott Wastewater (excl JV) Pipe Upgrade	-	-	86,112	500,000	500,000	560,000					1,646,112
HCC Reactive Growth Development Projects - Wastewater	105,830	103,500	103,500	100,000	100,000	100,000	100,000	100,000	100,000	100,000	1,012,830
Hutt Central Wastewater (excl JV) Network Improvements	529,150	310,500	207,000								1,046,650
Korokoro Wastewater (excl JV) Pipe Upgrades	-	-	-							158,400	158,400
Maungaraki Wastewater (excl JV) Storage Improvements	-	-	-	1,003,860	2,007,720	3,513,510	3,513,510				10,038,600
Naenae Wastewater (excl JV) Storage Improvements - Seddon St WW Storage	-	-	-	393,030	786,060	2,751,210					3,930,300
North Wainuiomata new WW Pump Station and Rising Main (Greenfield)	-	-	-							1,052,370	1,052,370
Stokes Valley Wastewater (excl JV) Network Improvements - Hawthorn Cres Sewer Connection	-	-	-		158,400	990,000					1,148,400
Stokes Valley Wastewater (excl JV) Pipe Improvements - Richard Gr Intrsctn Sewer	-	-	-							564,300	564,300
Wainuiomata North Wastewater Trunk Network Upgrade	6,349,794	-	12,651								6,362,445
Wainuiomata Wastewater (excl JV) Network Improvements	314,315	614,790	2,151,765								3,080,870
Wainuiomata Wastewater (excl JV) Storage Upgrades - Fraser St EOP Storage	-	-	512,325	990,000	2,970,000	2,970,000	2,475,000				9,917,325
Waiwhetu Wastewater (excl JV) Storage Improvements - Whites Line WW Storage	-	-	-							495,000	495,000
Waterloo Wastewater (excl JV) Pipes Upgrades	-	-	-							366,300	366,300
Woburn Wastewater (excl JV) Pump Station Improvements	-	-	-							257,400	257,400
Level of service	**1,238,211**	**1,179,900**	**2,175,156**	**1,464,880**	**1,300,240**	**1,311,640**	**9,610,120**	**9,780,680**	**9,623,320**	**17,946,040**	**55,630,187**
Epuni and Woburn WW Network Upgrades	31,749	-	-								31,749
HCC Capital Carbon Modelling - Wastewater	10,583	10,350	10,350	10,000	10,000	10,000	10,000	10,000	10,000	10,000	101,283
HCC New Smart Services - Wastewater	-	-	26,910	26,000	26,000	51,000	51,000	51,000	51,000	89,000	371,910
HCC Wastewater Network Modelling	211,660	207,000	465,750	600,000	250,000	200,000	200,000	200,000			2,334,410
HCC WW Control Systems Renewals	31,749	31,050	51,750	30,000	30,000	30,000	50,000	30,000	30,000	30,000	344,549
HCC WW Drainage Improvement Projects	-	-	688,896	698,880	734,240	770,640	809,120	849,680	892,320	937,040	6,380,816
NDP: Resource consent for dry weather overflows	317,490	310,500	310,500								938,490
NDP: Resource consent for wet weather overflows	529,150	517,500	517,500								1,564,150
NDP: ww overflows universal measures	105,830	103,500	103,500	100,000	100,000	100,000	100,000	100,000	100,000	100,000	1,012,830
NDP: WWNO subcatchment reduction plan - Hutt City A	-	-	-		150,000	150,000	8,390,000	8,390,000	8,390,000	8,390,000	33,860,000
NDP: WWNO subcatchment reduction plan - Hutt City B	-	-	-					150,000	150,000	8,390,000	8,690,000
Renewal	**9,023,553**	**3,172,689**	**5,949,413**	**3,817,500**	**3,817,500**	**3,817,500**	**3,855,000**	**3,855,000**	**3,855,000**	**37,875,000**	**79,038,155**
HCC Pipe Network Planned Renewals - Wastewater	-	-	-	575,000	1,562,000	1,320,000	1,046,000	735,000	381,000	33,998,000	39,617,000
HCC Pipe Network Reactive Renewals - Wastewater	740,809	837,315	966,690	1,079,000	1,246,000	1,439,000	1,662,000	1,919,000	2,217,000	2,561,000	14,667,814
HCC WW Drainage Investigations Water Quality Renewals	909,806	869,400	912,870	926,000	972,000	1,021,000	1,072,000	1,126,000	1,182,000	1,241,000	10,232,076
HCC WW Pump Station Renewals	69,848	77,625	2,235,336	37,500	37,500	37,500	75,000	75,000	75,000	75,000	2,795,309
Knights Road - Colin Grove E Coli - Wastewater	5,832,794	1,388,349	1,834,517								9,055,660
Stokes Valley Rd WW Renewal	423,320	-	-								423,320
Wainui Hay St and Lees Gr WW Renewals	1,046,976	-	-								1,046,976
Wainui Road and Rishworth Street Sewer Renewals	-	-	-	1,200,000							1,200,000
Grand Total	**17,560,853**	**5,381,379**	**11,710,247**	**10,744,270**	**12,134,920**	**16,013,860**	**19,553,630**	**13,735,680**	**13,578,320**	**58,814,810**	**179,227,969**

Budget Source: WWL 2024-34 LTP Regional Baseline Programmes - 2024.10.20

8.5.3 Wastewater Projects – Joint Venture

The 10-Year LTP Joint Venture Wastewater capital works budget forecasts are detailed in the table below:

	FY24-25 Prog.	FY25-26 Prog.	FY26-27 Prog.	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	TOTAL LTP
Wastewater JV	**32,711,861**	**58,675,846**	**76,413,275**	**36,155,930**	**28,511,480**	**47,324,850**	**73,217,420**	**61,861,490**	**93,275,840**	**10,950,240**	**519,098,232**
Growth	**-**	**-**	**-**							**3,351,150**	**3,351,150**
Silverstream Wastewater (JV) storage	-	-	-							3,351,150	3,351,150
Level of service	**5,051,352**	**509,238**	**132,480**	**97,000**	**109,000**			**300,000**	**1,200,000**	**3,000,000**	**10,399,070**
HCC - Odour modelling	-	-	31,050								31,050
HCC WWJV Control Systems Upgrades - HUVA	-	-	101,430	97,000	109,000						307,430
Seaview WWTP JV Treatment System Modification (consent required)	-	-	-					300,000	1,200,000	3,000,000	4,500,000
Seaview WWTP JV Wastewater Storage	1,082,731	509,238									1,591,969
Totara Park Road Seismic Resilience WW	3,968,621	-	-								3,968,621
Renewal	**27,660,509**	**58,166,608**	**76,280,795**	**36,058,930**	**28,402,480**	**47,324,850**	**73,217,420**	**61,561,490**	**92,075,840**	**4,599,090**	**505,348,012**
Consent renewal - Seaview WWTP (maintenance) (exp 2031)	-	-	-		200,000	200,000	200,000				600,000
Consent renewal - Seaview WWTP coastal discharge (exp 2031)	-	-	-	500,000	1,000,000	2,000,000	500,000				4,000,000
Consent renewal - Seaview WWTP coastal occupation (exp 2029)	-	-	-	250,000	150,000						400,000
Consent renewal - Seaview WWTP Discharge to air (exp 2031)	-	-	-	500,000	500,000	500,000					1,500,000
HCC Pipe Network Planned Renewals - Wastewater JV	-	-	-	500,000	800,000	3,340,000	46,550,000	56,500,000	89,750,000	2,000,000	199,440,000
HCC WWJV - Major Pump Stations Renewals	775,734	758,655	758,655	411,480	1,302,480	869,850	417,420	311,490	375,840	549,090	6,530,694
Petone Collecting Sewer Rising Main Renewal (Stages 1 and 2)	2,477,257		26,133,990	12,074,700	2,000,000	20,000,000	20,000,000				82,685,947
Seaview WWTP JV Aeration System Renewal		735,000	1,470,000	4,410,000	5,880,000	2,205,000					14,700,000
Seaview WWTP JV Backup Power Supply	500,000	2,300,000	-								2,800,000
Seaview WWTP JV Centrifuge Dewatering Renewal	300,000	300,000	300,000								900,000
Seaview WWTP JV Clarifier Renewal			1,500,000	1,500,000	1,500,000	1,500,000					6,000,000
Seaview WWTP JV Critical Spares	-	500,000	-								500,000
Seaview WWTP JV General Instrumentation Replacement	-	250,000	150,000						300,000		700,000
Seaview WWTP JV Grit Removal					800,000	1,600,000	2,500,000	3,200,000			8,100,000
Seaview WWTP JV Main Effluent Outfall Renewal (planning phase only)		2,000,000	4,000,000	4,000,000	10,000,000						20,000,000
Seaview WWTP JV Milliscreen Replacement	700,000	700,000	700,000	700,000	700,000						3,500,000
Seaview WWTP JV Odour Control Renewal	8,118,637	5,678,078	-								13,796,715
Seaview WWTP JV Planned Renewals	1,290,318	1,783,225	1,676,900	192,750	1,000,000	1,000,000	2,500,000	1,000,000	1,000,000	1,500,000	12,943,193
Seaview WWTP JV Process Model Development	-	155,250	51,750	50,000	50,000	150,000	50,000	50,000	150,000	50,000	757,000
Seaview WWTP JV RAS System Renewal	1,000,000	1,500,000	-								2,500,000
Seaview WWTP JV Reactive Renewals	1,120,000	1,120,000	1,120,000	1,120,000	1,120,000	500,000	500,000	500,000	500,000	500,000	8,100,000
Seaview WWTP JV Screening Wash Press Replacement	200,000	300,000	-								500,000
Seaview WWTP JV Site Services and Building Renewal	300,000	300,000	-								600,000
Seaview WWTP JV Sludge Dryer Replacement	7,878,563	35,286,400	38,419,500	9,500,000							91,084,463
Seaview WWTP JV Sludge Handling Renewal and Capacity Upgrade				350,000	1,400,000	3,500,000	-	-	-	-	5,250,000
Seaview WWTP JV UV Renewal	3,000,000	4,500,000	-								7,500,000
VHCA-Western Hills Trunk	-	-	-	-	-	9,960,000					9,960,000
Grand Total	**32,711,861**	**58,675,846**	**76,413,275**	**36,155,930**	**28,511,480**	**47,324,850**	**73,217,420**	**61,861,490**	**93,275,840**	**10,950,240**	**519,098,232**

Budget Source: WWL 2024-34 LTP Regional Baseline Programmes - 2024.10.20

8.5.4 Stormwater projects

The 10-Year LTP Stormwater capital works budget forecasts are detailed in the table below:

	FY24-25 Prog.	FY25-26 Prog.	FY26-27 Prog.	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	TOTAL LTP
Growth	**2,751,469**	**3,829,500**	**776,250**	**827,500**	**4,800,000**	**5,298,000**	**8,070,000**	**8,070,000**	**5,100,000**	**1,100,000**	**40,622,719**
HCC Reactive Growth Development Projects - Stormwater	105,830	103,500	103,500	100,000	100,000	100,000	100,000	100,000	100,000	100,000	1,012,830
Hutt City - SW Network - Hutt Central North Flooding	-	-	-	247,500		198,000	2,970,000	2,970,000			6,385,500
Hutt City - SW Network - Hutt Central South Flooding	1,058,299	828,000	207,000								2,093,299
Hutt City - SW Network - Wainuiomata - Black Creek Flooding	-	-	258,750	480,000	4,700,000	5,000,000	5,000,000	5,000,000	5,000,000		25,438,750
Hutt City - SW Network - Wainuiomata - Lowry	-	-	-							250,000	250,000
Hutt City - SW Network - Wainuiomata - Parkway Flooding	-	-	-							250,000	250,000
Hutt City - SW Network - Waiwhetu Stream Flooding	-	-	-							250,000	250,000
Hutt City - SW Network - Wingate Flooding	-	-	-							250,000	250,000
Melling Stormwater Pumpstation and Pipe Upgrades	1,058,299	828,000	207,000								2,093,299
RiverLink SW Outlets Upsized	529,041	2,070,000	-								2,599,041
Level of service	**1,428,705**	**3,764,074**	**3,528,315**	**3,915,500**	**4,022,000**	**12,171,000**	**16,129,000**	**16,329,000**	**18,679,000**	**21,301,000**	**101,267,594**
Dowse Dr Stormwater Improvement	31,749	-	-								31,749
HCC Capital Carbon Modelling - Stormwater	10,583	10,350	10,350	10,000	10,000	10,000	10,000	10,000			81,283
HCC Climate Resilience Model - Alicetown/Petone	-	-	388,125	388,125							776,250
HCC Climate Resilience Model - Eastbourne	-	-	258,750	258,750							517,500
HCC Climate Resilience Model - Seaview	-	-	388,125	388,125							776,250
HCC Freshwater Management tool - Build	-	-	207,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	1,607,000
HCC Global consent for operations and maintenance works in streams	21,166	20,700	-								41,866
HCC New Smart Services - Stormwater	-	-	45,540	44,000	44,000	89,000	89,000	89,000	89,000	51,000	540,540
HCC Stormwater Network Modelling	264,575	258,750	258,750	250,000	250,000	250,000	250,000	250,000	250,000	250,000	2,532,075
HCC Stormwater Pump Stations Energy Conservation				109,000	21,000	105,000					235,000
HCC SW Drainage Improvement Projects	317,490	310,500	310,500	300,000	300,000	300,000	300,000	300,000	300,000	300,000	3,038,490
Hutt City - SW Network - Butterfly Creek Flooding	-	-	-							250,000	250,000
Hutt City - SW Network - Cornish Street Flooding	-	-	-							250,000	250,000
Hutt City - SW Network - Days Bay North Flooding	-	-	-	258,750				300,000	2,000,000		2,558,750
Hutt City - SW Network - Days Bay South Flooding	-	-	-	258,750					300,000	2,000,000	2,558,750
Hutt City - SW Network - Hair St Flooding	-	-	-							250,000	250,000
Hutt City - SW Network - Konini St Flooding	-	-	-							250,000	250,000
Hutt City - SW Network - Oroua St Flooding	-	-	-							250,000	250,000
Hutt City - SW Network - Petone Flooding	-	-	-		250,000	8,200,000	8,200,000	8,200,000	8,200,000	8,200,000	41,250,000
Hutt City - SW Network - Rona Bay North Flooding	-	-	-					200,000			200,000
Hutt City - SW Network - Seaview Flooding	-	-	-							250,000	250,000
Hutt City - SW Network - Stokes Valley Flooding	-	-	-							600,000	600,000
Hutt City - SW Network - Taita Flooding	-	-	-							250,000	250,000
Hutt City - SW Network - Western Hills Flooding	-	-	-							250,000	250,000
Hutt City - SW Network - Woburn Flooding	-	-	-							250,000	250,000
Improvement to fish passage	-	-	-							10,000	10,000
Muritai Rd (92-96) Rona St, Marine Parade (19) Stormwater Upgrades	-	2,397,874	-	200,000	900,000	900,000					4,397,874
NDP: Resource consent for stormwater discharges	529,150	517,500	517,500								1,564,150
NDP: SMS workstream 1 implementation for water quality (modelling)	105,830	103,500	103,500	250,000	907,000	977,000	1,500,000	1,200,000	900,000	1,000,000	7,046,830
NDP: SW Subcatchment Asset Management Plan - Black Creek	148,162	144,900	1,035,000	1,000,000	1,000,000	1,000,000	4,440,000	4,440,000	4,440,000	4,440,000	22,088,062
NDP: SW Subcatchment Asset Management Plan - Hutt City A	-	-	-		140,000	140,000	1,000,000	1,000,000	1,000,000	1,000,000	4,280,000
NDP: SW Subcatchment Asset Management Plan - Hutt City B	-	-	-				140,000	140,000	1,000,000	1,000,000	2,280,000
Wellesley College stream inlet and outlet erosion protection	-	-	5,175								5,175
Renewal	**2,454,050**	**3,287,156**	**1,730,580**	**2,588,428**	**9,595,474**	**8,342,693**	**3,810,033**	**2,077,620**	**4,702,170**	**2,583,450**	**41,171,654**
HCC Pipe Network Planned Renewals - Stormwater	-	1,244,824	673,500	50,000	200,000	4,120,000					6,288,324
HCC Pipe Network Reactive Renewals - Stormwater	342,889	332,994	332,994	408,000	514,000	648,000	817,000	1,029,000	1,297,000	1,634,000	7,355,877
HCC SW Control Systems Renewals	21,166	10,350	10,350	10,000	10,000	20,000	10,000	10,000	10,000	20,000	131,866
HCC SW Drainage Investigations Water Quality Renewals	518,078	543,375	570,285	579,000	608,000	638,000	670,000	704,000	739,000	776,000	6,345,738
HCC SW Pump Stations Renewals	176,017	108,613	143,451	1,255,320	1,235,520	2,909,610	2,306,700	334,620	2,656,170	153,450	11,279,471
Knights Road - Colin Grove E Coli - Stormwater	361,900	-	-								361,900
Seaview Road SW Upgrade	1,034,000	1,047,000	-								2,081,000
Te Mome Pump Station Renewal and Optimisation	-	-		286,108	7,027,954	7,083	6,333				7,327,478
Grand Total	**6,634,224**	**10,880,730**	**6,035,145**	**7,331,428**	**18,417,474**	**25,811,693**	**28,009,033**	**26,476,620**	**28,481,170**	**24,984,450**	**183,061,966**

Budget Source: WWL 2024-34 LTP Regional Baseline Programmes - 2024.10.20

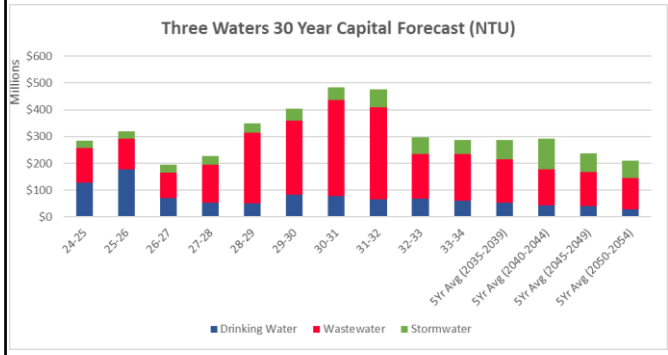
9. 30-Year Three Waters investment forecasts

Source: 30 Years CAPEX Budget-All Councils upload IR data - Nov 24

9.1 Total 30-Year capital investment forecast

This section provides an overview of the uninflated 30-Year capital investment forecast. It is based on the data submitted to the National Transition Unit (NTU Entity C) in June/July 2023 as part of 30-year capital investment requirements. Taking an unconstrainted funding approach, it covers all assets including networks, reservoirs, pumpstations and control systems.

The NTU Three Waters Capital Programme is summarised in the chart below:

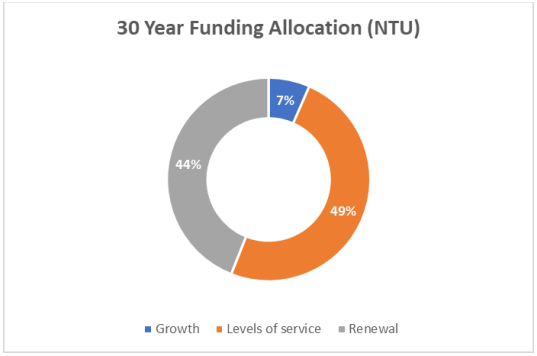


The NTU's 30 Year total capital investment (including renewals) is projected to be $4.35 Billion.

Capital investment is spread across:

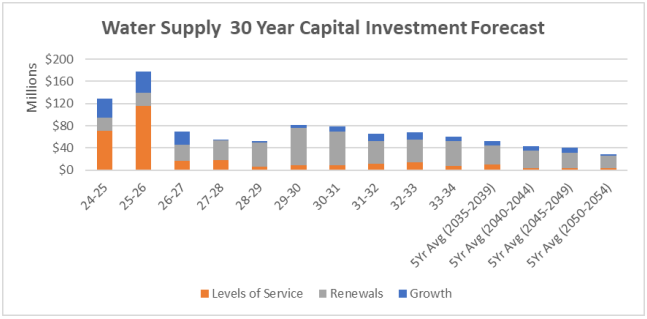
- Renewals - to replace existing assets at the end of design life
- Additional Capacity - to provide for growth
- Levels of Service - improvement to meet standards and regulations

The distribution is provided in the figure below.

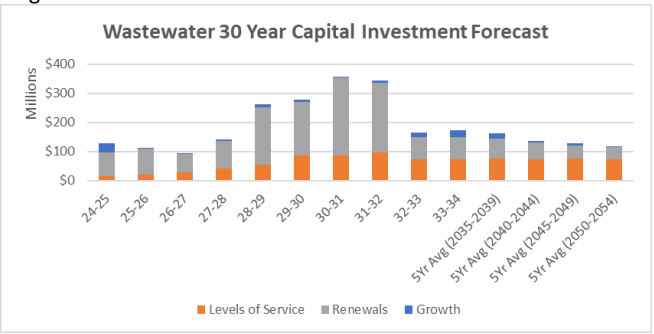


9.2 30-Year capital investment by water activity forecast

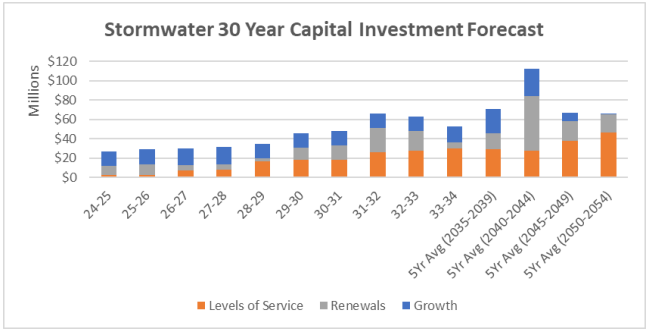
The water supply 30 Year capital forecast (total) is: $1.0 B – see figure below.



The wastewater 30 Year capital forecast (total) is: $2.6 B – see figure below.

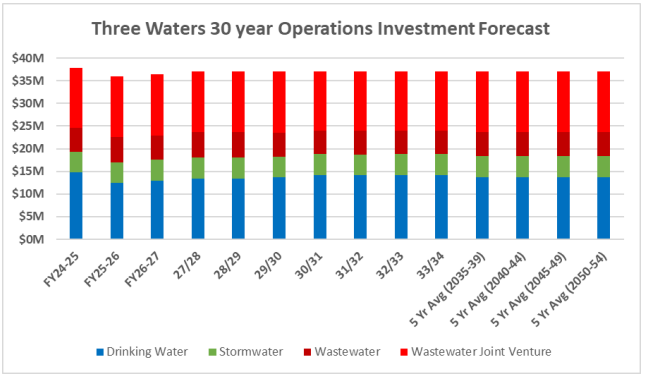


The stormwater 30 Year capital forecast (total) is: $0.74 B – see figure below.



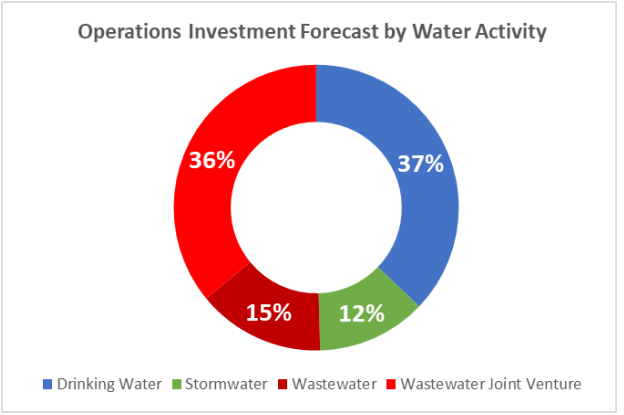
9.3 Total 30-Year operational investment forecast

The draft Three Waters 30-year operational budget forecast is summarised in the chart below:



Total 30 Year Budget: $1.11B

Note: Year 11 to 30 budgets are extrapolated from the average 10 Year budgets and have not been inflated.



The operational needs expenditure is broken down to approximately $412.4M (37%) on water supply, $559.8M (51%) on wastewater and $137.6M (12%) on stormwater.

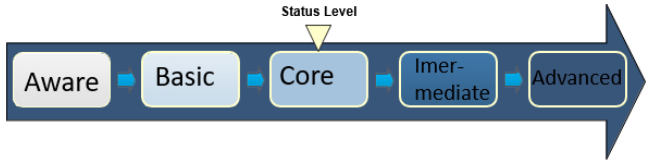
Budget Source: WWL Final Council OPEX LTP 2024-25

10. Continual asset management improvement

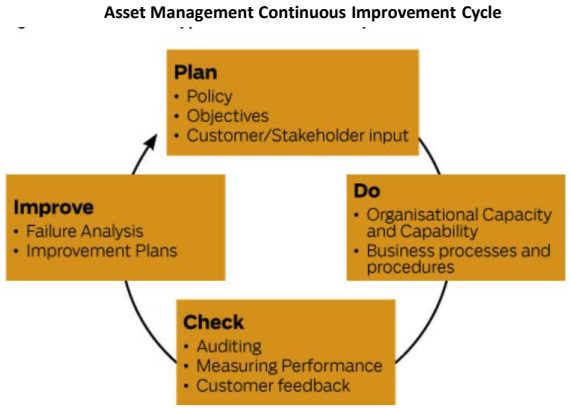
10.1 Asset Management Maturity

WWL is committed to continually improve asset management practices, processes, and tools. This is essential to ensure the asset system and services are effectively managed and delivered over the long term.
Asset Management practice is being developed in keeping with the NAMS guidelines as presented in their suite of asset management publications including the 2015 IIMM. Council is committed to delivering the most appropriate levels of service balanced with affordability and good industry practice.

Core and Advanced Asset Management
The Asset Management Policy states that Council is committed to meeting at least core asset management status for all activities. This is the most appropriate status for the scale, value and risk appetite of Council. The appropriate asset management status level will be reviewed periodically.



The last Three Waters asset management maturity assessment was conducted in 2021. The diagram below summarises the findings:



10.2 Asset Management Improvement Plan

The key improvement actions items include:

- Continue to respond and adapt to the ongoing Three Waters reform programme 'Local Water Done Well'
- Continue to review and improve asset management systems and processes
- Continue to build core asset management capability
- Carry out asset data cleansing and verify asset condition information
- Continue to improve the confidence and accuracy in locational asset data
- Continue to assess the asset condition of below ground assets
- Carry out asset criticality assessment and ratings
- Continue to develop and implement condition-based reticulation renewals strategy
- Continue capital investment in water assets to ensure consent compliance and operational efficiencies

The following key improvement items have been identified in the recently completed Water Services viability assessment:

- Further assessment of the adequacy, planning and programming of the Three Waters Renewals Programme
- Further assessment of the future Three Waters resource consenting requirements and related planning and budgeting for this area of work
- Further assessment of the resources and procedures required to ensure the delivery of the proposed up scaled capital works programme
- Further assessment and Opex budget provision for the increasing regulatory requirements (proposed in the Water Reform programme), and possible increases in future maintenance contact costs

10.3 Asset Management Improvement Monitoring Procedures

The Improvement Plan activities and priorities will be regularly reviewed, and progress reported on to ensure that a programme of continuous asset management improvement is achieved.