



Upper Hutt City Council

Part 3: Asset Management Plan

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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

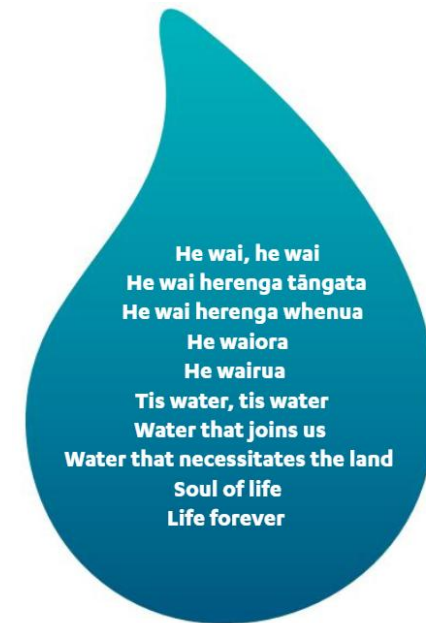
- This AMP is produced for the shareholder council so it can understand key aspects of the respective physical assets and be aware of uncertainties, confidence and risks.
- Elements of this AMP and the higher tier AMPs may be used to support production of Water Service Delivery Plans (WSDP). Material 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.

1. Introduction
2. Partnerships and stakeholders
3. Three Waters services and assets we manage
4. Three Waters current level of service and performance measures
5. Demand and planning for the future
6. Risk management and resilience
7. How we deliver the services (Lifecycle management plans)
8. 10-year Three Waters investment forecasts
9. 30-year Three Waters investment forecasts
10. Continual asset management improvement



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

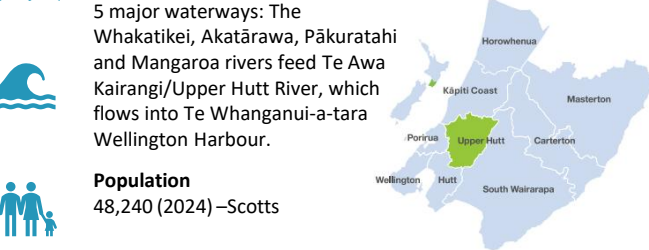
1.1 Council Overview

Upper Hutt enjoys the character of a small city, while having the second largest land area of a city council in New Zealand. Easy access to an expansive natural environment featuring Te Awa Kairangi/Upper Hutt River, regional parks and hills surrounding the city is part of our identity.

Upper Hutt is a family-oriented city, with spacious suburban housing development occupying around 3.24% of the land area, encompassed by treasured open spaces. Traditionally a commuter city with over half of the people working outside the city, the local economy is growing and diversifying including new commercial developments and niche industry hubs.



Upper Hutt encompasses an area of 54,000 hectares.



5 major waterways: The Whakatikei, Akatārawa, Pākuratahi and Mangaroa rivers feed Te Awa Kairangi/Upper Hutt River, which flows into Te Whanganui-a-tara Wellington Harbour.

Population
48,240 (2024) –Scotts

Population Data: UHCC LTP 24-34
Source – Scotts WRWSDP

1.4 Key Asset Register Facts

Water Type	Asset Type	Quantity	Completeness	Confidence
Water supply	Reservoirs	13 Sites	A	A
	Pipes	292.54km	B	B
	Pump Station	7 Pump Stations	A	A
	Sites	3 Bore Sites	A	A
Wastewater (excludes HVIV)	Pipes	235.54km	B	B
	Pump Stations	18	A	A
Stormwater	Pipes	190.39km	B	B
	Pump Stations	7	A	B

Source: WWL DPS Asset Data Summary Report 2024

1.2 Community Outcomes

UHCC key priorities are described below:



- 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.

1.5 Three Waters Challenges and Priorities

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



- Priority 1. Looking after existing infrastructure**
(renewals, operation, maintenance and critical services)
Looking after existing assets is foundational to a sound risk management approach – it reduces incidents that usually cost more and has less negative effects when work is planned.
- Priority 2. Supporting growth**
Growth is inevitable and must be managed to ensure it does not add to existing issues for the three waters network.
- Priority 3. Sustainable water supply and demand**
We are near capacity for water supply
- Priority 4. Improving env. water quality**
Community expects better water quality than we have now
- Priority 5. Net carbon zero 2050**
Carbon emissions are a key contributor to climate change

Localised issues

- Reducing flood risk
- Seismic resilience
- Firefighting water supply

Individual activities associated with localised risks will be progressed as funding allows

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.

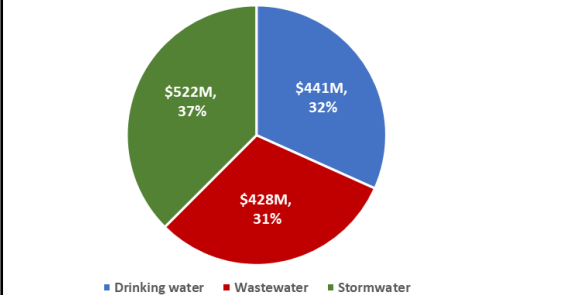
Stormwater: Provision of a stormwater service that aims to efficiently manage and control flows and support the achievement of Council's goals by protecting the public and property from the effects of flooding and minimising the impact of runoff on the environment.

Source – UHCC AMP

1.6 Three Waters Asset Valuation

UHCC has \$1.4 B in Three Waters assets (optimised replacement cost) as at June 2024.

Three Waters Replacement Value (ORC)



Category	Value (M\$)	Percentage (%)
Drinking water	441	32%
Wastewater	428	31%
Stormwater	522	37%

Source: UHCC 2024 June Valuation Summary Spreadsheet -V1-241120

2. Partnerships and Stakeholders

2.1 Mana Whenua Partnership

We develop and foster productive partnerships and relationships with our stakeholders—which are many and varied—and promote our city and its needs and aspirations. Partnership, participation, and protection of Māori contributions to decision-making

We are guided by a legal framework that includes provisions for Māori. These statutory obligations may be the foundations for organisational policy and delivery but, on their own, they don’t adequately emphasise the importance of Te Tiriti o Waitangi (Te Tiriti), partnership with Māori, and the critical value that this unique relationship can bring to the city.

It is our aspiration to embrace and incorporate the principles of Te Tiriti o Waitangi in our policies and practices, to be aware and responsive to Māori needs and aspirations, and to fulfill our obligations under the principles of Te Tiriti. Our aim is to ensure we have the right relationships and processes in place to enable partnership with Māori, effective participation, and a shared decision-making focus. This includes meaningful, timely, and inclusive engagement at all levels to ensure we’re thinking about the role of Māori in the planning and delivery of our work programmes and the equitable resourcing for this, in line with our obligations to Māori.

In line with this thinking, we have initiated conversations to formalise our relationships with Port Nicholson Block Settlement Trust (Taranaki Whānui ki te Upoko o te Ika a Māui), and Te Rūnanga o Toa Rangatira Incorporated. Initially we hope to establish memoranda of partnership agreements that will provide a basis for investigating and working toward streamlining and strengthening Māori-Council engagement. This will enable us to develop an agreed programme toward improved engagement and effective participation in Council decision-making processes.

Further to these Te Tiriti entities, and given the complexity of the tribal landscape, in addition to taurāhere/mātāwaka groups (Māori living in the Upper Hutt region whose ancestral links lie outside of the region), we are committed to formalising relationships with the Wellington Tenth Trust, Palmerston North Māori Reservation Trust, Te Rūnanganui o Te Atiawa ki te Upoko o Te Ika a Māui Incorporated, and Ōrongomai Marae.

We have a longstanding relationship with Ōrongomai Marae, and their guidance on matters of importance to Māori in this region has been invaluable to our work. As this city’s only marae, Ōrongomai Marae is a mātāwaka marae, and representative of the many tribal affiliations of all who live in this region. We are represented on the Committee Trust of Ōrongomai Marae by His Worship the Mayor, to ensure that both groups are actively engaging with one another. **Source UHCC 2024 LTP**

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.

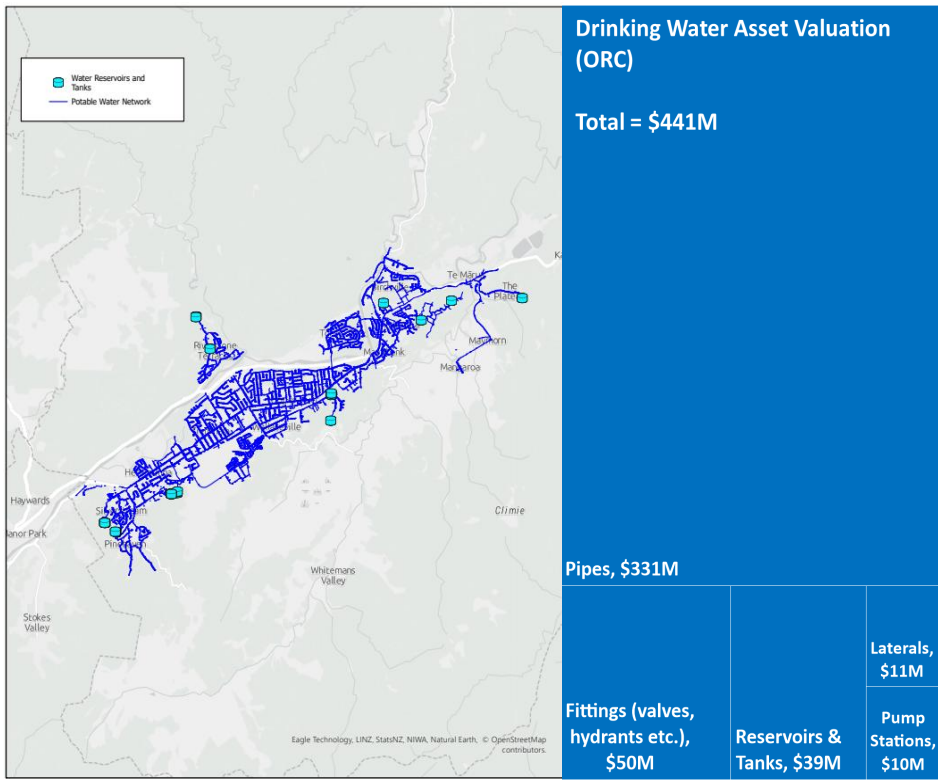
Customers/Stakeholders	Area of Interest	Involvement/Expectations
Homeowners, businesses, organisations, health and medical facilities, education facilities, community groups, tourists and visitors	Water, wastewater, stormwater usage	These customers realise the benefits provided by the water supply, wastewater 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 and regulations
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

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 UHCC water network assets.

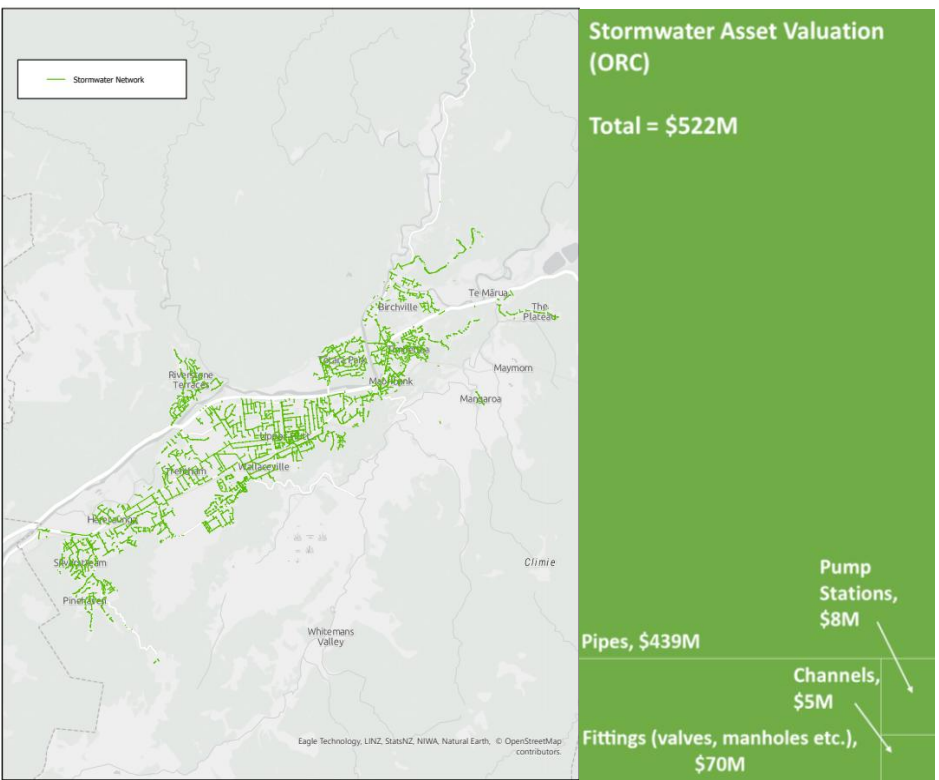


Source: UHCC 2024 LTP

3.2 Stormwater

The constructed stormwater network collects surface runoff via intake structures and conveys this through gravity pipelines and channels. Where gravity discharge into the Hutt River is not possible, pumpstations generally lift stormwater to local networks or tributaries of the Hutt River.

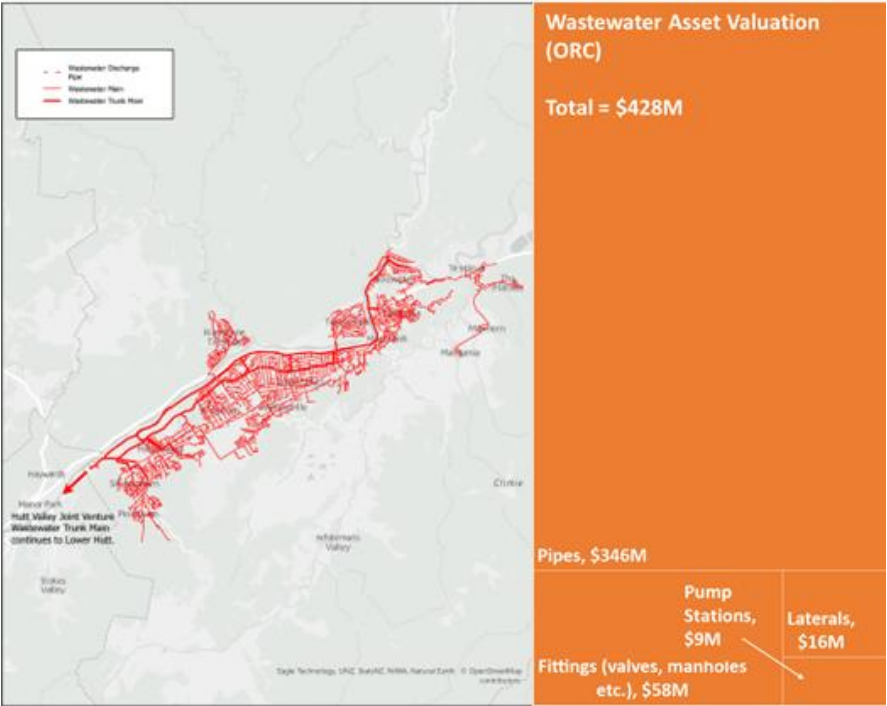
The figure below summarises the extent and value of UHCC stormwater network assets.



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. Upper Hutt City’s share is approximately 30 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.



Source: UHCC 2024 LTP

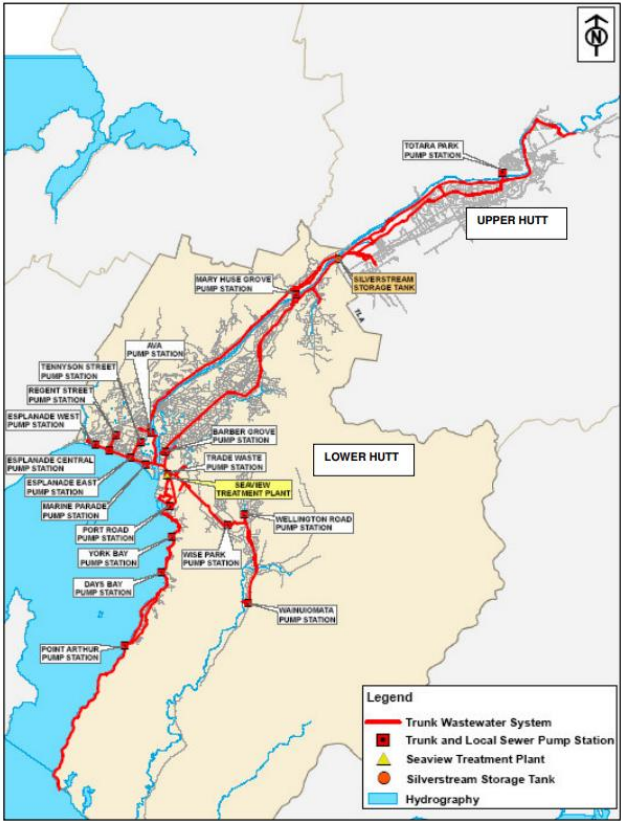
3.4 Hutt Valley Trunk Wastewater System

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 Valley & 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 Council's 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 watermain 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)

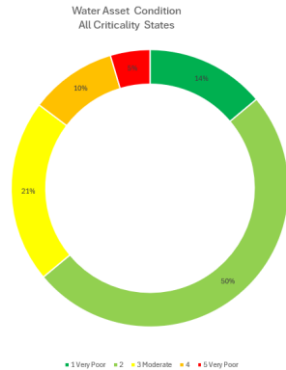
3.4 State of the Assets (contd.)

3.4.2 Water Supply

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

Water Type	Asset Type	Quantity	Completeness	Confidence
Water supply	Reservoirs	13 Sites	A	A
		27 Tanks	A	A
	Pipes	292.54km	B	B
	Pump Station Sites	7 Pump Stations	A	A
		3 Bore Sites	A	A

Network Condition. The UHCC water supply network asset condition is provided in the figure. This covers assets assigned with a criticality state.



Water Supply – Summary of Network Issues and Challenges. A significant issue for Upper Hutt is the rise in the number of water supply pipe assets that will reach the expected end of their life in the next 10 years and continuing for 30 years (Approx 5 % is past its expected life with an additional 10% 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 as Upper Hutt developed post war – but later than in Hutt City. As a consequence, asset replacement will need to focus on streets as failure levels accelerate. The asbestos cement 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.. Ongoing condition assessment will be vital to maximise the life of the pipe network.

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. 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.

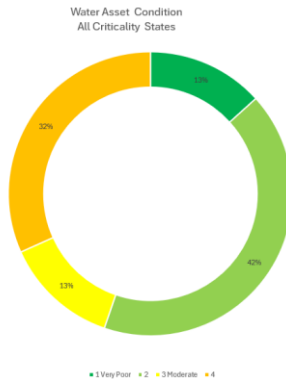
Pump Stations (3 Waters). Pumps stations (water supply, wastewater and stormwater) are critical facilities. Within these facilities are also critical mechanical and electrical assets that on failure would result in supply disruption health and safety risks in the immediate vicinity, flooding and environmental 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 UHCC stormwater network asset register details is provided below.

Water Type	Asset Type	Quantity	Completeness	Confidence
Stormwater	Pipes	190.39km	B	B
	Pump Stations	7	A	B

Network Condition. The UHCC stormwater network asset condition is provided adjacent. This covers assets assigned with a criticality state.



Stormwater network – Summary of Network Issues and Challenges. Generally, the condition of the stormwater network is newer and should require low renewal rates for the next 30 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.

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.

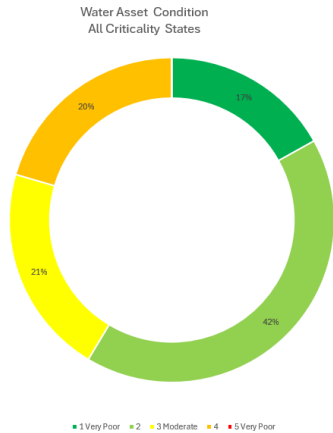
3.4 State of the Assets (contd.)

3.4.4 Wastewater including Treatment Plants

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

Water Type	Asset Type	Quantity	Completeness	Confidence
Wastewater (excludes HVJV)	Pipes	235.54km	B	B
	Pump Stations	18	A	A

Network Condition. The UHCC wastewater Network asset condition is provided below. This covers assets assigned with a criticality state.



Wastewater network – Summary of Network Issues and Challenges. There is a portion of the local wastewater network (7%) that is overdue for replacement but a significant amount reaching its end of life in the next 10 years (an additional 13%). The Hutt Valley 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. This pipe transports wastewater from Upper Hutt to the Seaview treatment plant. Ongoing condition assessment will be vital to maximise the life of the pipe network.

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 Level of Service, Performance Measures

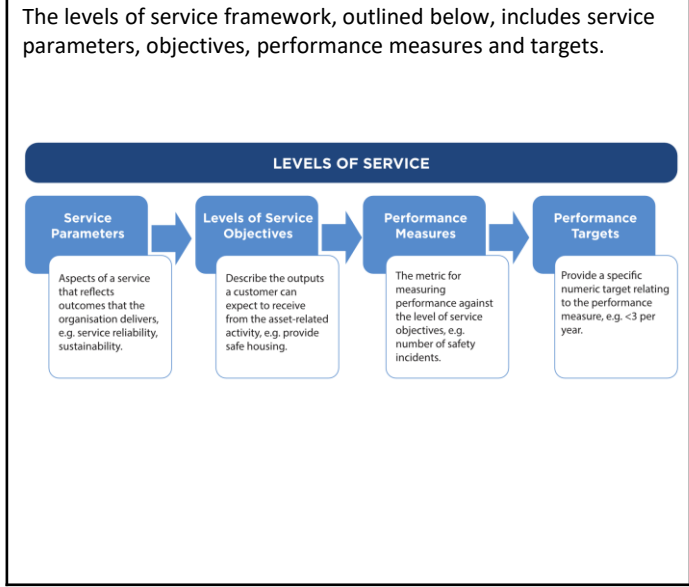
4.1 Levels of Service defined

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 UHCC Key Priorities

UHCC’s key 2024 LTP priorities are:

Priority	How
Balancing the books	• Today’s income covers today’s expenses • Establishing financial ‘headroom’ • Funding depreciation over time • Intergenerational equity • Rates requirement • Forecast rates increases • Alternative options
Maintaining our infrastructure	• Responsible stewardship • Funding and affordability • Our infrastructure programme • Asset renewal is a priority
Back to basics	• Reducing operating costs • Funding reductions

The UHCC 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 UHCC 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 UHCC’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 UHCC’s LTP Three Waters performance measures.

There are 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

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

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 (protozoal 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%	100%	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%	100%	Compliant	Compliant	Compliant	Compliant

Outlook: There is no compliance issues forecast for UHCC.

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-out 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	<60 mins	76 mins	Close to or meeting LOS target	Close to or meeting LOS target	Close to or meeting LOS target	Close to or meeting LOS target
Median response time to resolve urgent call-outs	<4 hours	2.2 hours	Close to or meeting LOS target	Close to or meeting LOS target	Close to or meeting LOS target	Close to or meeting LOS target
Median response time to attend non-urgent call-outs	<36 hours	238 hours	Continued deterioration	Continued deterioration	Continued deterioration	Continued deterioration
Median response time to resolve non-urgent call-outs	<15 days	27 days	Continued deterioration	Continued deterioration	Continued deterioration	Continued deterioration

Outlook: With the indicative level of investment, we can expect to see the trend in non-urgent works increase.

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%	41%	Increased losses	Increased losses	Increased losses	Increased losses
Average consumption of drinking water per day per resident	<415L	450L	Increased consumption (including losses)	Increased consumption (including losses)	Increased consumption (including losses)	Increased consumption (including losses)

Outlook: As with the increasing backlog of leaks, the indicative level of funding will likely see further deterioration.

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	12.3	Deteriorating but likely meeting LOS	Deteriorating, may not meet LOS	Deteriorating, may not meet LOS	Deterioration, inability to meet LOS in outer years

Outlook: Complaints are tied strongly to investment in the network. We can expect to see the level of complaints continue to increase under indicative 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

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	0.1	Status quo, meet LOS	Status quo, meet LOS	Status quo, meet LOS	Status quo, meet LOS

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	<=60 mins	80 min	Status quo, likely will not meet LOS	Status quo, likely will not meet LOS	Status quo, likely will not meet LOS	Status quo, likely will not meet LOS
Median response time to resolve a sewage overflow resulting from a blockage or other fault in the sewerage system	<=6 hours	3.4 hours	Status quo, meet LOS	Status quo, meet LOS	Status quo, meet LOS	Status quo, meet LOS

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	10	Status quo, meet LOS	Status quo, meet LOS	Status quo, meet LOS	Status quo, meet LOS

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: UHCC is a Joint Venture partner in the Seaview Wastewater Treatment Plant with Hutt City Council. The uplift in investment over the LTP should result in improved performance at the plant and less actions from the regulator.

4.6 Stormwater Level of Service and Performance

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	<=0.64	0	Weather dependant	Weather dependant	Weather dependant	Weather dependant
Median response time to attend a flooding event	<60 mins	0	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	2.1	Status quo, likely to meet LOS	Status quo, likely to meet LOS	Status quo, likely to meet LOS	Status quo, may not meet LOS in outer years

Outlook: It is difficult to draw strong conclusions. Importantly, this level of investment will not be sufficient to mitigate damage to people, property, or infrastructure from the effects of climate change into the future.

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

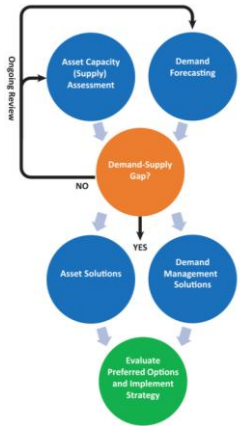
5.1 Understanding demand

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:

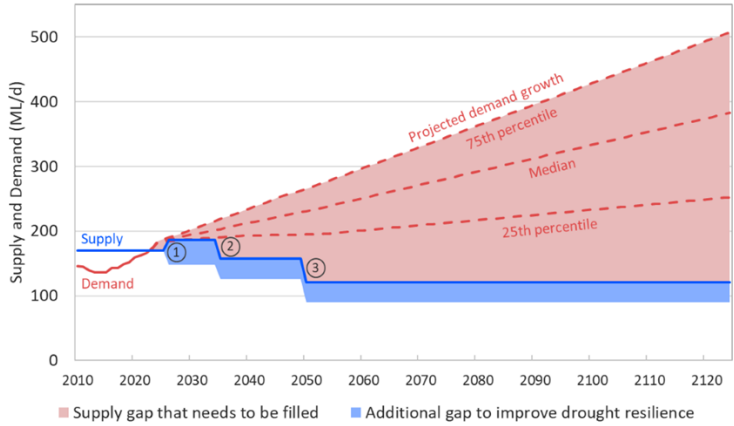
- Population growth – an additional 130,000 people over the next 30 years is expected to drive up the demand for water.
- Environmental enhancements – less water available during summer in response to recommendations from the Whaitua Te Whanganui-a-Tara Committee.
- Water loss – which has increased over 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);
- Pākura Lake Stage 1 (lakes 1 and 2);
- Managed Aquifer Recharge;
- Wainuiomata Storage;
- Pākura Lake 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 Pākura Lake Stage 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 UHCC, a new City Centre Reservoir (9,000 cu.m) will replace the existing Cruickshank Reservoir (2,000 cu.m) that is due for renewal in 2054. A new Kingsley Heights Reservoir (900 cu.m) will also replace the existing seismic risk (225 cu.m) reservoir that is also inadequate to meet growth forecasts (150 to 450 new properties serviced). In both cases, demand is not likely to compensate for the growth forecast before renewal or strengthening of the existing reservoirs. It is not practical to keep the existing reservoir that cannot meet future demand.

5.4 Managing Demand

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 “there is no funding in the LTP to account for the system deterioration impact”. There is a consequential increase in OPEX and potential loss of customer service. The Capex spend will not address the backlog of renewals. This applies across water, wastewater and stormwater infrastructure.	• 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
Three Waters	O&M budgets (water supply and wastewater) are insufficient for the amount of planned maintenance needed and reactive maintenance increases. There is no (nil) planned renewals allocated for stormwater assets. WWL responses focus on ‘responding to impact rather than reducing impact’. Private assets are failing at similar rates to public ones, introducing additional inflow and infiltration into the network and treatment plant.	• 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 • Identify areas of expenditure that are imposed on operational costs by other stakeholders and utilities and that may present opportunity for saving through collaboration
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 UHCC targets. Applies across majority of Shareholder Councils	• None identified at present

6. Risk Management and Resilience (cont.)

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
	Looking After Existing Infrastructure	
Water Supply	Water demand for Upper Hutt City is outstripping supply due to water loss in the network and growth. This is contrary to the principles of Te Mana o te Wai	• Network optimisation programmes • Water loss management programmes • New water reservoir on Eastern Hills planned to meet growth and improve resilience
Water Supply	Water supply reliability over summer is at risk and a new water supply is needed. UHCC have not identified funding in their LTP for water metering.	• Implement a water metering programme • Minimising the future cost of water infrastructure by exploring ways of reducing the demand for water and influencing water use behaviour
Water Supply	Building additional water storage capacity to meet resilience and growth requirements. Current storage is insufficient to provide for significant network outages and peak summer demand	• Immediate term demand management plan implementation • Storage upgrade planning, funding and mitigation
Water Supply	Reservoir condition means they are vulnerable to contamination. This may then result in water that is not safe and healthy for the communities' purposes Reservoirs are reaching the end of their useful life.	• Funding of remediation work (agreed) followed by renewal or capital works • Completion of water storage management plans which may recommend increased funding

6.4 Key Risks and Mitigation Measures - Stormwater (Source WWL 2021 AMP, Scotts, WIML)

Activity	Risk Item	Key Mitigation Measures
Stormwater	An UHCC 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.	• Network optimisation programmes • Hydraulic modelling and planning • Contingency planning and monitoring • Network upgrade design, funding and implementation
	Climate Change and Zero Carbon	
Stormwater	Increased rainfall intensity is overwhelming the network at various locations.	• Adaptive climate change modelling and planning • Long term stormwater planning
Stormwater	Pinehaven stream stormwater improvements (Phases 4 and 5) investment has not been committed to. Without this work the objectives of the GWRC's flood management plan will not be met	• Securing funding via LTP processes

6. Risk Management and Resilience (cont.)

6.5 Key Risks and Mitigation Measures - Wastewater (Sources WWL 2021 AMP and 2023-24 LTP Final Information Pack, WIML, Scotts)		
Activity	Risk Item	Key Mitigation Measures
	Looking After Existing Infrastructure	
Wastewater	Wastewater pump station renewals are not keeping pace with asset deterioration leading to capacity constraints and potential surcharge risks. Note – also see Three Waters above for network pipe renewals	• Condition Assessment of assets in the 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
Wastewater	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).	• Review and improve operations plans and procedure 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 UHCC • Review the demand management data (including I & I reduction) benefits and any current implementation as part of an integrated wastewater strategy for UHCC
Wastewater	Erosion occurring on the Hutt River potentially undermining 825mm bulk wastewater pipeline adjacent to Taita rock (HCC specific).	• 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 (HCC (JV) specific).Odour issues are of considerable concern to the community.	• Prioritise funding for sludge dryer upgrades • Undertake all reasonable works to minimise odour before renewal of the WWTO unit processes.
Wastewater	The redundancy of Seaview WWTP is inadequate for major maintenance while ensuring compliance can be met (HCC (JV) specific).	• 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	• Network optimisation programmes • Hydraulic modelling and planning • Contingency planning and monitoring • Network upgrade design, funding and implementation
Wastewater	Streams, rivers and harbours contain faecal coliforms (wastes)	• 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.

6. Risk Management and Resilience (cont.)

6.7 Three Waters Headline Challenges

The headline challenges for water



Upper Hutt 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 failing to meet performance expectations
- The **quality of water in the environment must be improved** to meet community expectations and regulations, but leaking, blocked or directly discharging stormwater and wastewater networks risk returning unsafe, contaminated water to the environment
- Risks from **natural hazards and climate change are leaving communities and water assets vulnerable** to disruption and economic loss

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

6.8 Summary of Three Waters Key Risks and Mitigation Measures

Water Activity	Significant Risk	Description	Mitigation
Three Waters	Aging water assets are a national issue	Around 35% (by value) of Upper Hutt's Three Waters pipes need to be replaced in the next 30 years (based on age). This presents a steadily increasing risk to Three Waters services and to their growing communities. At the same time, community expectations are increasing, as are national standards in water regulation and freshwater management.	Renewals are mainly focused on local networks, with a new operational policy and process being developed to focus first on very high/critical assets, and then on reactive and opportunistic renewals. The primary reason for renewals is to reduce service disruption, leakage, pipe bursts and collapsing and/or blocked pipes. These can lead to health and safety issues, water loss, pollution in streams and harbours or sewage overflows onto roads and private properties.
Three Waters	Upper Hutt is facing high growth in the short to medium term	As demand for housing within the Wellington region continues to climb, growth across the city will exacerbate existing capacity problems in the Three Waters networks. Due to growing demand, the Wellington region will need an additional water source in approximately 20 years. Although this is a Greater Wellington capital cost, it will affect our operational costs. Water conservation methods such as water use restrictions and education are currently underway, but we need to do more to manage demand. We will be investigating further options as part of the LTP 2021-31.	Wellington Water has already put in place some changes in anticipation of the Havelock North Inquiry. All our bulk water sources are now chlorinated following the addition of chlorination and UV treatment processes to water taken from the Waiwhetu aquifer. Consenting requirements have been increased through the Proposed Natural Resources Plan. There is also a requirement to develop desired water quality standards through the Whitua process, which has a direct effect on wastewater discharge requirements. The Whitua process for the Hutt Valley and Wellington has not yet been formed. It is anticipated that the next review of the LTP will be required to factor in any changes. See the RSP Part 2 for more information on these legislative changes.
Three Waters	Budget and funding constraints	There is considerable pressure on the current budget for Three Waters investment in Upper Hutt to continue renewing existing and aging assets, respond to growth and meet increasing levels of service expectations (water consumption, water quality and net carbon zero 2050).	

Source: UHCC Investment Plan- section 4.1, 4.2

6.9 Other Localised Issues and Risks

6.9.1 Reducing flood risk

Challenge: Flooding while not a territory wide issue is one of the costliest natural hazards and can be severe and long lasting for many households and communities. The recognised flood prone areas are Pine Haven, Montgomery Crescent/Clousten Park and Edelweiss Grove- localized events. 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. Historically no allowance was made for unimpeded overland flow paths and elevate floors, resulting in costly damage in extreme rainfall. Allowance is now required.

To supplement this, Wellington Water 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 UHCC, work has been identified but not fully funded, in the Pinehaven Stream to protect residents and businesses from repeated flooding. This would include up-sizing pipes and improving overland flow.

6.9.2 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 Marua Treatment Plant to Porirua and Wellington crosses the Wellington Fault at Te Marua, 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% 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: WWL has identified assets that require seismic strengthening and upgrades based on priority e.g., Totara Park Bridge water main. While **not funded** in the 2024/34 LTP, the existing Cruickshank #2 and Trentham #2 reservoirs have been identified as top priorities for seismic strengthening, as they are critical water supply to a large area, including the CBD. The work, if undertaken would improve the assets ability to withstand a major Wellington Fault earthquake. We will also continue educating customers on opportunities to improve household resilience.

6.9.3 Firefighting water supply

Challenge: The protection of peoples’ 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 UHCC, we identified the need to create zone management plans to assess the adequacy of fire flows across the city and plan 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 those identified through growth planning.

Source UHCC Investment Plan Sec 4.2.6

7. How We Deliver Three Waters Services (Lifecycle Management Plans)

7.1 Strategic Priorities

As UHCC’s 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.

Priority 1. Looking after existing infrastructure
(renewals, operations, maintenance and critical services)

Looking after existing assets is foundational to a sound risk management approach – it reduces incidents that usually cost more and has less negative effects when work is planned.

Priority 2. Supporting growth

Growth is inevitable and must be managed to ensure it does not add to existing issues for the three waters network.

Priority 3. Sustainable water supply and demand

We are near capacity for water supply

Priority 4. Improving env. water quality

Community expects better water quality than we have now

Priority 5. Net carbon zero 2050

Carbon emissions are a key contributor to climate change

Localised issues

- Reducing flood risk
- Seismic resilience
- Firefighting water supply

Individual activities associated with localised risks will be progressed as funding allows

System-wide issues that need addressed over the next 30 years

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

Source : WWL UHCC Part 3

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 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 improvements, network extensions	Operations: Efficient network mgt., Stormwater modelling, Discharge monitoring Capital: Network capacity upgrades and improvements, 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		

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Release, Version 12

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7.4 Operations and Maintenance Plan

7.4.1 Operations and Maintenance Requirements

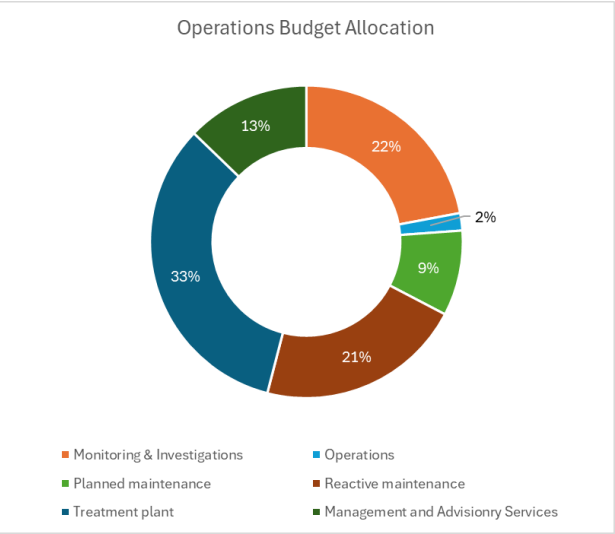
Operational and maintenance strategies address Strategic Priority 1 - Looking After Existing Infrastructure.

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 broad Operations and maintenance planning processes:



7.4.2 Operational Processes and Asset Maintenance

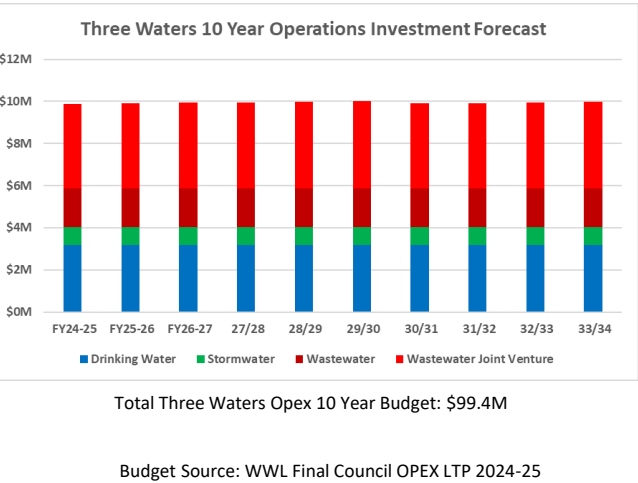
Operation and maintenance involves these two key types of activities:

- **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 both the Three Waters networks (including pipelines and pump stations) and Plants and disposal facilities (including Water Treatment Plants, Wastewater Treatment Plants and outfalls).

Operational activities also include monitoring and reporting on resource consent conditions and drinking water quality assurance rules.



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.

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

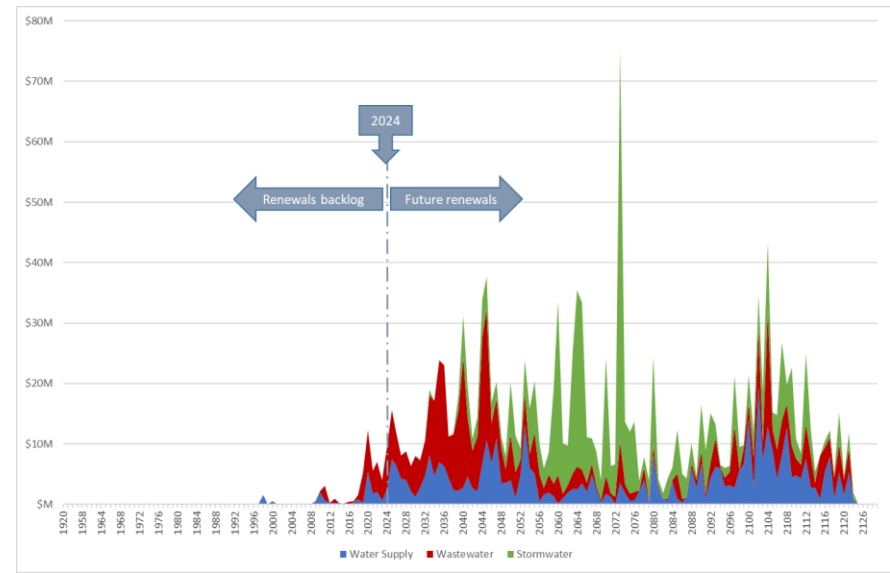
To note:

- Renewals needs are heavily dominated by pipe networks
- The recommended programme has been prioritised to achieve a balance between critical and non-critical assets

Renewal Approach

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 UHCC 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.

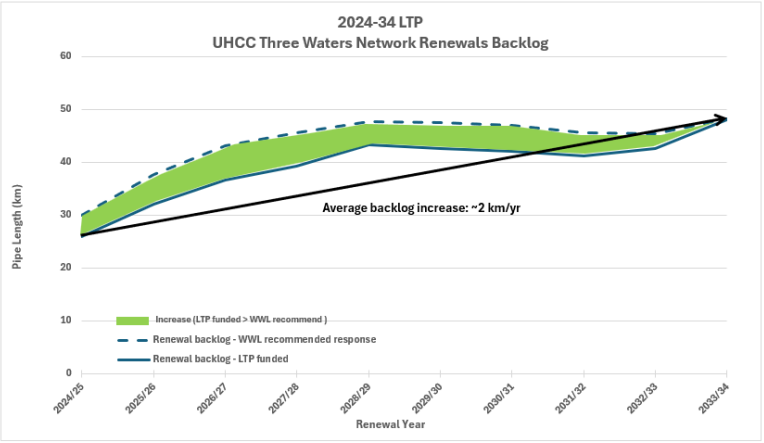
Ongoing condition assessments are used to confirm that actual work is required (condition evidence), rather than relying on theoretical aged based renewals alone.

Source : WWL Pipe Network Renewals Profiles 2024

The 3Waters network backlog and funding (kilometres of network pipe) profile are provided in the figure adjacent. While funding is higher than WWL have recommended, there is still a significant and increasing 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 UHCC.

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.

7.5.4 Renewals Investment Forecasting

Water Supply

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

Water 10 Year Renewals Investment Forecast

Fiscal Year	Investment (\$M)
FY24-25 Prog.	5.4
FY25-26 Prog.	4.0
FY26-27 Prog.	2.0
2027/28	2.8
2028/29	1.5
2029/30	6.2
2030/31	6.6
2031/32	7.0
2032/33	7.0
2033/34	7.8

Water Renewal by Asset Type

Asset Type	Percentage
Control Systems	1%
Network	97%
Pump Stations	1%
Reservoirs	1%

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

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

Wastewater

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

Wastewater 10 Year Renewals Investment Forecast

Fiscal Year	Investment (\$M)
FY24-25 Prog.	5.4
FY25-26 Prog.	2.2
FY26-27 Prog.	3.8
2027/28	1.8
2028/29	1.0
2029/30	0.9
2030/31	1.0
2031/32	1.2
2032/33	1.4
2033/34	1.6

Wastewater Renewal by Asset Type

Asset Type	Percentage
Control Systems	1%
Network	91%
Pump Stations	8%

Network renewals makes up the majority of the renewals programme followed by pump stations then control systems renewals.

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

Stormwater

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

Stormwater 10 Year Renewals Investment Forecast

Fiscal Year	Investment (\$M)
FY24-25 Prog.	5.0
FY25-26 Prog.	5.5
FY26-27 Prog.	6.0
2027/28	6.5
2028/29	7.0
2029/30	7.5
2030/31	8.0
2031/32	8.5
2032/33	9.0
2033/34	9.5

Stormwater Renewal by Asset Type

Asset Type	Percentage
Control Systems	2%
Network	90%
Pump Stations	8%

Network renewals makes up the majority of the renewals programme followed by pump stations then control systems renewals.

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

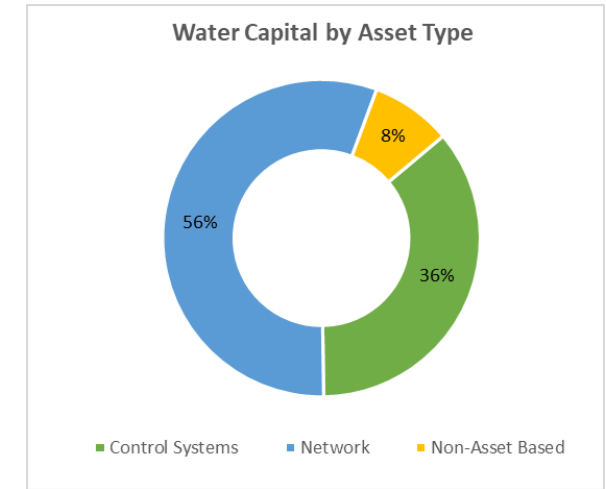
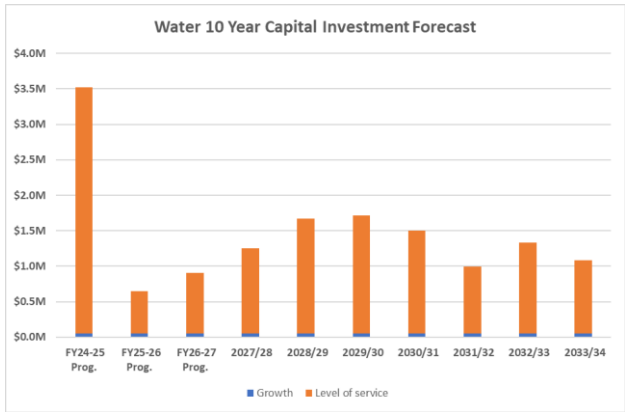
7.6 Capital Plan

7.6.1 Capital Works Drivers	7.6.2 Capital Plan Priorities
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, wastewater removal and disposal, protection of property from flooding 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 • Investigate and develop additional water sources • Investigations and master planning for water supply expansion in the district Wastewater • Resource consent review 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 consent 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 UHCC Part 3	Strategic Priority 2 - 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. The region is experiencing and forecasting high growth, which impacts Upper Hutt due to its proximity to Wellington for commuters and potential for greenfield development. Upper Hutt is expecting significant growth in the short and medium term, which puts extra pressure on Three Waters infrastructure. Some of this is already identified through the Upper Hutt District Plan, and some will be identified in future revisions. Significant investment is needed, especially in the wastewater network, to enable growth to occur. Current Upper Hutt forecasts indicate 24% population growth over the next 30 years (50th percentile, 15,300 people, approximately 4,000 new homes). Wellington Water is working on an ongoing programme of growth catchment studies to improve our understanding of where the Upper Hutt networks can accommodate further growth and where they need to be upgraded (e.g., new pipes, pump stations and reservoirs). These studies will provide direction on infrastructure needs that will be supported through tracking and documenting day-to-day maintenance. 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, UHCC’s LTP must include provisions for infrastructure to support growth. WWL will establish long term catchment plans and work with UHCC to change regional and local policies and plans (such as ensuring floor levels of houses are built above flood levels), as well as ensure service levels do not deteriorate over time as population increases (3-30 years). For example, initial work has identified additional water storage needs at Maidstone, Mangaroa/Te Marua and Pinehaven. Other proposed improvements include wastewater pipe upgrades at Pinehaven-Blue Mountains and wastewater pumping at Akatarawa. As the studies are completed and outputs determined, these will be used to inform the LTP. 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 \$13M 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.

7.6.3 Capital Investment Forecasting

Water Supply

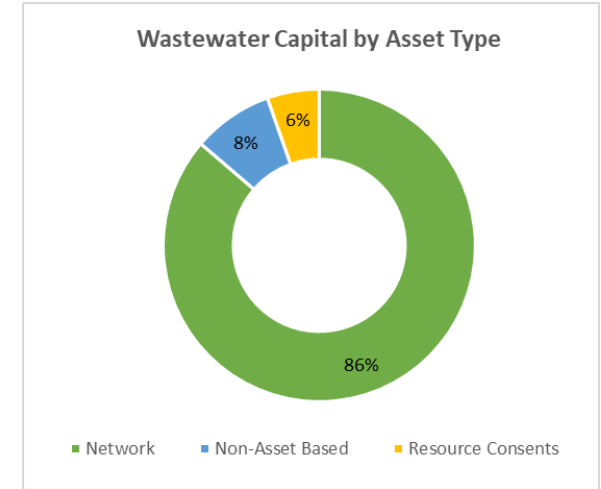
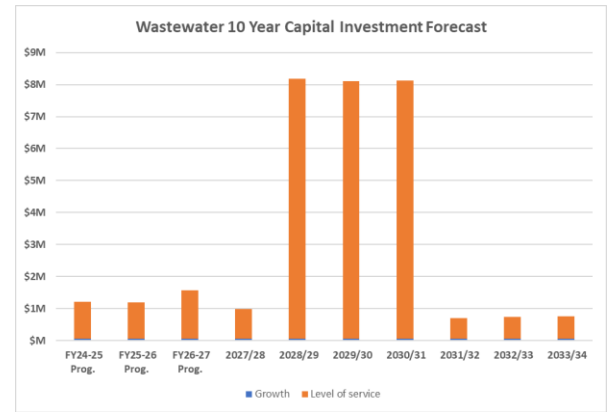
The charts below show the proposed 10 Year Water Supply capital investment forecast:



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

Wastewater

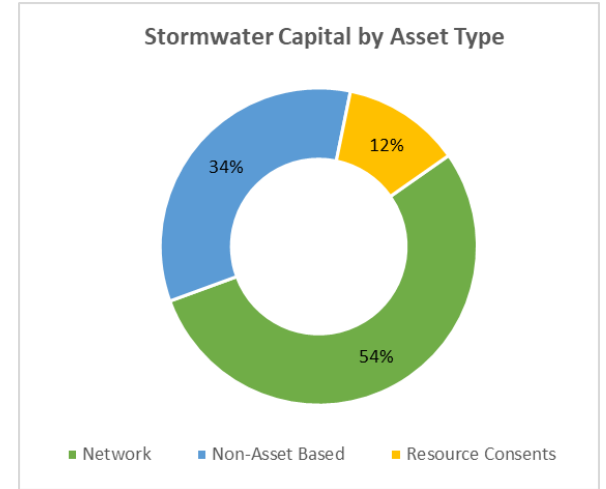
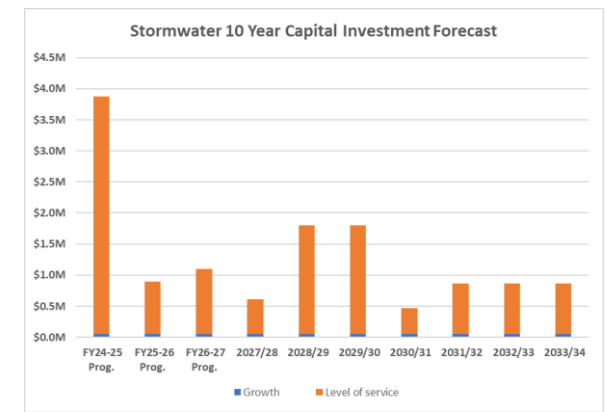
The charts below show the proposed 10 Year Wastewater capital investment forecast:



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

Stormwater

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



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

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)

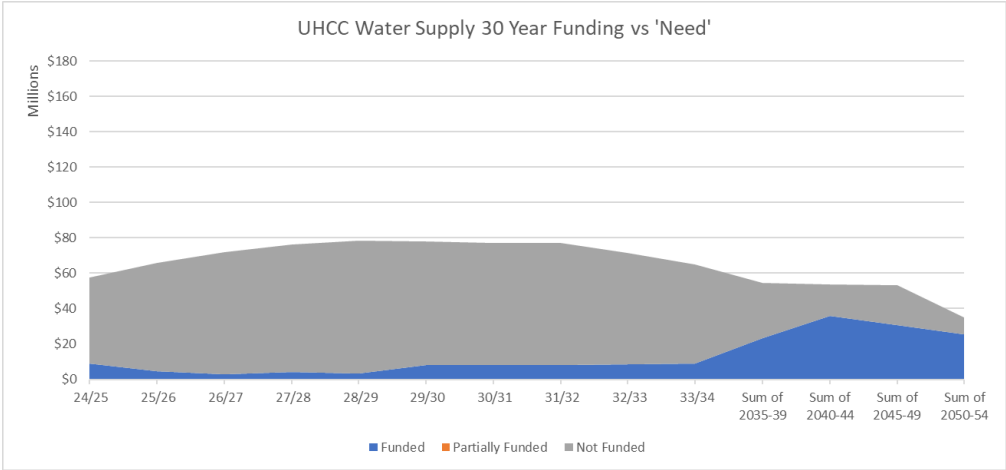
As part of the lifecycle asset management process, Council considers the costs of asset disposal in the long-term financial forecasts. These costs are generally incorporated in the capital cost of level of service increases or asset renewals. While there are assets that fit under one or more of the above 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.

8.1 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 (need) and funding ability, Prudent assessment, prioritisation and risk management practices are required to ensure that allocated funds are invested in the highest priority locations/places.

Water Supply



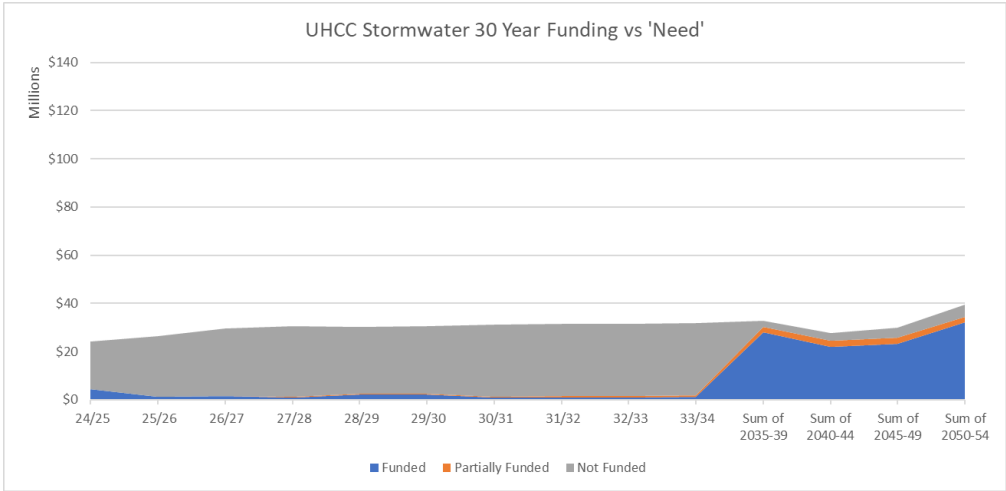
The water supply capital forecast (refer adjacent figure) covers all investment categories i.e., growth, levels of service, renewals.

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.

Stormwater



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.

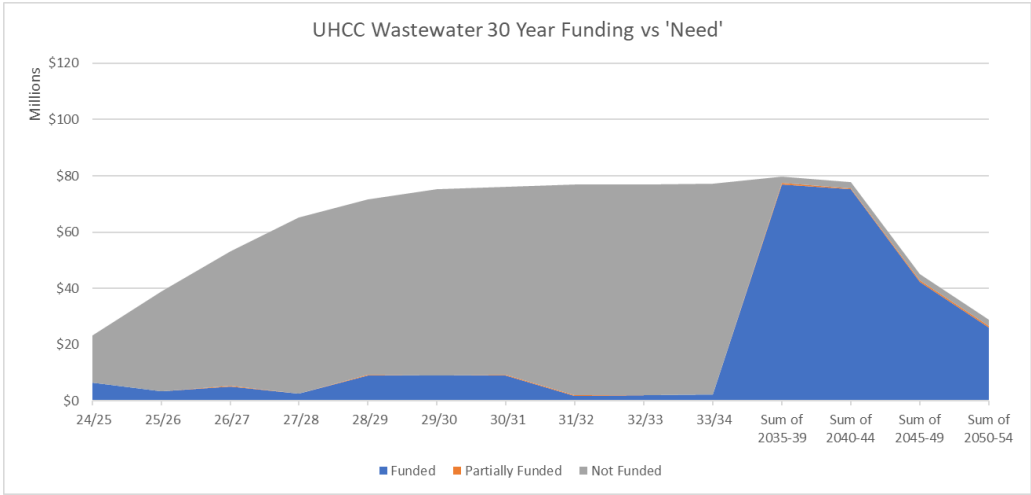
Risks to achieving Levels of Service. The gap between funded and partially funded investment and the investment 'need' maybe observed by customers through increased extent of flooding (additional to current known flood prone areas). In specific locations this may exacerbate waterway and coastal contamination 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.

8.1 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.

Wastewater



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: figure supplied by WWL.

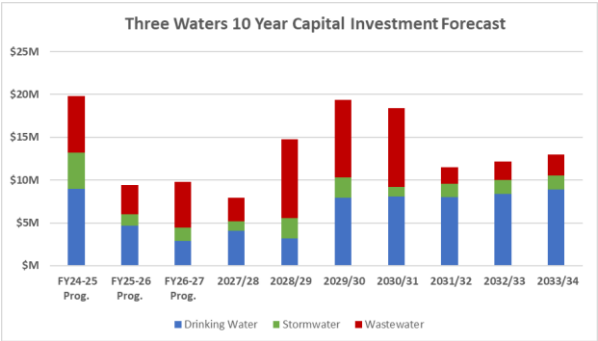
8. 10-Year Three Waters Investment Forecasts

8.2 Total 10-Year Capital Investment

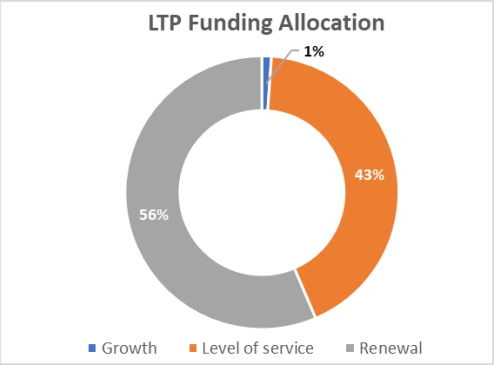
This section provides an overview of the 2024 Three Waters LTP Capital Programme investment forecast.

- Council’s total Three Waters investment forecast for 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 and related deliberations, and is summarised in the chart below:

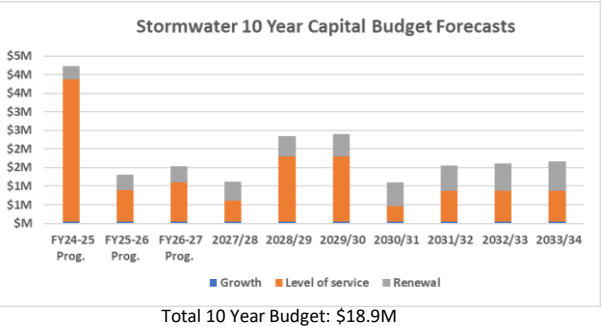
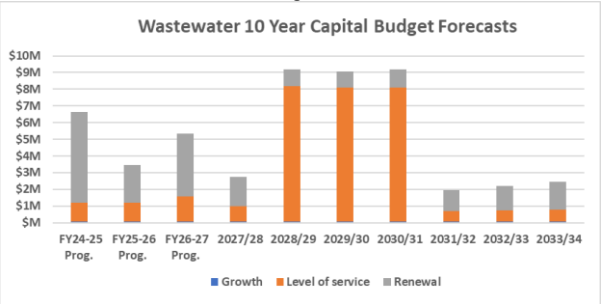
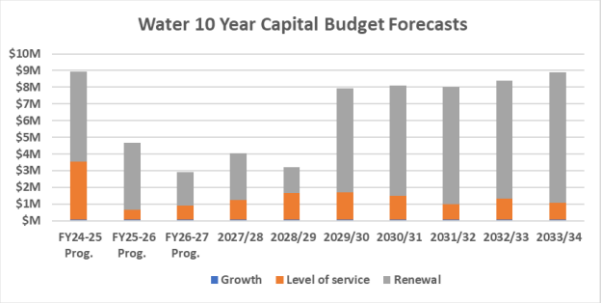


10 Year Capital Total (including renewals): \$136.1M
(excludes Council approved carryovers from FY23/24)



8.3 10-Year Capital Investment by Water Activity

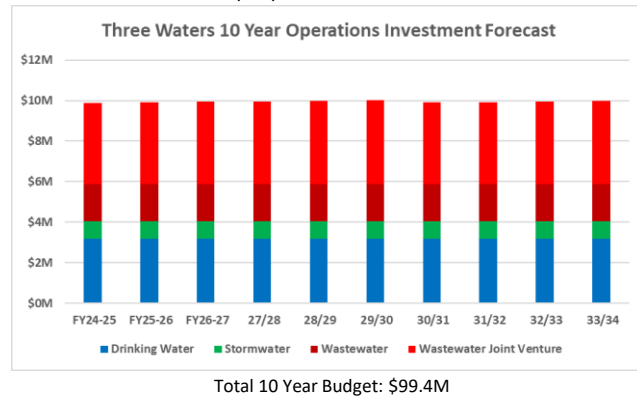
- The figures below estimate the Capital investment by water activity. The Major projects include:
- Ongoing water treatment plant upgrades to ensure water is safe to drink
 - Extending services to provide for growth and serviced areas
 - Increasing capacity and treatment quality of wastewater treatment plants
 - Renewing assets at the end of their service lives to maintain current performance



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 \$31.9M (32%) on water supply, \$59.2M (60%) on wastewater and \$8.3M (8%) on stormwater.



Budget Source: 210. 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	51,175	51,750	51,750	50,000	50,000	50,000	50,000	50,000	50,000	50,000	504,675
UHCC Reactive Growth Development Projects - Drinking Water	51,175	51,750	51,750	50,000	50,000	50,000	50,000	50,000	50,000	50,000	504,675
⊟ Level of service	3,474,757	596,626	854,039	1,203,000	1,625,000	1,663,000	1,452,000	943,000	1,287,000	1,032,000	14,130,421
(SWS) UHCC PW Pressure Management	-	516,426	776,989	828,000	800,000	800,000	550,000				4,271,415
Install Bypass smart flow meter on all fire connections (support unallocated water usage)	-	-	-		750,000	788,000	827,000	868,000	912,000	957,000	5,102,000
Totara Park Rd WS Bridge Pipework Seismic Strengthening	2,712,249	3,150	-								2,715,399
UHCC Capital Carbon Modelling - Drinking Water	10,235	10,350	10,350	10,000	10,000	10,000	10,000	10,000	10,000	10,000	100,935
UHCC Drinking Water Network Modelling	51,175	51,175	51,175	350,000	50,000	50,000	50,000	50,000	350,000	50,000	1,103,525
UHCC Management of Fire Hydrant Use	685,745	-	-								685,745
UHCC New Smart Services - Drinking Water	15,353	15,525	15,525	15,000	15,000	15,000	15,000	15,000	15,000	15,000	151,403
⊟ Renewal	5,411,363	4,027,284	1,996,662	2,807,565	1,520,835	6,225,536	6,596,463	7,016,568	7,050,310	7,800,556	50,453,141
Bristol St Watermain Renewal	-	1,838,500	-								1,838,500
Chatsworth Road (Whitemans Rd to 58) Watermain Renewals	4,139,875	3,409	2,586								4,145,871
UHCC District Meter Area Renewals	89,094	22,514	69,585	30,125	69,669	30,216	69,679	30,652	3,194		414,728
UHCC DW Control Systems Renewals	30,705	31,050	31,050	30,000	50,000	30,000	30,000	30,000	30,000	50,000	342,805
UHCC Pipe Network Planned Renewals - Drinking Water	184,230	1,605,440	1,375,195	2,085,040	547,086	5,497,120	5,737,944	6,278,916	6,487,116	7,209,556	37,007,643
UHCC Pipe Network Reactive Renewals - Drinking Water	307,050	318,780	318,780	466,000	466,000	466,000	466,000	466,000	308,000	308,000	3,890,610
UHCC Pressure Reducing Valve (PRV/PCV) Renewals	153,525	163,530	170,775	174,000	182,000	191,000	201,000	211,000	222,000	233,000	1,901,830
UHCC VHCA Reservoir Water Quality Renewals	307,050	-	-								307,050
UHCC Water Pump Stations Renewals	199,834	44,060	28,690	22,400	206,080	11,200	91,840				604,104
Grand Total	8,937,294	4,675,659	2,902,451	4,060,565	3,195,835	7,938,536	8,098,463	8,009,568	8,387,310	8,882,556	65,088,237

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

8.5 10-Year Three Waters Capital Programme Forecast (cont.)

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	51,175	51,750	51,750	50,000	50,000	50,000	50,000	50,000	50,000	50,000	504,675
UHCC Reactive Growth Development Projects - Wastewater	51,175	51,750	51,750	50,000	50,000	50,000	50,000	50,000	50,000	50,000	504,675
Level of service	1,156,555	1,136,460	1,514,205	930,000	8,129,000	8,048,000	8,069,000	660,000	683,000	706,000	31,032,220
NDP: Resource consent for dry weather overflows	307,050	310,500	310,500								928,050
NDP: Resource consent for wet weather overflows	255,875	258,750	258,750								773,375
NDP: ww overflows universal measures	102,350	103,500	103,500	100,000	100,000	100,000	100,000	100,000	100,000	100,000	1,009,350
NDP: WWNO subcatchment reduction plan - Hulls Creek	-	-	155,250	150,000	7,430,000	7,430,000	7,430,000				22,595,250
UHCC Capital Carbon Modelling - Wastewater	10,235	10,350	10,350	10,000	10,000	10,000	10,000	10,000	10,000	10,000	100,935
UHCC Wastewater Network Modelling	102,350	103,500	310,500	300,000	200,000	100,000	100,000	100,000	100,000	100,000	1,516,350
UHCC WW Drainage Investigations Water Quality Renewals	378,695	349,860	365,355	370,000	389,000	408,000	429,000	450,000	473,000	496,000	4,108,910
Renewal	5,445,016	2,252,910	3,778,559	1,765,094	1,013,610	947,106	1,067,395	1,240,686	1,460,811	1,692,739	20,663,927
Cole Grove WW Renewal	-	1,552,500	-								1,552,500
Logan St Wastewater Renewal	4,605,750	-	-								4,605,750
UHCC Pipe Network Planned Renewals - Wastewater	-	225,221	3,294,013	1,109,934	493,010	420,866	505,035	606,046	727,251	872,699	8,254,076
UHCC Pipe Network Reactive Renewals - Wastewater	358,225	380,880	399,510	405,000	425,000	447,000	469,000	492,000	517,000	543,000	4,436,615
UHCC WW Control Systems Renewals	30,705	15,525	15,525	15,000	15,000	30,000	15,000	15,000	15,000	15,000	181,755
UHCC WW Pump Stations Renewals	450,336	78,784	69,511	235,160	80,600	49,240	78,360	127,640	201,560	262,040	1,633,231
Grand Total	6,652,746	3,441,120	5,344,514	2,745,094	9,192,610	9,045,106	9,186,395	1,950,686	2,193,811	2,448,739	52,200,822

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

8.5 10-Year Three Waters Capital Programme Forecast (cont.)

8.5.3 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	51,175	51,750	51,750	50,000	50,000	50,000	50,000	50,000	50,000	50,000	504,675
UHCC Reactive Growth Development Projects - Stormwater	51,175	51,750	51,750	50,000	50,000	50,000	50,000	50,000	50,000	50,000	504,675
Level of service	3,826,065	843,525	1,045,350	560,000	1,750,000	1,750,000	420,000	820,000	820,000	820,000	12,654,940
NDP: Resource consent for stormwater discharges	511,750	517,500	517,500								1,546,750
NDP: SMS workstream 1 implementation for water quality (modelling)	-	77,625	155,250	200,000	200,000	200,000	200,000	600,000	600,000	600,000	2,832,875
NDP: SW Subcatchment Asset Management Plan - Hulls Creek	-	-	144,900	140,000	1,330,000	1,330,000					2,944,900
Pinehaven Stream Phase 3	2,470,000	-	-								2,470,000
Pinehaven Stream Upgrade Willow Park Phase 2	598,675	-	-								598,675
UHCC Capital Carbon Modelling - Stormwater	10,235	10,350	10,350	10,000	10,000	10,000	10,000	10,000	10,000	10,000	100,935
UHCC Global consent for operations and maintenance works in streams	20,470	20,700	-								41,170
UHCC Stormwater Network Modelling	153,525	155,250	155,250	150,000	150,000	150,000	150,000	150,000	150,000	150,000	1,514,025
UHCC SW Drainage Improvement Projects	61,410	62,100	62,100	60,000	60,000	60,000	60,000	60,000	60,000	60,000	605,610
Renewal	354,350	410,255	434,430	505,530	543,530	600,530	631,530	682,530	738,530	799,530	5,700,744
UHCC Pipe Network Planned Renewals - Stormwater	-	-	-	-	-	-	-	-	-	-	-
UHCC Pipe Network Reactive Renewals - Stormwater	287,219	351,746	375,921	449,000	487,000	529,000	575,000	626,000	682,000	743,000	5,105,886
UHCC SW Control systems Renewals	25,588	10,350	10,350	10,000	10,000	25,000	10,000	10,000	10,000	10,000	131,288
UHCC SW Pump Stations Renewals	41,544	48,159	48,159	46,530	46,530	46,530	46,530	46,530	46,530	46,530	463,571
Grand Total	4,231,590	1,305,530	1,531,530	1,115,530	2,343,530	2,400,530	1,101,530	1,552,530	1,608,530	1,669,530	18,860,359

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

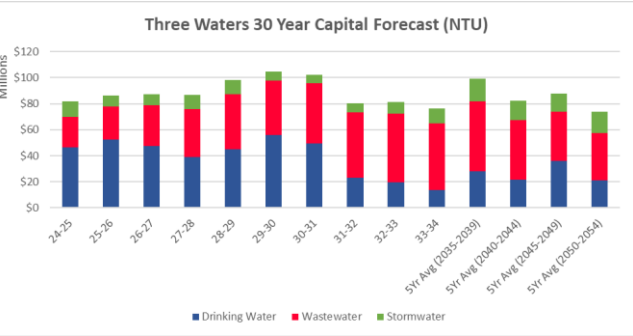
9. 30-Year Three waters investment forecasts

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

9.1 Total 30-Year capital investment

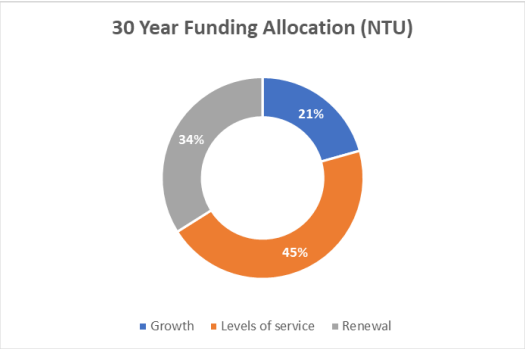
This section provides an overview of the uninflated 30-Year capital investment forecast. It is based on the data submitted to the National Transition Unit (NTU Entity C) in June/July 2023 as part of 30-year capital investment requirements. Taking an unconstrained funding approach, it covers all assets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

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



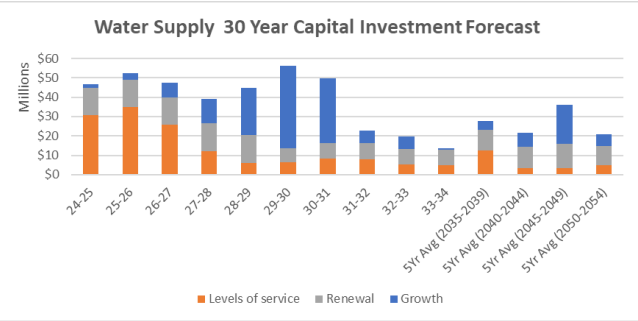
- The NTU’s 30 Year total capital investment (including renewals) is projected to be \$1.23 Billion.
- Capital investment is spread across:
- Renewals - to replace existing assets at the end of design life
 - Additional Capacity - to provide for growth
 - Levels of Service - improvement to meet standards and regulations

The distribution is provided in the figure below.

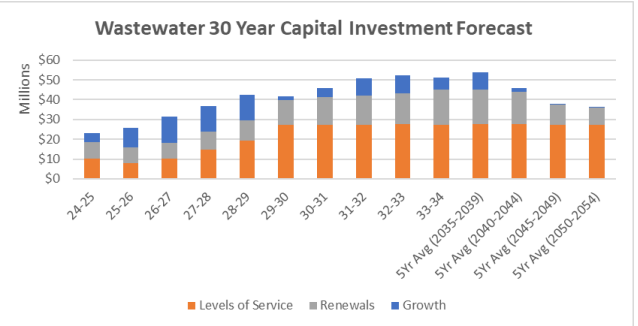


9.2 30-Year capital investment by water activity

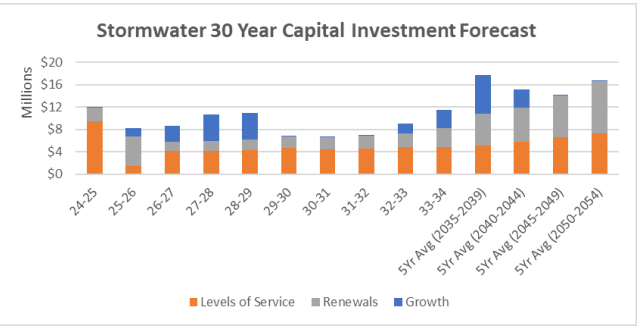
The water supply 30 Year capital forecast (total) is: \$0.5 B – see figure below.



The wastewater 30 Year capital forecast (total) is: \$0.57 B – see figure below.

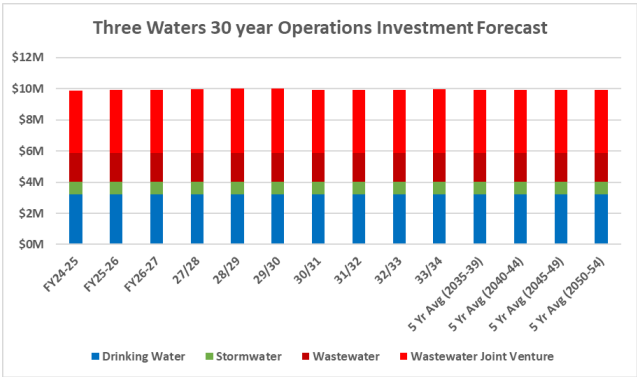


The stormwater 30 Year capital forecast (total) is: \$0.16 B – see figure below.



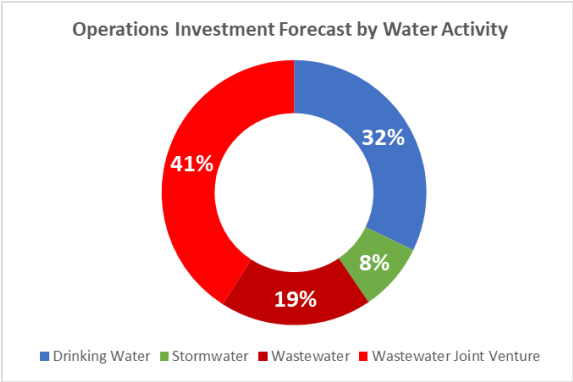
9.3 Total 30-Year operational investment

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



Total 30 Year Budget: \$298.2M

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 \$95.8M (32%) on water supply, \$177.5M (60%) on wastewater and \$24.9M (8%) on stormwater.

Budget Source: WWL Final Council OPEX LTP 2024-25

10. Continual asset management improvement

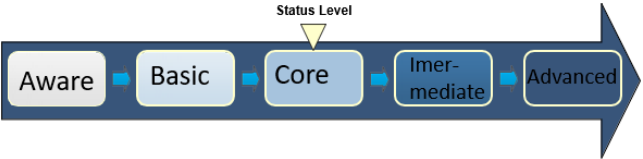
10.1 Asset Management Maturity

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.

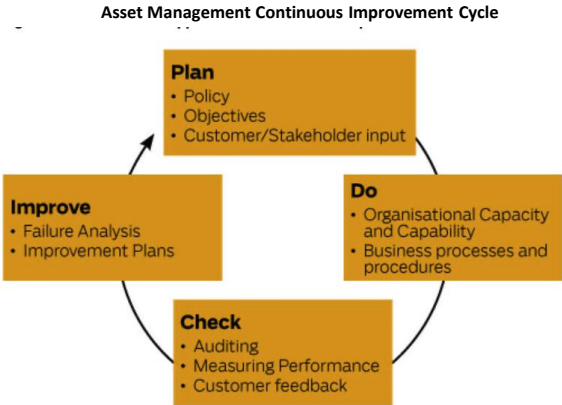
Asset Management practice is being developed in keeping with the NAMS guidelines as presented in their suite of asset management publications including the 2015 IIMM. Council is committed to delivering the most appropriate levels of service balanced with affordability and good industry practice.

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.