KAWERAU DISTRICT COUNCIL

Asset Management Plan 2025

Water Supply

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Version History

Version	Date	Notes	Author
2015	2015	Final version: AMP - 2015	Tom McDowall
1a	31/01/2018	First revision for 2018	Hanno vd Merwe
1b	5/02/2018	Review: Technical support officer	Tina Mitchell
1c	19/02/2018	Update after MOS review	Hanno vd Merwe
1d	20/02/2018	External review	Kelvin Hill (Western Bay DC)
2	20/03/2018	Submission to Council	Hanno vd Merwe
2a	29/03/2021	First revision for 2021	Tina Mitchell
2b	13/04/2021	2nd Revision for 2021	Riaan Nel
2c	14/04/2021	Management review	Hanno van der Merwe
2d	20/07/2021	Post Audit Review amendments	Tina Mitchell
3	1/08/2021	Submission to Council	Hanno vd Merwe
3a	28/04/2024	First Revision for 2024	Hanno vd Merwe
4	18/03/2025	Revision following audit review	Peter Christophers
4a	26/03/2025	Confirmation of AMP	Riaan Nell
4b	7/4/2025	A & R Committee review	

SECTION ONE
Executive Summary

PURPOSE OF THE PLAN

The overall purpose of this Asset Management Plan is to describe Council's strategies for the management of its water supply assets. The Plan enables Council to meet the present and expected future needs of the Community over a ten-year period (according to the 10 year Long Term Plan) and into the future (according to the 30 year Infrastructure Strategy).

The Plan details the assets Council owns and describes how the maintenance, renewal and replacement of these assets will be managed and funded to meet required levels of service for Council's Water Supply Activity in the most cost effective way for households and businesses.

The Asset Management Plan collates high-level management, financial, engineering and technical information from various sources and into a single document. It is a tool for communicating complex asset management information and strategies with stakeholders and interested parties.

An independent auditor evaluated the level of provision of asset management for the water supply asset in 2017. The appropriate level was recommended to be raised from the Council's asset management policy of "Core" to "Intermediate" due to the higher risk to the health and well-being of the community in the event of water supply assets failing to deliver an appropriate level of service.

The previous assessment of the asset management level and the level required for "Intermediate" showed a gap of 11 percent overall for water supply. Asset management improvement actions were identified in 2021 and completed by 2024 to close this gap. The remaining and newly identified improvement actions are discussed in Section 0.

ASSET DESCRIPTION

The Kawerau District water supply network comprises springs, pumps, reservoirs and pipes. It distributes potable (drinkable) water to around 2,700 households, 5 large industrial plants and approximately 160 businesses.

Kawerau's water is sourced from a borefield and two springs. From source, the water is treated in an ultraviolet (UV) treatment plant, neutralised, chlorinated and fluoridated (from 1 September 2024), and then pumped to three reservoirs, from where it is delivered to consumers by gravity. Large water users have metered supplies.

The table below summarises the key components of the system.

Key components

Population served	7,820
Number of properties connected	2,910
Length of reticulation (kms) incl Riser/Grav mains	80
Number of pumping stations	2
Number of treatment plants	1
Number of water sources	3

Resource consents are held from Bay of Plenty Regional Council (BOPRC) for the extraction of all natural water that is used for public supply. These stipulate the amount of water that is allowed to be taken and a maximum extraction rate.

The replacement costs and depreciated values of the water supply asset as at 30 June 2022 are shown below:

Replacement and depreciated values

Asset Type	Gross Replacement	Depreciated Replacement
Supply & treatment	$2,173,980	$1,035,900
Storage	$13,730,980	$4,023,950
Distribution	$19,574,450	$8,036,080
TOTAL	**$35,479,410**	**$13,095,930**

LEVELS OF SERVICE

Customer levels of service

Council monitors and reports its actual performance against measures and targets contained in the Long Term Plan.

Council targets include community satisfaction, number of complaints, the consumption requests and time taken to respond as well as number of supply disruptions. The community survey in 2023 (undertaken by SIL Research) reported 40% resident satisfaction with the water supply service, which is below the national average (73%). The low community satisfaction was caused by discoloured water in the supply network. This issue has been resolved.

The reasons provided by the 40% 'Not Very Satisfied' respondents being:

- Poor quality/brown/dirty (23%)
- Too many chemicals/chlorine (8%)
- Undrinkable/buy bottled water (7%)
- Bad taste/smells (5%)

Technical levels of service

Council meets DWSNZ guidelines and monitors and reports its actual performance against the measures and targets described in the Long Term Plan. Water quality is monitored.

Council commissioned an ultraviolet (UV) treatment plant in 2007; chlorine was added to the supply in 2018 in response to Councils assessment of health risks associated with the supply of water without residual disinfection. Fluoride has been added to the water supply from 1 September 2024.

Constraints to levels of service

Constraints can arise because of capacity, reliability and security of supply, environmental performance and issues relating to the water sources, treatment, storage and reticulation. These are described fully in section 0 of the Plan.

Resource consents

Council holds one resource consent from the BOP Regional Council for the provision of a town water supply from the three bores located at Tarawera Park. An application for a combined consent to take water from the two springs as well as from the borefield was submitted in 2024.

Significant adverse effects

By providing either, an inadequate supply of water, or water of poor quality that does not meet required standards under the 2008 NZ Drinking Water Standards could have negative effects to community social and economic wellbeing.

FUTURE NEEDS

Kawerau's water supply network is generally adequate for current demand and has excess capacity that would enable it to cope with any reasonable increased demand.

The Kawerau District has experienced low general population growth in demand for additional services however has continued to experience a consistent increase in residents over the age of 65. In the 2013 census, the total population of the Kawerau District was 6,363, a decrease of 8.1% or 561 people since the 2006 census. Despite the predicted further decline, the 2018 census showed a growth of general population to 7,460. The Kawerau district estimated population according to the 2023 census is 7,820 which represented a 4.8% increase in population since 2018 or around 1% population growth per annum.

Council hopes to bolster these gains with economic development initiatives, such as the development of a new industrial park and promotion of the natural environment.

The life cycle of water supply reticulation components have been assessed as having lives between 60 to 80 years based on sampling of pipes and breakages. An assessment in 2020 of the degradation rate for pipes in Kawerau shows a slightly faster degradation than the national averages. This is primarily due to historically high acidity of water. Significant replacement of AC-pipes started in 2021 and will continue until 2029.

LIFE CYCLE MANAGEMENT

Critical assets

Borefield

There are three bores in the Tarawera Park. They are owned by Council.

Springs

There are two springs (Umukaraka/Holland and Pumphouse), which are natural resources. Umukaraka/Holland Spring is in private ownership and Pumphouse Spring is owned by Council.

Pumps

There are five pumps in total, whose use varies according to seasonal demand.

Water Treatment Equipment

Used for pH correction, UV treatment, chlorination and fluoridation.

Reservoirs

Water is stored in three concrete reservoirs. Two reservoirs are located at the Monika Lanham reserve. The third reservoir is located on a Council owned parcel of land at the top of Beattie Road.

Pipes

Pipes are used to transport water from the sources to the Pumphouse, from Pumphouse to reservoirs and from reservoirs to properties.

Other Assets

Other assets are: the Beattie road pump station, telemetry systems, valves, fire hydrants, service connections, meters, backflow preventers and the Pumphouse treatment plant with UV, lime and chlorine/fluoride buildings.

New assets

Water supply capacity in the existing residential network is anticipated to be static for the duration of the planning period. The reticulation system was extended by approximately 2 kilometres in 2018 to service the new industrial subdivision located to the north/east of town on the Putauaki block. Additional lines and points were installed to service the two new residential subdivisions at Porritt Glade and Central Cove.

Maintenance activities

Maintenance activities include daily checks of the springs, pumps, telemetry system, pipes and lime-dosing tank at the UV treatment plant. The tops of the reservoirs are inspected, back flow preventers checked, buildings inspected and network pipes are

flushed annually. Preventative maintenance is carried out on the valves, service connections and water meters. In addition, repairs are undertaken as faults are reported. The NZ Fire Service undertakes regular flow tests of fire hydrants.

Renewal/Replacement

Except for Kawerau's town centre zone, which is an area of geothermal activity, pipes are deteriorating slightly faster National Asset Management Steering Group (NAMS) guidelines.

Council's objective is to maximise asset life without compromising service. Replacement decisions are based on the condition, reliability and maintenance cost and risk profile of an asset as well as its age.

The network was previously divided into six zones. These zones have now been subdivided into smaller zones for the purposes of a prioritised replacement programme developed to replace pipes installed prior to 1996 by 2029.

Deferred Maintenance and Disposal Plan

Council policy is to avoid any deferred maintenance and currently there is no known deferred maintenance for the water supply network. Similarly, there are no specific disposals identified in the Plan.

FINANCIAL SUMMARY

As noted above, Kawerau's water supply reticulation asset maintains adequate capacity for the current and foreseen population and industrial needs.

The funding for water supply replacement is collected through rates. Any funding collected in excess of the actual replacement has been held in a depreciation reserve. Council has since used the reserve and is raising loans to fund the pipe replacement programme.

ASSET MANAGEMENT SYSTEMS AND PROCESSES

Asset management outcomes

Responsibility for asset management outcomes lies with the Manager, Operations and Services.

Accounting and asset management systems

Ozone software is used for accounting and billing. AssetFinda software is used for asset inventory reports, asset information (location, installation date, materials' construction etc.). Council in-house accounting systems are used to recalculate revised depreciation values, and annual depreciation.

Hard copy plans contain layout details of the structures and all known pipes comprising the water supply network. Over time, these will become obsolete as new information is held on AssetFinda.

Key information flows and processes

Key information flows and process linkages are those that relate to the incorporation of Kawerau's Community Outcomes, the preparation and adherence to Council's annual budgets, environmental monitoring and compliance and to ongoing asset management that maintains levels of service to the community.

MONITORING AND IMPROVEMENT PLANNING

Improvement items are outlined in section 0 of the Plan. Key improvement activities centre on continuing to increase the accuracy of Council's information relating to the water supply assets.

The Group Manager Operations and Services will monitor and review improvement items on a six monthly basis. The improvement plan will be reviewed each year as part of the annual plan development process.

SECTION TWO
Introduction

PURPOSE OF THE PLAN

The overall purpose of this Asset Management Plan is to describe Council's strategies for the management of its water supply assets. The Plan enables Council to meet the present and expected future needs of the Community over a ten-year period (according to the 10 year Long Term Plan) and into the future (according to the 30 year Infrastructure Strategy).

The plan details the assets Council owns and describes how the maintenance, renewal and replacement of these assets will be managed and funded to meet required levels of service for Council's water supply activity in the most cost effective way.

The asset management plan collects high-level management, financial, engineering and technical information from various sources and combines these into a single document. It is a tool for communicating complex asset management information and strategies with stakeholders and interested parties.

ASSET DESCRIPTION

The Kawerau District has one water supply network, to which 2,910 properties are connected. The network comprises springs, pumps, treatment, reservoirs and pipes. It distributes potable (drinkable) water to over 2,730 households, 4 large industrial plants and approximately 175 businesses. The network serves a resident population of 7,820 people (as recorded in the 2023 Census).

Kawerau's water is principally sourced from the Tarawera borefield and two springs: Umukaraka/Holland Spring located on the Tarawera Falls Road and the Pumphouse Spring on River Road. Water is pumped to three reservoirs, two on Monika Lanham Reserve and the third above Beattie Road.

The water supply network is split into two pressure zones. Water is then delivered to consumers by gravity. The Beattie Road reservoir supplies properties situated in the upper Valley Road area. The Monika Lanham reservoir supplies the balance of the town. Large users of water have metered supplies.

Council holds one resource consent from the BOP Regional Council for the provision of a town water supply from the three bores located at Tarawera Park. An application for a combined consent to take water from the two springs as well as from the borefield was submitted in 2024. **These stipulate the amount of water that is allowed to be taken and a maximum extraction rate.**

The key components of the supply network is listed in **Table 26** below:

Table 26: Key components

Population served	7,820
Number of properties connected	2,910
Length of reticulation (kms) – includes Grav/Riser mains	80
Number of pumping stations	2
Number of treatment plants	1
Number of water sources	3

OBJECTIVES OF ASSET OWNERSHIP

The goal of the Water Supply activity is to provide a quality water supply in sufficient quantities to meet the social, cultural, economic and environmental requirements of our community..

Council has a number of legislative responsibilities relating to the supply of water. One is the duty under the Health Act 1956 to improve, promote, and protect public health within the District. This implies that, in the case of the provision of potable water, Council has an obligation to identify where such a service is required and to provide it.

The activity involves:

Management of water supply assets and monitoring water quality.

Repairing or replacing unsound pipes, structures and plant.

Planning to meet future requirements and improving operations.

Council's principal objectives are:

- To ensure that the water supply network continues to provide a high quality water treatment and distribution service.
- To anticipate a time when it may be necessary to extend, upgrade or renew the existing water supply scheme, and to plan accordingly.
- To ensure the appropriate maintenance of the water supply network in perpetuity, to maintain its value, and to forecast the estimated future cost of maintenance.
- To put in place a sound management regime for all matters relating to the supply of potable water.

CONTRIBUTION TO COMMUNITY OUTCOMES

The Council Community outcomes to which the water supply activity primarily contributes are set out in **Table 27** below:

Table 27: Contribution to Community Outcomes

Contribution	Outcome
Provision of quality water; Maintenance of the water supply system.	Council infrastructure and services are accessible, age-friendly, effective, efficient and affordable, now and for the future.
Monitoring and compliance with drinking water standards and resource consents	Council regulates monitors and acts to protect public health and safety, to prevent harm and nuisance and to improve standards in Kawerau's home, commercial and public environments.

LINKS TO OTHER STRATEGIC DOCUMENTS

Public infrastructure supports activity that contributes toward the economic, social, cultural and environmental wellbeings of the community. In addition to water supply infrastructure, Council owns the stormwater and wastewater (sewerage) systems, the district's roads and footpaths, and its public parks, reserves, buildings and facilities. The parts that make up those networks and structures and the tools and equipment used to manage and maintain them, are Council's assets.

Council's four critical assets groups, Roading, Stormwater, Water Supply and Wastewater, 30 year planning is described in the Infrastructure Strategy.

Every three years Council develops a Long Term Plan which sets out the range and level of services it will provide to meet identified Community needs and community outcomes and indicates anticipated expenditure on assets for the next 10 years.

In the intervening years, Council adopts an Annual Plan, which contains the annual budget for Council services. Council's ability to deliver services and to do so at a reasonable cost depends on the condition, performance and risk profile of its assets.

In this way, Council's asset management planning is closely linked to its Infrastructure Strategy, Annual Plan and Long Term Plan.

This Asset Management Plan was developed in conjunction with the Kawerau District Council Long Term Plan 2025-2034. It will underpin and be integrated into the Long Term Plan, and subsequent Annual Plans.

SECTION THREE
Levels of Service

CUSTOMER LEVELS OF SERVICE

The National Research Bureau undertakes an independent survey to measure the level of customer satisfaction with the services provided by Council. The results of these surveys for the Water Supply Activity are shown below. The NRB Survey Results for 2023 is not currently available. Council's own survey in 2023 achieved a 40% Very/Fairly Satisfied result. This low result is primarily due to brown water in the water supply due to elevated manganese and iron content of the Pumphouse Spring. This issue has been resolved.

Table 28: NRB Survey Results – Water Supply

%	2008	2009	2011	2014	2017	2020	2023
Very/Fairly Satisfied	96	97	99	96	96	73	40
Not very Satisfied	4	3	1	3	4	26	60
Don't Know	-	-	-	1	0	0	0

Table 29: NRB Survey Results – Reasons Residents were not very satisfied

	2008	2009	2011	2014	2017	2020	2023
Poor quality of water/ contaminated	2	2	-	-	2	29	
Chlorine content	1	-	-	-	-	14	
Low pressure	2	2	1	2	1	0	
Having to pay for metered Water	-	-	-	1	0	0	
Bad taste	-	-	-	2	1	6	
Pipes need replacing	-	-	-	-	-	4	
Poor communication	-	-	-	-	-	2	
Water needs filtering	-	-	-	-	-	6	
Water restrictions	-	-	-	-	-	4	

TECHNICAL LEVELS OF SERVICE

Council will continue to monitor and report its actual performance against measures and targets described in the LTP. All reporting is done through quarterly reports to the Council by the Group Manager, Operations and Services.

Table 30: Technical Levels of Service (LOS)

LOS	Performance Measure
Provision of a quality water supply	>89% Community satisfaction (measured 3 yearly)
The total number of complaints received	Complaints per 1000 connections for each criteria: • Clarity - No more than 4 • Taste – No more than 2 • Odour – No more than 1 • Low Pressure – No more than 2 • Continuity of supply – No more than 2 • Council's response – Nil allowable
Safety of drinking water	Compliance with part 4 and 5 of the 2008 drinking-water standards.
Water supply and losses	Consumption <0.6 m^3 per resident per day and less than 200 litres/connection/day loss

Callout and fault response times	• Urgent call outs: 2 hrs attendance with 8 hrs resolution • Non-urgent call outs: 24 hrs attendance and 48 hrs resolution
Reliability of supply	Unplanned shutdowns: • Reticulation – No more than 12 • Pump stations – None • Water main breaks – No more than 8
Minimal environmental effects	Maintain compliance with resource consents conditions

WATER QUALITY

Water quality is ensured through the Kawerau Water Safety Plan. Drinking water supply is assessed against DWSNZ 2005(Revised 2018) and the Taumata Arowai rules. Compliance criteria 1 is for bacterial compliance criteria for water leaving the treatment plant, and criteria 6(a) is for bacterial compliance in the distribution network.

A "log 3 credit" requirement for the Kawerau UV treatment plant fed from the Tarawera Bores, Umukaraka/Holland springs source and the Pumphouse Spring source was confirmed in the 2017 by the drinking water assessor.

The P2 determinant for arsenic and cadmium were removed in 2017 and currently only lead levels is monitored.

CONSTRAINTS TO LEVELS OF SERVICE

The constraints that impact water supply network levels of service are shown in the table below.

Table 31: Constraints to Levels of Service

Constraint	Component	Comments
Capacity	Resource Consents	The maximum daily consent allowance is 12,000 m^3 per day If additional water is required, a new resource consent will need to be obtained.
	Treatment Chemical Storage	If additional water volume were required, more frequent delivery of chemicals would be required. There are no issues for current demand projections.
	Rising mains	There are no issues for current projected demand. Significant increase in water use would result in pressure drops and ultimately pipe replacement with increased capacity.
	Reservoirs	The design capacity complies with DWSNZ's 24 hours' demand storage. The capacity of reservoirs is 11,250m^3 and average daily use is currently 4110 m^3 day.
	Reticulation - normal demand	If pipe diameters are insufficient, low-pressure results. There are no low-pressure zones in the reticulation.

Constraint	Component	Comments
Reliability and Security of Supply	Sources	The main sources are from bores and springs; therefore supply from the source is unlikely to fail except during a major disruption such as seismic activity
	Treatment Plant Pumps	The treatment plant has two UV units and chlorine dosing equipment. One UV unit can treat sufficient water to meet winter and essential summer demands. There are three pumps, which supply sufficient volume to meet unrestricted community demand almost all year round. During midsummer, Council may request some restraint. A generator can be connected to pumps and the UV plant within eight hours in the event of a significant power outage.

Constraint	Component	Comments
	Rising Mains	Failure of the new 450mm Polyethylene rising main means a standby 375mm steel rising main will be used.
	Reservoirs	Failure of one of the two Monika Lanham reservoirs would reduce the storage capacity of the network by 20% - 40%. Failure of the Beattie Road reservoir means the residents in the Valley Road area would have less pressure. In addition, the storage capacity of the network would be reduced by 40%.
	Reticulation	The water supply network is typically a grid arrangement following the road layout; therefore, most consumer connections can be fed from two directions.
Environmental Performance		There are no known restraints on the water supply activity because of environmental limits.
Other Capabilities	Sources	The spring areas are fenced and head works are covered to minimise the likelihood of contamination. Treatment is undertaken to eliminate the impact of any contamination.
	Treatment	UV treatment and chlorination is critical to providing quality drinking water. The standby UV plant should eliminate instances where water is untreated.
	Reservoirs	The Beattie Road reservoir is slightly larger than required during periods of low water use. This can increase the risk of bacterial growth. This is reduced by dropping the level in the reservoir periodically during winter. Reservoirs that are not water and animal proof may allow contaminants to enter the water.
	Reticulation	Asbestos cement pipes have aged faster than expected and may fail during their expected life times. All asbestos cement pipes are being replaced in next 3 years.

RESOURCE CONSENTS

Council's current resource consent(s) are shown in the table below.

Table 32: Resource Consents

Consent No.	Source	Purpose	Daily volume able to be taken or discharged (m^3)	Expiry Date
20329	Tarawera Borefield, Cobham Drive	Providing a town water supply	12,000 m^3	30 June 2025

Under current resource consents, the maximum quantity of water that can be taken for town supply cannot exceed 12,000m^3 per day from a combination of the three sources. Council reports to the BOP Regional Council in accordance with the various conditions in the consents.

SIGNIFICANT ADVERSE EFFECTS

Council is unaware of any significant adverse effects that the water supply activity has on the social, economic, environmental or cultural well-being of the community. Current practices are not depleting the natural water resource, because the water that is used flows naturally from a spring.

By providing either an inadequate supply of water, or water of poor quality that does not meet required standards under the 2008 NZ Drinking Water Standards, could have negative effects to community social and economic wellbeing.

SECTION FOUR
Risk Management

RISKS

Physical Risks

Physical risks are generally:

As a result of the inevitable natural process of deterioration.

Because of actions of other parties working or travelling in the vicinity of the assets.

Because of natural disasters (most commonly earthquakes or flooding).

Durable materials, good workmanship, and careful planning will not always be sufficient to prevent physical damage by persons or natural disasters.

The Edgecumbe earthquake in 1987 caused minor damage to one of the reservoirs and affected the quality of the water for a period of time. However, no damage occurred to the network of pipes. This indicates that the current system has low risk from natural disasters.

Financial Risks

Financial risks are those that result in decreased cash flow and/or inability to afford the works that are required.

They include loss of a major ratepayer (requiring the fixed cost burden to be absorbed by the remaining ratepayers), failure to take advantage of any available subsidies and replacing assets before end of useful life, resulting in less than optimal life-cycle cost.

Health and Safety Risk

Health and safety risks arise as a result of physical actions or omissions of Council staff or contractors, or equipment failure. Health and safety risks are minimised by training staff and employing reputable contractors for maintenance and new works.

Environmental Risk

There are environmental risks consequential to the operation of the water supply network and/or physical actions or omissions of Council staff or contractors. These risks are managed by complying with the conditions of resource consents.

Regulatory Risk

The right of the BOP Regional Council to amend consent conditions during the term of consent represents a regulatory risk exposure to Council. However, change to a consent normally only occurs due to failure to meet existing consent conditions. The consequence of this change would be modified treatment practices, which could have capital and operational cost consequences. BOPRC would conduct significant dialogue with Council prior to actually amending conditions and there would normally be a timeframe within which to implement changes.

The special rights and status of Tangata Whenua in the resource consent process also represents a risk to Council. Council believes it can minimise this risk by maintaining cordial relationships with local Iwi.

There is also a risk of prosecution if Council fails to comply with legislation.

Security of Supply

Council does not own the land where the Umukaraka/Holland Springs water source is located.

RISK MITIGATION

Council actions taken to mitigate risks are set out in the table on the next page.

4.2.1.*Insurance*

Council has adequate insurance in place to cover the replacement and/or repair of buildings and other valuable assets in this group that are damaged due to disaster.

4.2.2.*Civil defence and emergency response plans*

Council has identified essential staff for recovering the water, wastewater and roading systems in the event of a civil defence disaster.

4.2.3.*Financial*

Council funds depreciation at a rate commensurate with the loss of life of the various asset components. This funding is invested until required for replacement.

Table 33: Risk Mitigation

Key Exposure	Class of Risk Probability	Residual Exposure Consequence	Mitigation
Physical			
Seismic Event	Medium	High	Earthquake design standards
			Spare capacity
			Special Insurance cover (LAPP scheme)
			Monitor spring water quality after EQ
			Bore fields can supply essential demands
			Water restrictions can be put in place
Flood Event	Low	Low	Storage capacity of reservoirs
			Valves can isolate breaks in pipes
Damage by Others	High	Moderate	Staff available 24/7
			Test water for contamination
			Head works and Pumphouse security fenced
Failure due to deterioration of assets	High	Low	Regular plant maintenance
			Staff available 24/7
			Water restriction will be put in place.
			Spare capacity at pump stations
			An asset replacement programme
			Standby generator available within 8 hours
			Pump maintenance programme
Firefighting demands during peak flow	Medium	Moderate	Domestic users to be alerted to quickly reduce consumption (upper Valley Road area)
Financial			
New large consumer	Moderate	Low	Regular meetings with development agency
			Not all available water used
			Developments take time, which allows negotiations to take place
			Developments require Council consent
Loss of large consumer	Moderate	Low	Regular meetings with large industries
			Plant can operate on lower flows efficiently
Loss of water source	High	High	Investigate options to secure ownership/supply
			Find another water source
Health and Safety			
Injury to persons or property due to operations	Low	Low	Health and safety practices in place
			Trained staff
			Insurance to cover costs
Sabotage	Low	Moderate	Plant security
			Robust plant
Injury to public	Low	Low	Access denied to treatment plant site
			Significant portion of asset underground

Key Exposure	Class of Risk Probability	Residual Exposure Consequence	Mitigation
Environmental			
Change of resource consent to reduce available water	Low	Moderate	No known other demand for spring water
			Close liaison with the BOP Regional Council
			Water for community supply a permitted activity under BOPRC water and land plan
Regulatory			
Regulations (changes) relating to the access and provision of drinking water	Moderate	Moderate	Awareness of DWS and best practice
			Regular monitoring
			Compliance with standards and conditions of consent
Security of Supply			
Unable to obtain water from source	High	Moderate	Negotiation with water sources not owned

SECTION FIVE
Future Needs

CURRENT CAPACITY

Sources

Current demand is within the supply capacities of the sources. Extraction from the two springs and the bore fields is limited to a maximum volume per day by resource consent and the treating capacity of the UV Treatment Plant. The maximum capacity that can be treated is 12,500 m^3 per day.

Reservoirs

Reservoir capacity is typically expressed as the number of days' supply at average or peak demand. The reservoir water levels are maintained between set points to minimise the number of times pumping is required each day to maintain pressure in the network and keep above minimum storage volumes. As demand increases, pumping for longer periods per day is required and then two pumps are used as demand increases further.

The three reservoirs provide 11,250 cubic metres of storage, which equates to 2.7 days of supply at the current average demand of 4110m^3 per day, and one day at current peak demand.

Reticulation

The existing reticulation is able to meet the demands of the community for volume except low pressure in places during summer daily peak demand times.

FUTURE DEMAND

Kawerau District has experienced and is expected to continue to experience low growth in demand for additional water supply services.

There are a number of vacant residential sections in the town. Even if these sections were occupied, the existing water supply network would cope with the additional demand.

The boundary between Whakatane and Kawerau districts was adjusted in 2012 with the subsequent development of a new industrial park on SH34 opposite the existing mill site. Industrial development commenced in 2018 with the construction of the Waiū dairy factory in June 2019. The extension of 2km of 150mm water main occurred in response to this development.

TRENDS

Population growth

In the 2013 census, the total population of the Kawerau District was 6,363, a decrease of 8.1% or 561 people since the 2006 census. Despite the predicted further decline, the 2018 census showed a growth of general population to 7,460. The Kawerau district estimated population according to the 2023 census is 7,820 which represented a 4.8% increase in population since 2018 or around 1% population growth per annum.

Council hopes to bolster these gains with economic development initiatives, such as the development of a new industrial park and promotion of the natural environment.

As is the case with the rest of NZ, the population is aging with an increasing fraction of the population receiving state funded superannuation and employment benefits. The average income is expected to remain lower than the national average and there will be an increased requirement for external funding to maintain the infrastructure in the future.

Table 34: Statistics NZ Population Projections – Kawerau District

Population Change 2006–2043 (NZ Stats)								
Projected Range	2006 *Census*	2013 *Census*	2018 *Census*	2023	2028	2033	2038	2043
High					8,410	8,650	8,830	8,970
Medium	6,921	6,363	7,460	8,420	8,000	8,020	7,970	7,860
Low					7,610	7,410	7,140	6,800

NEW CAPITAL REQUIREMENTS

Capital work has been carried out to improve water quality with the replacement of old water mains and the construction of the new pump station at the treatment plant.

The installation of the electronic controls and telemetry for the bores, the springs and all pump stations will provide additional resilience around supply volumes.

SECTION SIX
Lifecycle Management

CRITICAL ASSETS

Asset criticality is the relative risk of high cost arising from failure of that asset. Criticality is determined by the cost and risk of potential failures and the relative importance on the society and environment. Evaluating the different failure modes of critical assets determines what maintenance, capital expenditure and conditioning monitoring needs are.

In general, critical assets are maintained on risk management principles, whereas non-critical assets are maintained/renewed reactively (replace after fail).

Bores

The Tarawera bores are on Council owned land, fenced and protected in steel containers. This greatly reduces any contamination risks to the bores.

Springs

The two springs (Umukaraka/Holland and Pumphouse) are natural resources. Headworks consisting of rocks, wooden walls, plastic covers, pipes and coarse filters have been constructed to capture the water. The sites are fenced. This construction reduces the potential for contamination of the water from animals, birds and humans.

Both springs occasionally have detectable faecal coliform present. The springs are low in solids, have a low pH and are considered very pleasant to drink.

Pumps

Water from the bores and the springs are piped to the pump house treatment plant by gravity pipes. The water is then pumped to the two reservoirs in Monika Lanham Reserve from the pump house. One pump has sufficient capacity to meet normal winter demand, a second pump is used during high demand periods and a third pump is on standby.

The pumps were installed in 1968 and operated without significant problem. These 2 pumps were replaced in 2024 with a further 2 pumps being added to ensure sufficient backup.

There are also two in-line pumps (duty and standby) that transfer water from the reticulation to the Beattie Road Reservoir.

Water Treatment

Treatment of the raw water comprises:

pH correction involving caustic soda dosing to target levels of 7.0 – 8.5 pH.

UV treatment to destroy harmful micro-organisms in the source water before they enter the reticulation

Chlorination to a target level of 0.5 parts per million to safeguard the reticulation.

Reservoirs

There are three concrete reservoirs. The reservoirs store water at an elevation that gives an even pressure to users even when the flow varies. They store enough water so that faults in the pumps do not impact on water being available from the network.

Pipes

Pipes are used to transport water from the sources to the pump house, from pump house to reservoirs and from reservoirs to properties. There are approximately 7 km of pipes from the springs to the reservoirs, ranging in diameter from 250 mm to 450 mm. The reticulation comprises 73 km of pipes with diameters from 50 mm to 250 mm.

The diameters profile, age and materials of the pipes distributing water around the town is shown in *Figure 3* and *Figure 4*.

OTHER ASSETS

Telemetry

Water levels, flows, pumps operating, UV levels, chlorine, pH and other data are electronically monitored. If monitoring detects levels are outside set parameters, alarms are triggered and any problems rectified. Information can be remotely viewed by computer and is collected continuously and stored for analysis as required.

Valves

Valves are installed throughout the water supply network to enable sections of the pipe to be isolated for maintenance. The valves are predominantly gate valves and the diameter of the valve is the same as the pipe to which the valve is connected. There is an ongoing programme of refurbishing faulty valves when they are detected. Improving knowledge on the overall condition of the valves is part of the improvement plan.

Fire Hydrants

Fire hydrants are provided for firefighting purposes. Hydrant box covers are painted yellow and painted triangles are located at the road centre line. Blue reflective centre line markers have been installed as an additional indicator of hydrant position to assist with location at night.

The NZ Fire Service annually tests the hydrants for workability and flow. Remedial action is taken with non performing hydrants.

Service Connections

Each property is provided with a service connection to the water main outside the property. The connection consists of a length of pipe to the property boundary and a gate valve. Typically, the service connection is 20mm in diameter. The location of the service connection is noted by a white mark on the kerb.

Meters

There are approximately 50 properties that have water meters installed because of the potential to use above average quantities of water. The annual usage through water meters is in the region of 230,000m^3. Meters are read quarterly.

Backflow Preventers

All metered properties are fitted with backflow preventers. Low risk properties are fitted with non-testable devices. Large industries or industries with chemical or biological on-site risks are fitted with testable devices. Unmetered properties are being fitted with non-testable backflow preventers during the reticulation replacement works.

Generally speaking, all systems are in a reasonable state of repair, as they are maintained and renewed regularly. It is expected that the existing levels of service (pressure, volume) will continue for the medium to long term.

Buildings

Water supply buildings are the pump station structure, the caustic soda dosing structure and the UV and chlorine treatment plant building.

These are constructed of concrete block and are regularly maintained.

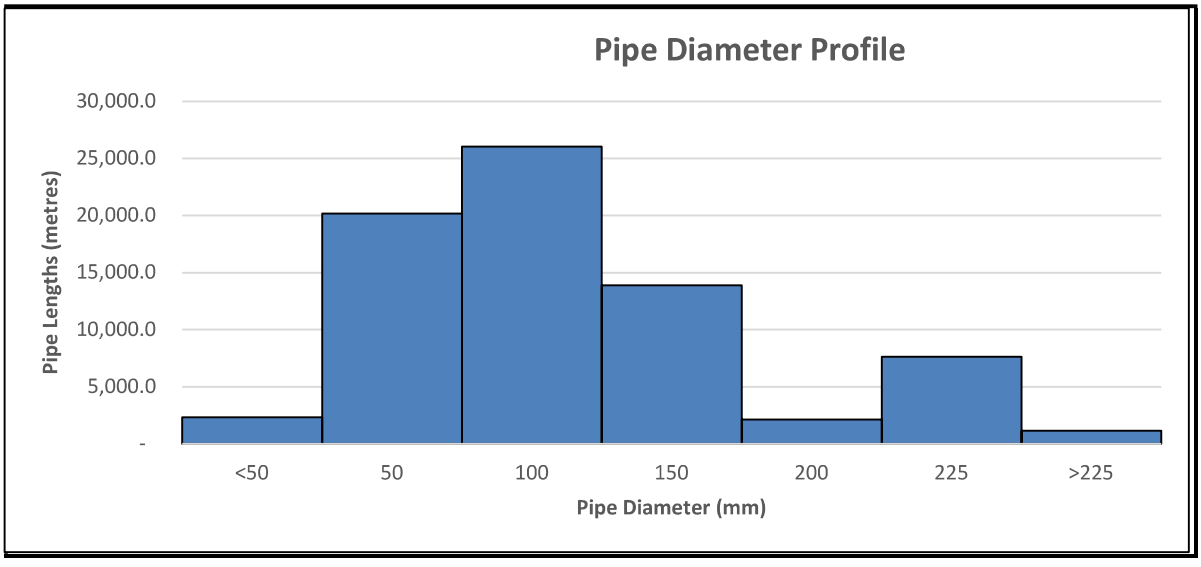

Figure 3: Diameter Profile of Water Supply Pipes

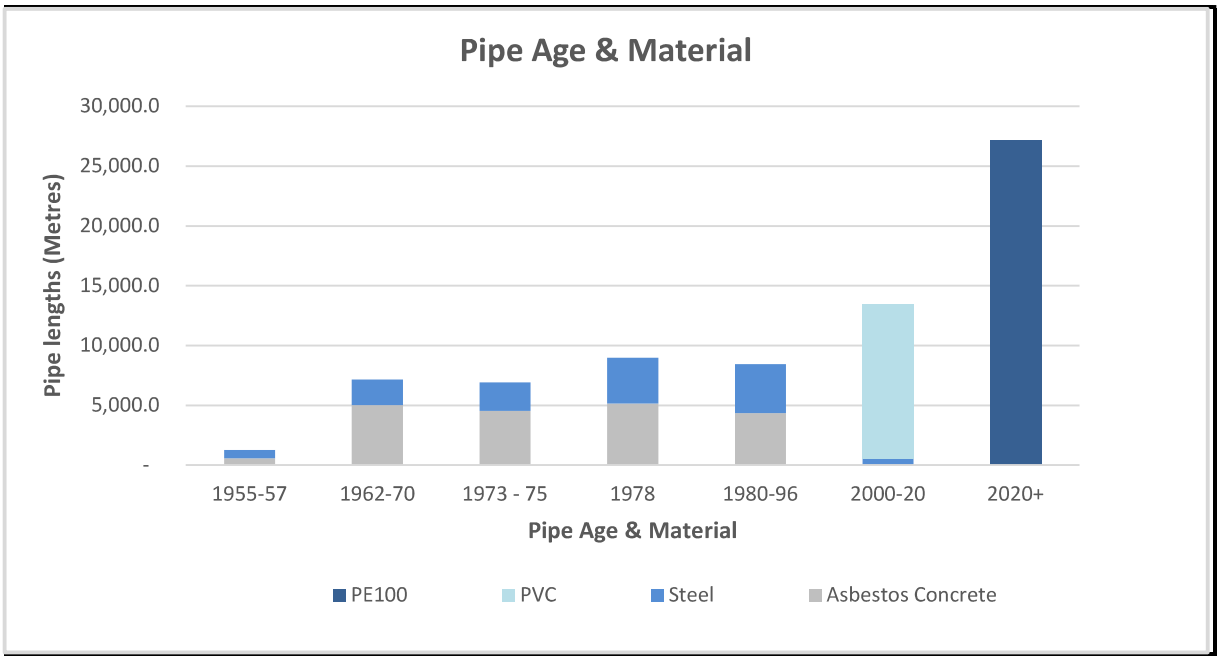

Figure 4: Age/Material Profile of Water Supply Pipes

ASSET DATA

6.3.1.*Material Type*

Pot holing of pipes in various locations around the town has been undertaken to determine the type of pipe material actually in the ground. This potholing information has been the basis for the data loaded into AssetFinda and forms the basis of the material types. While it is impossible to guarantee that every pipe has the correct material type recorded it is considered that the material type would have 98% accuracy.

Large scale water reticulation replacement is currently underway. The age material profile will be updated at the end of the programme. It is planned to replace all the asbestos concrete and the majority of steel pipes older than 1996.

6.3.2.*Pipe Diameter*

The pipe diameters in AssetFinda have been taken from the existing as built plans. Various cross checks have been undertaken to visually asses for glaring errors in the location of pipe diameters and there is considered a high level of confidence that the diameter in AssetFinda match those in the ground. It is estimated that the size of pipes in AssetFinda are in excess of 95% accurate.

6.3.3.*Asset Locations*

Data from as-built plans has been plotted in AssetFinda. This information has been visually checked to make sure there are no unusual results.

It is considered that the location and number of valves, hydrants and other features shown in AssetFinda is very accurate.

MAINTENANCE PLAN

General

Professional services that include maintaining and developing asset inventories, supervision and management of the network are generally provided by Council staff. Where necessary, specialist assistance with modelling, pipe ageing and asset planning is obtained from external consultants.

Regular activities include pipe repairs, pump maintenance, monitoring, attending customer queries, meter reading and valve maintenance.

Water quality sampling to drinking water standard DWSNZ 2008 is undertaken by an independent contractor.

Springs and Bores

Every day the springs and bores are checked to ensure site integrity has not been breached and flow rates are recorded. The coarse filters are cleaned weekly.

Pumps

The pump house pumps are inspected daily for any visible sign of malfunction. This includes looking for leaks and vibration. The pumps are greased on a weekly basis.

UV Treatment Plant

The pipe work in the UV treatment plant is inspected daily for leaks and the digital readout of the plant performance is checked daily.

UV lamps are monitored and replaced when required. Lamps are checked for cleanliness at predetermined cycle times and cleaned if necessary, to maintain performance.

Chlorine Treatment

Chlorine residual is maintained with the addition of chlorine gas. The dosing rate is setup manually to maintain a residual of 0.5 ppm for a constant flow system. The chlorine dosing system is inspected daily for any visible sign of malfunction.

pH Control

The pH of the water supply is monitored continuously. The recorded pH information is checked daily and caustic soda flow level adjustments made depending on results. The quantity of caustic soda is checked daily to ensure adequate dosing material is available. The caustic soda release valve and cylinders are checked daily.

The caustic soda system replaced the lime dosing plant in 2024 as it was seen as a better and safer method for correcting pH.

Telemetry

Telemetry is inspected periodically to ensure it is functioning properly and reviewed annually for long-term suitability and maintenance requirements.

Reservoirs

The tops of the reservoirs are inspected annually for locations where rainwater could enter the tank.

The two Monika Lanham reservoirs were identified as a potential contamination source post UV treatment. In 2016, the reservoirs were covered with tarpaulins to eliminate this risk. A decision was then made by Council to invest in a more robust form of internal and external waterproofing (Aquron 7000 sealing and crack/joint injection) than the previous asphalt roof sealing method; this was undertaken alongside the introduction of chlorine in 2018.

The two Monika Lanham reservoirs are cleaned 3-yearly to remove any lime build-up in the bottom of the reservoir. Lime has not build up in the Beattie Road reservoir.

Pipes

The network pipes are flushed annually by opening fire hydrants to increase water velocity in the pipes which flushes out settled material.

No preventative maintenance is carried out on the network pipes. Faults are repaired as reported and recorded in the Assetfinda database.

Valves

No preventative maintenance of valves is undertaken. If, during normal network shutdowns, malfunctioning valves are detected, they are refurbished (seals replaced, threads cleaned).

The negative impact of not having all valves fully operational is that some repairs may take longer than they should and more customers are impacted, as the shutdown will need to cover a larger area.

Fire Hydrants

The NZ Fire Service undertakes regular flow tests of hydrants in the network. Any that are difficult to operate or have low flows are either serviced or replaced.

Service Connections

No preventative maintenance is undertaken on service connections. Repairs are undertaken as faults are reported.

Water Meters

No preventative maintenance is undertaken. Meters are read quarterly and changes in flow are monitored. If significant changes occur, the meter is checked and repaired or replaced if found to be faulty.

Back Flow Preventers

The performance of back flow preventers is checked annually by an appropriately certified person in accordance with established national standards. Faulty equipment is renewed or replaced.

Buildings

The buildings are maintained when required and are in good condition. As they are constructed of concrete block they require minimal maintenance, and it is expected they will have a life of at least 50 years.

RENEWAL / REPLACEMENT

Except for Kawerau's town centre zone, which is an area of geothermal activity, pipes deteriorate in line with the National Asset Management Steering Group (NAMS) guidelines with some small variations in some areas where degradation was faster.

Council's objective is to maximise asset life without compromising service. Replacement decisions are based on the condition, reliability and maintenance cost and risk profile of an asset as well as its age.

Due to observed increase degradation of asbestos cement pipes and some steel pipes as well as the buildup of manganese in these pipes, it was decided in 2018 to replace all asbestos cement pipes and valves and steel pipes older than 1996.

New water reticulation zones was developed and used to replace the reticulation. Once the replacement program is completed, these new zones will replace the older reticulation zones which are also used for stormwater and wastewater reticulation.

Springs

The spring headworks have wooden retaining walls around rocks that allow water to flow from the ground and be collected. Failure will be gradual and will not interrupt the ability to use the water. The headworks for Umukaraka spring was rebuild in 2024.

Gravity main: Umukaraka Springs to Pumphouse

The pipe was installed in 1968, and testing undertaken in 2007. The pipe appeared to be deteriorating at the anticipated rate. The replacement of this pipe has been programmed to occur in 2037-39. The approximate cost of replacement is projected to be $4.2 million.

Bores

The bores are currently the main source of drinking water. The remaining life of the bore pumps is currently estimated at 25 years. The bore liners were inspected in 2016 and found to be in excellent condition. The bore headworks were rebuild in 2019 and their estimated life is t 60 years.

Rising Main: Monika Lanham Reserve Reservoirs

This is a critical asset and replacement involved laying an alternative pipe then decommissioning the existing one. While it was not expected to fail until after 2028/29, because the pipe is critical, replacement was undertaken in 2020/2021.

The existing rising main was replaced with a 450mm Polyethylene line. This new pipe can be used to supply water to the reservoir at 600m^3/hr. The 375mm Asbestos Cement line is the backup line and is capable to maintain flows of 530m^3/hr.

Reservoirs

The expected life of concrete reservoirs is 80 years. Examination of the reservoirs indicates they are in good condition and can be expected to outlive that expected life. Before altering the life in the asset register, an analysis of the concrete deterioration was required. Replacement of the three reservoirs is currently programmed to occur in 2034/35 ($2.0 million), 2058 ($2.0 million) and 2063 ($2.0 million) – at 2024 costs.

Pipes

The theoretical end of life of all pipes is based on the installation date and life expectancy. However, life expectancy can vary due to the following:

- Different lives for pipes of the same material but different diameters.
- Local ground conditions cause different deterioration rates.
- Quality of the pipe installed (different manufacturers produced different quality pipes.)
- Operating pressures etc.

Condition assessment undertaken in 2007, 2017 and 2018 determined that that overall, the deterioration rate for some pipes was faster than the National Asset Management Steering Group (NAMS) manual guidelines. Low pH weakens AC pipes by leaching cement from them. The pH value of the water was lower than the optimum level until lime dosing was commenced in 1997.

Lime dosing (replaced with caustic soda) is expected to reduce deterioration and have a detectable effect on the life of pipes installed after 1980.

A significant portion (19%) of the reticulation consist of steel or ductile iron. Sections of pipe installed in 1957 show deterioration levels that are fair and in line with National Asset Management Steering Group (NAMS) manual guidelines, while steel connections and fittings are showing significant deterioration.

Pipe replacement commenced in 2009 and it is planned to replace all the AC and steel pipes in 2021 - 2028. Pipe sizes are reviewed during renewal design. Issues such as existing flow problems and future demands

over the life of the asset are taken into account.

When pipes require replacement, it is most economical to replace the associated assets at the same time. Valves, fire hydrants and service connections are therefore renewed as part of the replacement programme.

The life expectancies used to calculate depreciated values are listed in Table 35.

Water Meters

Replacement is based on installation dates and a service life of 30 years.

Table 35: Asset Life Expectancies – Water Supply

Asset	Life Expectancy Years
AC pipes	70
PVC/PE pipes	80-100
Steel and ductile iron pipes	20-40
Concrete lined iron pipes	80
Valves	60
Telemetry	25
Meters (Bulk)	15
Pumps	25
Bores	60
Hydrants	60
Reservoirs	80
UV treatment plant - pipework	40
UV treatment plant – electronics	25

New Assets

A 2km extension to the water main was installed in 2018 along State Highway 34 for the supply of water to the Industrial/commercial development located to the north/east of town on the Putauaki block.

Additional lines and points being the result of two new residential subdivisions Porritt Glade and Central Cove are vested with Council.

Funding was subject to Council's financial contributions policy.

Deferred Maintenance

Currently there is no known deferred maintenance with the water supply network and the full service potential of the asset is being maintained. Council policy is to avoid any deferred maintenance.

Disposal Plan

There are no specific disposals identified in the Plan. Pipes that are no longer required or are replaced due to failure will not be retrieved as they have no value. Normally old pipes will be replaced by new pipes in the same location. If pipes are not replaced, they will be made safe in situ.

SECTION SEVEN
Financial Forecasts

FUTURE REQUIREMENTS

Table 36: Estimated Financial Requirements (includes inflation)

	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34
Expenditure									
Personnel costs	259,458	267,892	275,364	282,595	289,346	295,616	301,886	307,916	313,706
Materials	476,505	405,864	416,729	514,804	442,266	455,340	463,314	476,036	577,007
Internal charges	351,760	361,080	370,400	378,720	386,700	394,680	402,660	410,640	418,300
Overheads	323,190	311,510	310,450	348,440	331,800	330,120	336,070	349,890	370,650
Interest	455,000	585,000	715,000	845,000	910,000	910,000	910,000	910,000	910,000
Depreciation	703,195	743,093	850,874	879,344	881,508	963,403	965,337	969,252	1,045,739
	2,569,108	**2,674,439**	**2,938,817**	**3,248,903**	**3,241,620**	**3,349,159**	**3,379,267**	**3,423,734**	**3,635,402**
Asset renewals	2,228,836	3,985,552	2,798,410	2,842,120	211,490	183,110	187,950	386,120	197,170
Loan Principal	70,000	90,000	110,000	130,000	140,000	140,000	140,000	140,000	140,000
	4,867,944	**6,749,991**	**5,847,227**	**6,221,023**	**3,593,110**	**3,672,269**	**3,707,217**	**3,949,854**	**3,972,572**

Table 12: Estimated Asset Renewals (in todays $)

	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34
Headwork	-	8,900	-	-	56,300	-	-	17,100	-
UV Plant/Chlorine	30,836	562,750	15,000	15,000	15,000	15,000	15,000	15,000	15,000
Pump Station	60,000	16,600	21,700	-	-	-	-	-	-
Valves & Hydrants	88,000	88,000	524,000	88,000	67,100	88,000	88,000	226,500	88,000
Laterals/Tobies	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
Pipes	2,000,000	2,000,000	2,330,000	2,340,000					
	2,228,836	**2,726,250**	**2,940,700**	**2,493,000**	**188,400**	**153,000**	**153,000**	**308,600**	**153,000**

FUNDING POLICY

The Revenue and Financing Policy sets out how Council's activities are funded. This policy has been developed to meet the requirements of the Local Government Act (LGA) 2002.

Council has broken its business down to activity level. In general, Council has assessed the availability of an activity as a public benefit and the use of an activity as a private benefit.

'Availability' relates to the costs incurred to keep a service or asset in such a condition that it can become operational within a short start-up period (e.g. maintaining the water network even if it was not used, renewing assets).

'Use' relates to costs incurred as a result of the asset being used (e.g. chemicals and electricity).

Distribution of Benefits

The water supply network is a benefit to the district as a whole as well as users that are connected to the service. The costs of having the network available is a public good and recoverable from all ratepayers through the general rate. The estimated "use" cost is recovered from those connected to the network through a targeted rate.

When Benefits Accrue

Council has identified a substantial intergenerational component (i.e. benefits arise over time). The water supply infrastructure has a long life, so more than the current generation of ratepayers benefit. Therefore, Council wishes to ensure that future ratepayers meet some of the cost. This can be achieved by the funding of depreciation over the life of the assets.

Funding Sources

Water supply is 85% funded from general rates and targeted rates to properties connected to the network 15%

As the depreciation reserves grow, increased interest revenue from the investment of these reserves lowers the amount of depreciation funding that is required from General Rates. Inflation figures are provided by BERL, and used to determine the revaluation of the asset figures on a three-yearly cycle.

Distribution of Benefits

The mix of a targeted rate and the general rate is considered to reflect both the benefit to individuals that have water supply, and the community, which benefits from the water supply being publically available.

Costs and Benefits of Separate Funding

Running a Council funding system has costs involved with assessment and collection of revenue. In making funding decisions, Council must consider whether the activity should be funded from a separate source (most commonly a user charge or targeted rate).

The Local Government Act specifically mentions cost efficiency and transparency (in other words, whether or not people will be able to relate the charge to the activity that it is funding). The benefits of a transparent charge to users of the water supply outweigh the costs of having a uniform annual charge for this activity.

Funding Source

Water distribution is funded from general rates, uniform targeted rate and water by meter charges (for the high water users with water meters).

VALUATION

The water supply network infrastructure is valued by a competent valuer on a three yearly valuation cycle. Assets are valued at fair value determined on a depreciated replacement cost basis. The most recent revaluation is effective as at 30 June 2022.

Asset basis of valuation

Valuation of water assets are done on the following basis:

Table 13: Valuation Basis – Water Assets

Asset Type	Valuation Basis
Land	Market value
Buildings	DRC
Plant	ODRC
Reticulation	ODRC

The Depreciated Replacement Cost (DRC) refers to today's cost of replacing the asset with the same or a similar asset and depreciated over the life of the asset.

The Optimised Depreciated Replacement Cost (ODRC) refers to today's cost of replacing the asset with another asset that provides the same level of service most efficiently and depreciated over the life of the asset to reflect its current value and remaining economic life. The optimised replacement cost assigned to each asset has been determined by suitably qualified and experienced professional persons and has been peer reviewed.

Expenses

Maintenance costs and operating costs are expensed in the year they are accrued. The capitalisation threshold for water assets has been set at $1,000 or the actual value of individual components where they are identified by AssetFinda.

Changes in asset valuation

The costs associated with renewing assets and providing new or improved asset infrastructure are capitalised and depreciated in accordance with the assessed economic life of each asset. This applies also, where a developer provides infrastructure to be taken over as public assets by Council.

Assets are recorded at fair value determined on a depreciated replacement cost basis by an independent valuer. The most recent valuation is as at 30 June 2022.

Capitalisation Threshold

The following definitions are used for asset management purposes and the financial treatment is summarised below:

Maintenance is work done that is of an operational nature that can contribute to the asset life reaching its maximum potential but neither increases the value nor extends the remaining life of any asset.

Renewal is work done to replace an existing asset. The cost of replacement must be recorded as a capital expenditure, be greater than $1,000 and recorded in the asset register as a new asset with a unique identifier.

If the asset replaced is discarded or sold, it must be removed from the asset register and any residual value must be formally written off.

An addition to the asset register is required when a new asset is created with a value exceeding $1,000. A new asset must be uniquely identified, and recorded in the asset register. The record in the asset register requires an assessment of the asset's remaining life expectancy (based on straight-line depreciation or estimated remaining life).

Where the asset register recognises an individual component worth less than $1,000, or where a length of pipe greater than 12 metres is replaced, the threshold does not apply and the additional value is capitalised.

KEY ASSUMPTIONS

The current valuation and renewal profiles are based on data currently available.

Asset condition

In the case of water pipelines, the condition is taken as being directly related to its age unless the testing done in 2007 indicates otherwise. The testing of samples from repairs on pipes provides additional information.

Replacement cost

The projected replacement costs and depreciated values shown in the table below have been derived from Council's asset register. Further work identified in the improvement plan, will be carried out to verify the condition of the assets and the potential need for future replacement.

Table 14: Replacement Costs and Depreciated Values

Asset Type	Gross Replacement	Depreciated Replacement
Supply & treatment	$2,173,980	$1,035,900
Storage	$13,730,980	$4,023,950
Distribution	$19,574,450	$8,036,080
TOTAL	**$35,479,410**	**$13,095,930**

Council's practice for calculating pipeline replacement costs is:

- All pipeline replacement would be carried out using Polyethlene pipe.
- The construction environment is brown field (replacement of existing rather than green field construction.
- Unit rates for replacement are derived from the latest valuation of assets.
- Replacement of pipes includes valves, fittings, and house connections. Unusual pipe sizes will be replaced with the next size up.
- No optimisation or efficiencies in pipe size or lengths have been allowed for in replacement costs

Depreciated value and life expectancy

Straight-line depreciation has been adopted for all above ground assets. The life expectancies shown in Table 10 were used to calculate depreciated values.

The town centre area of Kawerau has geothermal activity. The heat and chemicals present significantly shorten the fibre cement pipe life as well as other materials in this area.

Pipes in the geothermal area have an estimated life half that of similar assets in other areas.

It is accepted that the above approach requires improvement, because for some assets, the actual need for replacement is out of step with the theoretical depreciation. The improvement plan includes steps to make the valuation and renewal projections more robust.

Population

Further sustained decline in population as predicted by Statistics NZ could seriously erode the rating base of the District, placing a higher burden on the remaining residents for any infrastructure upgrades and possibly affecting capacity to fund renewal works. Population trends must therefore be reviewed as frequently as reliable data can be obtained.

Other assumptions

All expenditure is stated in 2022 values, with allowance made for the inflation over the planning period.

All costs are GST exclusive.

Operational costs are generally shown to increase in relation to inflation.

Renewal costs are based on anticipated replacement requirements.

The costs of insurance and risk mitigation are included in the forecasts.

Climatic and other environmental trends are expected to continue as they have in the recent past.

The plan provides scope for some growth in industrial/commercial demand.

Development Contributions

Section 106 of the Local Government Act 2002 requires local authorities to adopt development contributions or financial contributions policies.

Spare capacity in Council's infrastructure means it can cope with some growth. Therefore, Council does not need to extend infrastructure to cope with increasing demand.

Council's policy is to not assess development contributions but to retain the provisions of the District Plan that allow the assessment of financial contributions.

Financial Contributions

New subdivisions or developments may require the extension of Council infrastructure networks for water supply, wastewater disposal and roading. Council's financial contributions policy provides that the cost of these extensions is the responsibility of those who create the demand. Subdividers and developers would be required to make financial contributions to meet the full cost of additional infrastructure necessary to support their subdivision or development.

SECTION EIGHT
Systems & Processes

Responsibilities for Asset Management Outcomes

The Engineering Manager is responsible for the development of this asset management plan, including maintaining the integrity of Council's asset information.

The Engineering Manager is also responsible for the identification, budget, planning, programming and undertaking of works required for the maintenance and renewal of Council's Water Supply assets.

The Group Manager, Finance & Corporate Services is responsible for providing an overview of the development of this asset management plan, for ensuring that future projects are incorporated in Council's Long Term Plan and that there is consistency between these documents.

The Group Manager, Operations and Services is responsible for delivering the outcomes for the Water Supply activity. This includes ensuring that the assets are maintained and operated to Council's requirements, that adequate budgeting for maintenance, operating and improvement costs are provided.

Accounting and Asset Management Systems

Billing/Accounting system

Council uses the Ozone software for its accounting and billing systems. It does not store or compute asset management information, but can be used to determine the number of connections to the water supply and the number of properties billed for separate water supply rates.

All formal asset management financial reporting including valuation is currently held in Excel spreadsheets.

This is being migrated into the AssetFinda system.

AssetFinda

AssetFinda is the software used to manage and produce asset inventory reports. It is integrated with 'Map Info' data tables to permit input, querying, reporting and financial modelling using the asset register data. The spatial location of the water supply assets can be laid over aerial maps, property boundaries along with wastewater and stormwater assets.

The software has yet to have financial data added to allow financial modelling for current replacement and depreciation value reporting.

New assets information (location, installation date, materials' construction etc.) is entered into AssetFinda at the time the asset is installed.

The default valuation process used by AssetFinda is capable of recognising asset condition, extending the life of an asset and recalculating revised depreciation value and annual depreciation.

The improvement plan proposes that the appropriate financial information be entered into AssetFinda.

Hard copy plans

Layout details of the pipes and structures are available for most of the water supply asset.

Attaching information like pump performance, type etc. to assets is a desirable improvement. Also linking photographs and 'as built' drawing to the asset will improve the data.

Key Information Flows and Processes

Key information flows and process linkages include:

Translating the Community Outcomes into detailed levels of service that can be embodied into Asset Management Plans

Preparation of annual budgets, and ongoing reporting

Updating asset data as information becomes available through maintenance and service repairs

Ongoing compliance monitoring and reporting of environmental performance

Ongoing management of the asset to ensure that service levels are maintained

Quality management

Quality management is governed by the requirements of DWSNZ 2005. This involves a comprehensive programme of water sampling and testing at source, treatment point and the distribution system. The testing programme provides assurance that the water quality is satisfactory.

Sampling points and frequencies are agreed with and all test results provided to Toi Te Ora Public Health. These results, information about maintenance processes and the public health risk management plan are used to determine the water supply grading.

Maintenance

Maintenance is carried out reactively for most asset faults. The criteria that will result in renewal rather than further maintenance are:

Is the asset important for maintaining service levels and have the service levels in the current year already been compromised by failures? If yes, consider renewal.

What has been the failure history? If the current failure is part of a series, then consider renewal.

Is the cost of the maintenance comparable to the cost of renewal? Where repair costs are high (e.g. reinstatement of road pavement) then consider renewing a logical minimum quantity of asset to prevent further expensive repair costs.

Will maintenance preserve asset life? If yes, then carry out maintenance.

Policies for renewing assets

Replacing network components with larger components to improve capacity is treated purely as renewal capital expenditure. This is because the additional cost of larger components is not material compared with the renewal cost of component of the same kind.

Renewal

Renewal of assets will occur in accordance with practice described in each section of this document.

Constructing new assets

Following many years of no demand for additional capacity, recent land developments for industry and residents have resulted in the need for additional new assets. Funding to provide additional capacity would be treated on its merits, but in most cases, the funding would be sought from the developers/subdividers.

Assets vested in Council

Subdivisions include water supply networks. These are installed at subdivider's expense to approved Council standards and then vested in Council.

'As built' new works occur either due to subdivisions, or the installation of new assets. In both instances, detailed records of new works are obtained. These new assets are added to the AssetFinda database.

Asset disposal

Most of the components are essential to continuing provision of the service. Extensive decommissioning and disposal is very unlikely.

SECTION NINE

Monitoring Improvement Planning

Asset Management Performance Measures

The broad objectives of asset management are:

- To optimise the life of the assets
- To minimise life cycle costs
- To maintain agreed levels of service

Although it is possible to measure the success or otherwise of the asset management activity over the long term against the three criteria above, it will obviously be difficult to measure success or otherwise in the short term in a way that management control can be exerted. For example, it will be impossible to determine whether the life of a facility has been "optimised" until the actual age nears the expected life and a remaining life assessment can be meaningfully carried out.

An assessment of the asset knowledge and processes currently carried out, in terms of "best practice for a NZ authority of this size" provides an indication of how well Council is likely to be meeting these long-term objectives. This assessment is therefore part of the Improvement Plan. It should include evaluation of the monitoring of operations and costs to provide information on the achievement of service level (both public measures and technical standards). It should cover previously planned improvement actions, noting whether these have been achieved and how they are contributing to current processes. It should check how the initiatives undertaken are 'rolled out' from asset management staff to those carrying out the work, and how carefully field information is recorded and returned to add to the asset knowledge case.

Improvement Actions

Table 15: Improvement Actions

Improvement Item	Comment	By When	By Whom	Cost
Expand knowledge of AssetFinda functionality	Training staff (EM & 3WE)	Ongoing improvement	GMOS	$5,000
Maintain AssetFinda database	Three Waters Engineer recruited and being trained	Annually	EM	$35,000
Review asset life expectancy	Test pipes and manholes for deterioration	June 2025 and triennially thereafter	EM & Ops staff	$10,000
Conduct asset revaluations	Up to date	June 2025 and annually thereafter	GMFCS	$5,000

EM = Engineering Manager

3WE = Three Waters Engineer

GMOS = Group Manager Operations and Services

GMFCS = Group Manager Finance and Corporate Services

Monitoring and Review Procedures

The Leadership Team will monitor and review improvement items on a six monthly basis. This plan will be reviewed annually as part of annual plan development.

SECTION TEN
Appendices

APPENDIX A - DETAILED ASSET DESCRIPTION

ASSET	DESCRIPTION	MATERIAL	QTY	YEAR
Reservoirs and Booster Pumps				
BOOSTER STATION (BEATTIE ROAD)	GRUNDFOS SP160-2 BOOSTER PUMP	MECHANICAL	1	2025
BOOSTER STATION (BEATTIE ROAD)	GRUNDFOS SP160-2 BOOSTER PUMP	MECHANICAL	1	2002
BOOSTER STATION (BEATTIE ROAD)	CONTROL	ELECTRICAL	1	2025
BOOSTER STATION (BEATTIE ROAD)	CONTROL CABINET	STEEL	1	2017
BOOSTER STATION (BEATTIE ROAD)	STRUCTURE	CONCRETE	1	2000
VALVES & FITTINGS	150MM REFLUX VALVES & PRESS. GAUGES	METER	4	1968
VALVES & FITTINGS	KENT 375MM DALL TUBE	METER	1	2025
VALVES & FITTINGS	250MM LEEDS METER	METER	1	2025
CONTROL	CABLING	ELECTRICAL	1	2025
BRIDGE	PIPE BRIDGE 60m	STEEL	1	2018
CONTROL	TELEMETRY	ELECTRICAL	1	2017
CONTROL	WATER LEVEL PROBES	ELECTRICAL	3	2025
CONTROL	WATER LEVEL ALARM	ELECTRICAL	1	2017
VALVES & FITTINGS	450MM ANNUBAR (PROP)	MECHANICAL	1	2017
VALVES & FITTINGS	300MM ANNUBAR (PROP)	MECHANICAL	1	2017
TRUNK MAIN - GRAVITY	450	ASBESTOS CEMENT	3,200	1968
TRUNK RISING MAIN - Backup	375	ASBESTOS CEMENT	1,220	1968
TRUNK MAIN - GRAVITY	300	ASBESTOS CEMENT	361	1968
TRUNK MAIN	250	ASBESTOS CEMENT	390	1968
TRUNK MAIN	150	ASBESTOS CEMENT	80	1968
TRUNK GRAVITY/RISING MAIN (225mm)	225	ASBESTOS CEMENT	1,670	1971
TRUNK RISING MAIN	225	PE100	1,220	2021
TRUNK MAIN - GRAVITY	300	PE100	361	2024
VALVES & FITTINGS	450MM SLUICE VALVES	VALVE	2	2021
VALVES & FITTINGS	375MM SLUICE VALVES	VALVE	2	1968
VALVES & FITTINGS	375MM SLUICE VALVES	VALVE	2	2024
VALVES & FITTINGS	375MM REFLUX VALVES	VALVE	1	2024
VALVES & FITTINGS	300MM SLUICE VALVES	VALVE	5	1968
VALVES & FITTINGS	300MM SLUICE VALVES	VALVE	5	2024
VALVES & FITTINGS	200-225MM SLUICE VALVES	VALVE	10	1968
VALVES & FITTINGS	150MM SLUICE VALVES	VALVE	12	1968
VALVES & FITTINGS	150MM REFLUX VALVES	VALVE	3	1968
VALVES & FITTINGS	100MM SLUICE VALVES	VALVE	9	1968
VALVES & FITTINGS	AIR VALVES (GRAVITY FEED MAIN)	VALVE	4	1968
VALVES & FITTINGS	100MM BACK PRESSURE RELIEF VALVE	VALVE	1	2021
VALVES & FITTINGS	300MM SINGER ALTITUDE VALVE	VALVE	1	1968
RESERVOIR	2,250,000 Litre	REINFORCED CONCRETE	1	1955
TRUNK MAIN (100mm)	100	ASBESTOS CEMENT	80	1966
RESERVOIR	4,500,000 Litre	REINFORCED CONCRETE	1	1978

ASSET	DESCRIPTION	MATERIAL	QTY	YEAR
RESERVOIR	4,500,000 Litre	REINFORCED CONCRETE	1	1983
BULK METERS AT RESERVOIR	BULK METER	BULK METER	2	2011
BULK METERS AT RESERVOIR	BULK METER	BULK METER	1	2024

ASSET	DESCRIPTION	MATERIAL	QTY (Metres)	YEAR
Pipes	**(mm)**			
WATER (ALL ZONES)	<50mm	F-STEEL	297.8	1957 -2007
WATER (ALL ZONES)	<50mm	AC	392.9	1957-2007
WATER (ALL ZONES)	<50mm	PVC	363.2	2003-20
WATER (ALL ZONES)	<50mm	PE100	1,270.0	2021-25
WATER (ALL ZONES)	50mm	F-STEEL	9,631.0	1957 -2007
WATER (ALL ZONES)	50mm	AC	617.6	1957-2007
WATER (ALL ZONES)	50mm	PVC	3,091.9	2003-20
WATER (ALL ZONES)	50mm	PE100	6,820.9	2021-25
WATER (ALL ZONES)	100mm	F-STEEL	1,054.8	1957 -2007
WATER (ALL ZONES)	100mm	AC	7,931.5	1957-2007
WATER (ALL ZONES)	100mm	PVC	6,022.6	2003-20
WATER (ALL ZONES)	100mm	PE100	11,026.3	2021-25
WATER (ALL ZONES)	150mm	F-STEEL	2168.2	1957 -2007
WATER (ALL ZONES)	150mm	AC	3,954.0	1957-2007
WATER (ALL ZONES)	150mm	PVC	2,340.3	2003-20
WATER (ALL ZONES)	150mm	PE100	5,424.9	2021-25
WATER (ALL ZONES)	200mm	F-STEEL	110.2	1957 -2007
WATER (ALL ZONES)	200mm	AC	1,319.5	1957-2007
WATER (ALL ZONES)	200mm	PVC	679.7	2003-20
WATER (ALL ZONES)	200mm	PE100	0	2021-25
WATER (ALL ZONES)	225mm	F-STEEL	191.2	1957 -2007
WATER (ALL ZONES)	225mm	AC	4,773.1	1957-2007
WATER (ALL ZONES)	225mm	PVC	384.7	2003-20
WATER (ALL ZONES)	225mm	PE100	2,290.7	2021-25
WATER (ALL ZONES)	>225mm	F-STEEL	98.3	1957 -2007
WATER (ALL ZONES)	>225mm	AC	772.6	1957-2007
WATER (ALL ZONES)	>225mm	PVC	0	2003-20
WATER (ALL ZONES)	>225mm	PE100	283.2	2021-25

ASSET	DESCRIPTION	MATERIAL	QTY	YEAR
ASSET	DESCRIPTION	MATERIAL	QTY	YEAR
Valves				
VALVES - DISTRICT WIDE	25mm Cast	CAST IRON	18	1957-2023
VALVES - DISTRICT WIDE	37mm Cast	CAST IRON	10	1957-2023
VALVES - DISTRICT WIDE	50mm Cast	CAST IRON	291	1957-2023
VALVES - DISTRICT WIDE	100mm Cast	CAST IRON	194	1957-2023
VALVES - DISTRICT WIDE	150mm Cast	CAST IRON	88	1957-2023
VALVES - DISTRICT WIDE	225mm Cast	CAST IRON	35	1957-2023
VALVES - DISTRICT WIDE	450mm Cast	CAST IRON	2	1968
VALVES - DISTRICT WIDE	100mm Brass	BRASS	13	2020
VALVES - DISTRICT WIDE	100mm PE	PE	3	2020
VALVE – TARAWERA BORES	Modulating Valve	CAST IRON	1	2024
SAMPLING & METER BOX - DISTRICT		CAST IRON	1	2024
RISER MAIN VALVES	150mm Cast	CAST IRON	2	2020
RISER MAIN VALVES	225mm Cast	CAST IRON	9	2020
RISER MAIN VALVES	300mm Cast	CAST IRON	6	2020
RISER MAIN VALVES	500mm Cast	CAST IRON	3	2020
LATERALS (incl. TALBOT, TOBY, PIPE)	100mm – Zone 2 & 3	PE	556	2024
LATERALS (incl. TALBOT, TOBY, PIPE)	100mm – Zone 1	PE	148	2022
LATERALS (incl. TALBOT, TOBY, PIPE)	100mm – Bell St	PE	109	2020
LATERALS (incl. TALBOT, TOBY, PIPE)	100mm – Zone 0	PE	386	2010
LATERALS (incl. TALBOT, TOBY, PIPE)	100mm – River Road	PE	308	2023
LATERALS (incl. TALBOT, TOBY, PIPE)	100mm - Districtwide	Steel/Copper/Brass	1551	1977
FIRE HYDRANT – Piripiri/Tiwhatiwha		CAST IRON	5	2020
FIRE HYDRANT – River Road		CAST IRON	33	2023
FIRE HYDRANT – Zone 00		CAST IRON	22	2010
FIRE HYDRANT – Bell St		CAST IRON	21	2021
FIRE HYDRANT - Zone 1		CAST IRON	21	2022
FIRE HYDRANT – Zone 2 & 3		CAST IRON	38	2023
FIRE HYDRANT – Zone 4		CAST IRON	23	1985
FIRE HYDRANT – Zone 5		CAST IRON	24	1963
FIRE HYDRANT – Zone 6		CAST IRON	23	1957-2006
FIRE HYDRANT – Zone 7		CAST IRON	36	1973
FIRE HYDRANT – Zone 8		CAST IRON	34	1978
Headworks				
PUMPHOUSE#1	PUMP CONTROLS	ELECTRICAL	1	2025
HOLLAND SPRINGS	COLLECTION BOX 25x 5x 9M	TIMBER	1	1965
HOLLAND SPRINGS	COLLECTION BOX 25x 5x 9M	TIMBER	1	2021
HOLLAND SPRINGS	FLOW RESTRICTOR	MECHANICAL	1	2022
HOLLAND SPRINGS	FLOW RESTRICTOR/WEIR/METER	MECHANICAL	1	2024
HOLLAND SPRINGS	SECURITY FENCING	TIMBER	60	2000
PUMPHOUSE#1	SECURITY FENCING	POST/WIRE FENCE	60	2010
PUMPHOUSE#1	GARAGE DOOR	COLOUR STEEL	1	2021

ASSET	DESCRIPTION	MATERIAL	QTY	YEAR
WATER TREATMENT (PUMP HOUSE #1)	CONTROL	ELECTRICAL	1	2024
WATER TREATMENT (PUMP HOUSE #1)	Potable water system	MECHANICAL	2	2014
WATER TREATMENT (PUMP HOUSE #1)	WATER & CHEMICAL ANALYSER	MECHANICAL	1	2023
PUMPHOUSE #1	PUMP #1 AND MOTOR HARLAND 125HP	MECHANICAL	1	2021
PUMPHOUSE #1	PUMP #2 AND MOTOR HARLAND 125HP	MECHANICAL	1	2021
PUMPHOUSE #1	PUMP #3 AND MOTOR HARLAND 125HP	MECHANICAL	1	2021
PUMPHOUSE #1	PUMP #4AND MOTOR HARLAND 125HP	MECHANICAL	1	2021
PUMPHOUSE #1	AUTO STOP/START LEVEL CONTROLS	ELECTRICAL	1	1998
PUMPHOUSE #1	CABLING	ELECTRICAL	1	2024
TARAWERA PARK BORE SITE	PLEUGER Q82-2+V6-64 (33,000 G/HR)	MECHANICAL	1	2017
TARAWERA PARK BORE SITE	PLEUGER Q82-2+V6-64 (33,000 G/HR)	MECHANICAL	1	2018
TARAWERA PARK BORE SITE	PLEUGER Q82-2+V6-64 (33,000 G/HR)	MECHANICAL	1	2018
TARAWERA PARK BORE SITE	FLOW AND PRESSURE MEASUREMENT	MECHANICAL	1	2021
TARAWERA PARK BORE SITE	CONTROL EQUIPMENT	ELECTRICAL	1	2021
TARAWERA PARK BORE SITE	TELEMETRY	ELECTRICAL	1	2023
TARAWERA PARK BORE SITE	24V UPS	ELECTRICAL	1	2021
TARAWERA PARK BORE SITE	BORE 1 7M X 150MM	WELL	1	2021
TARAWERA PARK BORE SITE	BORE 2 7M X 150MM	WELL	1	2021
TARAWERA PARK BORE SITE	BORE 3 10M X 150MM	WELL	1	2021
TARAWERA PARK BORE SITE	Reline existing bore & value - Nil additional asset	WELL	1	2023
TARAWERA PARK BORE SITE	BORE SHUTOFF VALVE	VALVE	1	2021
HOLLAND SPRINGS	WEIRS	REINFORCED CONCRETE	3	2024
PUMPHOUSE #1	WETWELL INTAKE MANIFOLD	REINFORCED CONCRETE	1	1968
PUMPHOUSE #1	WETWELL	REINFORCED CONCRETE	1	1968
PUMPHOUSE #1	COLLECTION CHAMBER 5M X 3M X .9M	REINFORCED CONCRETE	1	1968
PUMPHOUSE #1	WEIR	REINFORCED CONCRETE	1	1968
TARAWERA PARK BORE SITE	CONTROL SHED	CONC BLOCK	5	2017
WATER TREATMENT (PUMP HOUSE #1)	SEALED YARD	PAVEMENT	1	1997
PUMPHOUSE #1	UV PLANT CONTROLS	ELECTRICAL	1	2017
PUMPHOUSE #1	UV PLANT CONTROLS - 2020	ELECTRICAL	1	2020
PUMPHOUSE #1	UV PLANT CONTROLS - 2021	ELECTRICAL	1	2021
PUMPHOUSE #1	UV PLANT	MECHANICAL	1	2002
PUMPHOUSE #1	UV Plant - 2022	MECHANICAL	1	2022
PUMPHOUSE #1	UV Plant - 2024	MECHANICAL	1	2024
PUMPHOUSE #1	UV PLANT PIPEWORK	GALVANISED IRON	1	2002
WATER TREATMENT (PUMP HOUSE #1)	CHLORINE DOSING PLANT	MECHANICAL	1	2018
WATER TREATMENT (PUMP HOUSE #1)	CHLORINE DOSING - PUMP (SPARE)	MECHANICAL	1	2023

ASSET	DESCRIPTION	MATERIAL	QTY	YEAR
WATER TREATMENT (PUMP HOUSE #1)	CAUSTIC SODA DOSING SYSTEM	MECHANICAL	1	2024
WATER TREATMENT (PUMP HOUSE #1)	FLUORIDE & LIME DOSING PLANT	MECHANICAL	1	2024

APPENDIX B - WATER AND SANITARY ASSESSMENT

1 Risks to the Community relating to the absence of a water supply

All, but two houses (on farm block) and all businesses within the Kawerau District are connected to Council's water supply network.

2 Quality and adequacy of supply of drinking water available within the District

The principal issue affecting the supply of potable water is the biological cleanliness of the water.

The supply is not considered a "secure" supply as defined by the Drinking-Water Standards for New Zealand 2005 (DWSNZ 2005), due to historical detection of faecal coliforms in the source water and the inability to prove that the water has been underground for more than 12 months or is not directly affected by surface or climate influences in the environment. Contaminations, when detected, are treated with chlorine.

The reticulation is split into two pressure zones and is supplied through a network of pipes after being pumped to the three reservoirs. There is a strict treatment regime in place. The supply (source and reticulation) is monitored for microbiological and chemical indicators.

3 Current and estimated future demands for water services and issues relating to the quality and adequacy of supply of drinking water

Kawerau District has, and is expected to continue, to experience low growth in demand for additional water supply services. There are a number of vacant residential sections in the town. Even if these sections were occupied, the existing water supply network would cope with the additional demand. The boundary between Whakatane and Kawerau districts was adjusted in 2012 to create a new industrial park on SH34 opposite the existing mill site. Some industrial development has occurred there, and it is hoped more will occur.

Growth is monitored on an ongoing basis to determine any impending additional demand on water supply services.

4 Options available to meet the current and future demands and suitability for Kawerau

Capacity

Current growth predictions mean that there are no proposed new water pipes in the Long Term Plan. Any subdivision will be required to install appropriate water systems before they are handed over to Council. The Council's renewal programme for water infrastructure assets as outlined in Council's Long Term Plan will meet current and future demands.

Quality

The treatment plant meets the standards of DWSNZ 2008, provided that all monitoring requirements are met. The critical aspects of water supply treatment are:

Ensuring that water supply operation staff have appropriate training and qualifications.

Undertaking an appropriate P2 chemical monitoring programme.

Removing all ball type hydrants.

Instituting leak detection surveys.

5 Council's intended role in meeting the current and future demands

Council considers that the treatment and testing meets the DWSNZ 2005 standards.

With minimal population and demand growth expected, water demand requirements in the next ten years can be met with current capacity.

6 Council's proposals for meeting the current and future demands, including proposals for any new or replacement infrastructure.

Council has an asset replacement fund available for replacement of assets that fail in the future. The population growth figures indicate that significant new assets are unlikely to be required. Small new assets are funded from the depreciation reserves