

▶ WATER UTILITY

LED BY: GENERAL MANAGER, INFRASTRUCTURE

Our goal & community benefit:

All residents and water users in the City have a safe, affordable, resilient and sustainable supply of high-quality drinking water and a reliable supply of water for agriculture.

Our customers (in our service area):

- Residents, businesses and visitors
- Agricultural Community
- Fire Department
- other departments and organizations (including Interior Health Authority)

Our partners:

- Research partners with the University of British Columbia and the National Benchmarking Initiative.
- Government agencies.
- Glenmore Ellison Improvement District; Rutland Waterworks and Black Mountain Irrigation District, District of Lake Country.
- Engineering firms, contractors, surrounding municipalities.
- Okanagan Indian Band, Westbank First Nations and the Okanagan Nation Alliance.

What we deliver:

The City of Kelowna thrives in an arid environment with limited water supply. We share water resources with other communities, visitors, wildlife, and the natural environment. We safeguard a secure water supply that relies on public and personal responsibilities towards conservation, and partnerships with neighboring municipalities and First Nations. We respect all interests and needs.

- The City Water Utility serves approximately 90,000 customers from water sourced from Okanagan Lake and provides non-potable water for irrigation in Southeast Kelowna from Hydraulic Creek.
- It delivers up to 139 million litres of water per day through a system of 549 km of buried pipe, 5 treatment & water pump stations, 20 booster stations, 25 potable reservoirs, 4 non-potable reservoirs, and 86 pressure reducing stations.
- The Utility operates and maintains 14 dams and 5 diversions in the upper Hydraulic Creek Watershed to provide water to the agricultural community in southeast Kelowna.
- The Utility provides a sustainable investment regime and staff that are highly trained to reliably service the needs of a growing City 24 hours a day and 365 days per year.

Our key objectives:

- Protect all residents and visitors by supplying a safe supply of drinking water.
- Assure that Okanagan Lake, its creeks, and aquifers are a safe and high-quality supply for all to share and use.
- Ensure resiliency in operations and infrastructure to continue to provide high quality water.
- Maintain and operate a reliable non-potable supply where available to agricultural customers.
- Invest, operate, maintain and resource the utility effectively to mitigate service interruptions as they inevitably occur.
- Rates that reflect these objectives, a reasonable Level of Service, and that are competitive with other communities.

Our guiding plans:

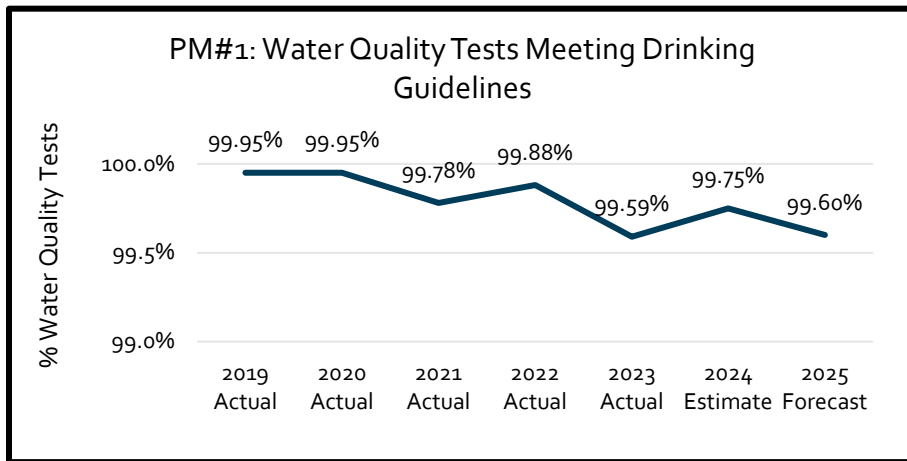
- Kelowna's Official Community Plan
- 20-year servicing plan
- Kelowna's Water Security and Responsibility Plan (Draft)
- Water Supply Policy #383 and Water System Integration Policy #378

Measuring performance:

Performance Measure 1

Water supplied by the Kelowna utility is safe

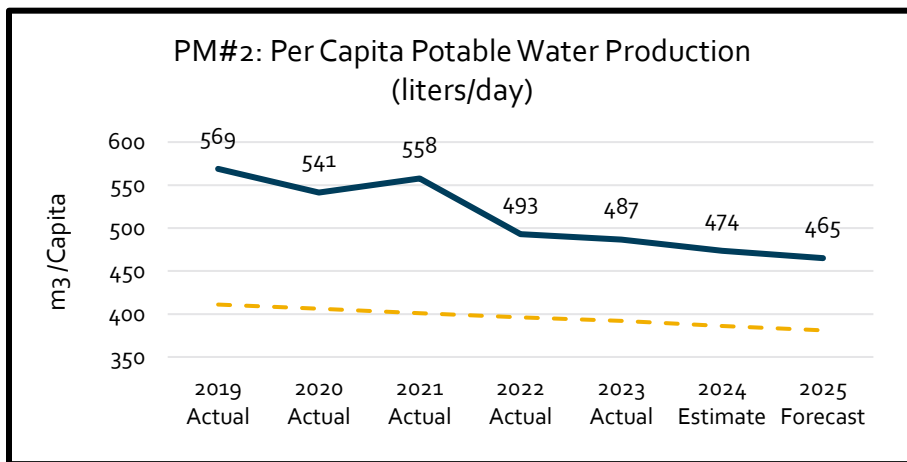
The percentage of water quality tests conducted that meet the Canadian Drinking Water Quality Guidelines (CDWQG). An average of 6000 tests are conducted annually for physical, biological and chemical parameters at our treatment facilities and throughout the water distribution network.



Performance Measure 2

We conserve our drinking water resource

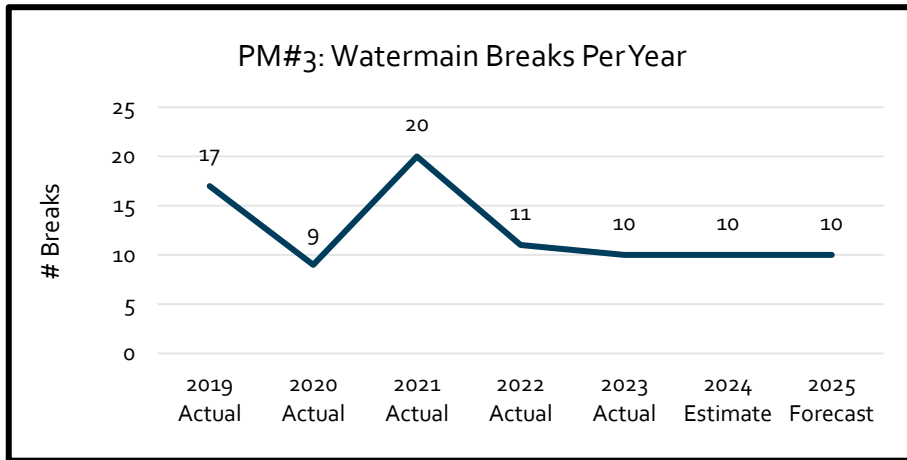
Per capita potable water production. Annual potable water produced divided by the population served. The goal is to continue to see this number decrease and lead the Okanagan Valley in water use efficiency. The Canadian average water use is shown by the yellow dashed line.



Performance Measure 3

Our water system is reliable. Main breaks per year

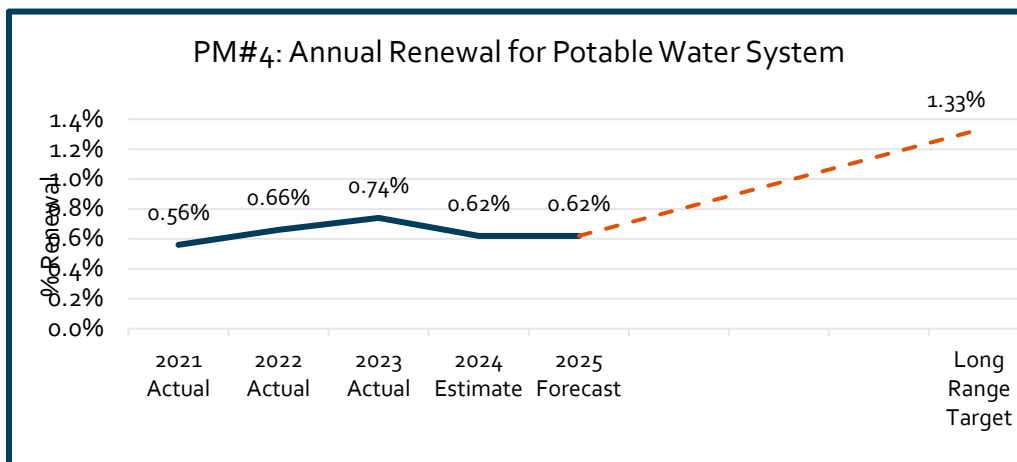
Number of main breaks requiring repair each year. Total on potable and non-potable system. Increases in this measure demonstrate the impact of aging infrastructure.



Performance Measure 4

Potable system renewal is sustainably funded

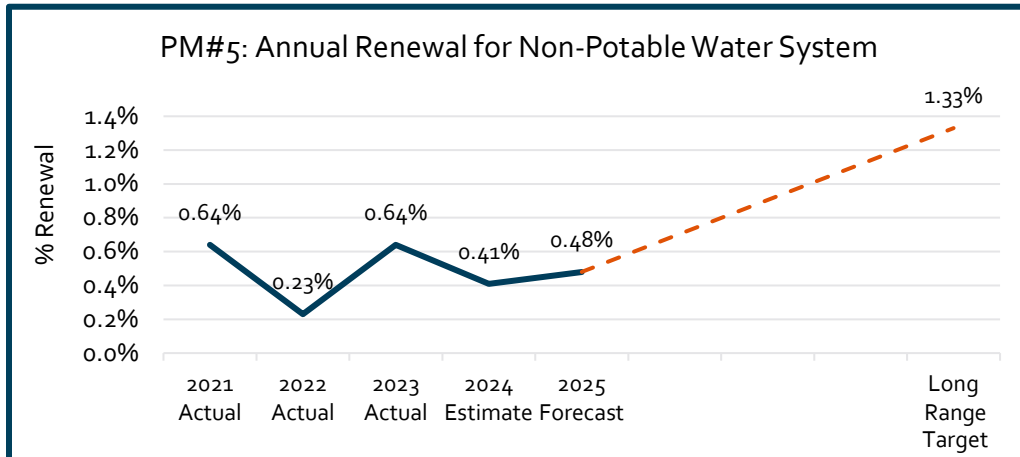
Capital re-investment (renewal) / replacement value of Potable System (%). The long run target should range from 1.2 per cent to 1.5 per cent (67 to 83 year average infrastructure life). The current renewal rate is adequate given the relatively young age of the assets, but renewal will need to increase in the longer term as the system ages.



Performance Measure 5

Non-Potable systems are sustainably funded

Capital reinvestment (renewal) / replacement value of non-Potable System (%). The long run target should range from 1.2 per cent to 1.5 per cent (67 to 83 year average infrastructure life). The current renewal rate is adequate given the relatively young age of the assets, but renewal will need to increase in the longer term as the system ages.



2025 Activities by priority:

Crime & Safety

- Ensure water is available for firefighting.

Affordable Housing

- Maintain affordable water rates

Homelessness

- Support drinking water facilities for all

Transportation

- Coordinate infrastructure renewal effectively with transportation upgrades

Agriculture

- Support agriculture producers with a reliable and cost-effective supply system

Climate & Environment

- Protect the environment and be good environmental stewards

Our People

- Utility leaders actively pursue and support staff training and development.
- Ensure that all certified staff receive adequate training to maintain Provincial required certifications

Digital Transformation

- Use technology as a tool to improve service delivery:
 - Cityworks is an Asset Management tool that uses software to track time and resources to maintain assets
 - A non-potable irrigation system dashboard was developed to permit real time access to storage and irrigation use
 - Continue to build enhanced city data warehouse with more water data including customer water consumption.
 - Evaluate the Glenmore Ellison water system data availability and develop a plan to integrate into the City system at City standards.

Active Financial Management

- Maintain a financially viable water utility through effective budgeting, expenditures and service delivery
- Continue to improve use of benchmarking for effective operations through ongoing participation in the Canadian Infrastructure Benchmarking Initiative

Base Business

- Water Supply and Treatment:
 - Upgrade computer controlling systems to allow effective operation of the systems
 - Ultraviolet Light Disinfection Isolation valves at the three remaining pump stations
 - Major Equipment Renewal: Install Variable Frequency Drive motors at Pump Stations

- Chlorine System Conversion from chlorine gas to hypochlorite – environmental safety
- Operational Improvements: Drainage improvements at reservoirs
- Renewal of Pressure Reducing Valve stations to renew the asset and eliminate confined space requirements for staff
- Non-Potable Supply: Improvements to Hydraulic Creek and McCulloch Spillway
- Turtle Lake Remediation: Improvement to both dams to return them to an acceptable functional level
- Water Distribution:
 - Hydrant Maintenance and Improvement
 - Air Valve Replacement Program; Annually replace valves on a prioritized basis
 - Flushing Program Improvements to optimize program, water quality and service delivery

2024 Key accomplishments:

- Ultraviolet Light Disinfection Facilities: A significant accomplishment was achieved within the Poplar Point UV facility to mitigate impacts from a UV lamp failure. The work was particularly challenging as the system had to remain functional during construction. This work will continue to be expanded to the remaining stations.
- Turtle Lake Dams: Assessment and mitigation of a potential dam failure was completed in 2023. The lake was safely lowered to reduce the risk of failure and a project to remediate the dam is being planned. Dam assessment and monitoring continued to assist with the rehabilitation of the dams. Design of the remediation is expected to commence late in 2024 and continue into 2025.
- Summit Reservoir: One additional reservoir was constructed in 2024 to serve this north part of this city.

Continuous improvements:

- Staff are committed to continuous improvement and assess our systems and infrastructure to look for improvement opportunities.
 - PRV Condition Assessment and Program Development
 - Non-Potable System Assessment
 - Operator Training EOCP, BCWWA
 - Asset Management training
 - Cityworks development and implementation
 - Risk Assessment and contingency planning for critical assets and systems (telemetry and communications)
 - Council approval and implementation of a holistic Water Security and Responsibility Plan
 - Interconnectivity planning with Improvement Districts

Operating budget needed to achieve results (\$ thousands):

	Revised 2024	Annualized Budget	Maintaining Service	Enhancing Service	Preliminary 2025
Revenue budget:					
Property tax					
Fees and charges	20,866	(150)	(395)	-	20,321
Grant	2,992	(2,992)	-	-	-
Other revenue	3,843	(63)	463	-	4,243
Transfers from reserve	8,171	(8,000)	4,359	9,347	13,877
Total revenue budget	35,872	(11,204)	4,427	9,347	38,442
Expenditure budget:					
Salaries and wages	5,339	-	416	49	5,741
Material and other	8,270	(1,231)	114	(21)	7,248
Contract services	191	39	2	-	232
Capital Expenditure	16,548	(16,548)	10,261	9,347	19,608
Debt service	743	-	(1)	-	741
Transfers to reserve	4,050	33	43	-	4,140
Enabling allocation	732	-	-	133	732
Total Expenditure budget	35,872	(17,707)	10,834	9,508	38,442

Note: Totals may not add due to rounding

2025 Operating Requests (\$thousands)

Priority 1

Description	2025	2026	2027	2028	2029
Water Efficiency Program Enhancements	61	119	119	119	119
Water Distribution Operations Enhancements	100	100	100	100	100
Water Operations - Growth	153	272	272	272	272
Operating Requests Priority 1 Total	314	491	491	491	491

2025 Capital Requests (\$thousands)

Priority 1

Description	2025	2026	2027	2028	2029
Programs					
Non-Potable Water Network & Facilities	1,406	2,640	2,740	3,240	3,240
Potable Water Network & Facilities	7,570	6,100	6,350	8,250	7,900
Water Treatment	1,285	400			
Projects					
Frost Rd Upgrades (w/utilities)	200	-	-	-	-
GEID Integration	3,850	600	-	-	-
KLO Bridge Replacement (w/utilities)	2,000	-	-	-	-
Non-Potable System Upgrades	400	2,000	3,300	-	-
Potable Water System Upgrades	2,897	5,450	10,500	7,450	10,000
Capital Request Priority 1 Total	19,608	17,190	22,890	18,940	21,140

* denotes capital request has operating & maintenance impacts included in the request

2025 Operating Request Details

Service Area: Water Utility	Priority 1	Enhance
		ON-GOING
Title: Water Efficiency Program Enhancements		PRELIMINARY

Justification:

Kelowna has one of the highest rates of water use per person in Canada. To enhance the City's water conservation program and support City Council's priority of addressing Climate and Environmental change, budget is requested for a Water Efficiency Coordinator. This specialized position will help the department to implement water conservation and efficiency programs, monitor water usage and leakage, and educate utility customers, agricultural producers, and staff on best practices with the goal of reducing water usage in the community.

Expected Completion:	January, 2025							
Strategic Direction:	Climate & Environment							
	Cost	Reserve	Borrow	Grant	Other	Revenue	Utility	Taxation
2025	60,900	—	—	—	—	—	(60,900)	—
2026	119,200	—	—	—	—	—	(119,200)	—
2027	119,200	—	—	—	—	—	(119,200)	—

Service Area: Water Utility	Priority 1	Enhance
		ON-GOING
Title: Water Distribution Operations Enhancements		PRELIMINARY

Justification:

Budget is requested to develop programs to improve worker safety, operational efficiencies, and fire hydrant protection, which are vital for maintaining the water distribution system. These initiatives include upgrading air valves to eliminate confined spaces, adding automatic flushers to reduce manual flushing, and protecting or repairing hydrants. These measures will help ensure the reliable operation and maintenance of the City's water infrastructure as well as increase worker safety.

Expected Completion:	September, 2025							
Strategic Direction:	Agriculture							
	Cost	Reserve	Borrow	Grant	Other	Revenue	Utility	Taxation
2025	100,000	—	—	—	—	—	(100,000)	—
2026	100,000	—	—	—	—	—	(100,000)	—
2027	100,000	—	—	—	—	—	(100,000)	—

2025 Operating Request Details

Service Area: Water Utility	Priority 1	Maintain
		ON-GOING
Title: Water Operations - Growth		PRELIMINARY

Justification:

Budget is requested to maintain established service levels and continue to meet regulatory requirements for water operations in response to growth and infrastructure aging. This includes an additional Instrumentation/Electrical technician position to operate, maintain, and repair the water monitoring and control systems that manage over 21,000 data points at 216 sites, and a Water Supply Operator III position.

Expected Completion:

Strategic Direction:		Other						
	Cost	Reserve	Borrow	Grant	Other	Revenue	Utility	Taxation
2025	153,200	—	—	—	—	—	(153,200)	—
2026	271,700	—	—	—	—	—	(271,700)	—
2027	271,700	—	—	—	—	—	(271,700)	—

2025 Capital Request Details

Service Area: Water Utility	Priority 1	Maintain
		ONE-TIME
Title: Non-Potable Water Network & Facilities		PRELIMINARY

Justification:

Budget is requested for this annual program to ensure reliable irrigation water service delivery and fire protection for City customers connected to the non-potable system. Annual items for consideration will renew existing mainlines, hydrants, pump stations, reservoirs, and pressure reducing valves (PRVs).

Expected Completion:	December, 2034						
Strategic Direction:	Agriculture						
	Asset Cost	Reserve	Borrow	Fed/Prov	Dev/Com	Utility	Taxation
2025	1,406,000	(1,406,000)	—	—	—	—	—

Service Area: Water Utility	Priority 1	Maintain
		ONE-TIME
Title: Potable Water Network & Facilities		PRELIMINARY

Justification:

Budget is requested for this annual program to ensure reliable safe drinking water service delivery and fire protection for City customers connected to the potable system. Annual items for consideration will renew existing mainlines, hydrants, pump stations, reservoirs, and pressure reducing valves (PRVs).

Expected Completion:	December, 2034						
Strategic Direction:	Other						
	Asset Cost	Reserve	Borrow	Fed/Prov	Dev/Com	Utility	Taxation
2025	7,570,000	(1,839,300)	—	—	(150,000)	(5,580,700)	—

2025 Capital Request Details

Service Area: Water Utility	Priority 1	Maintain
		ONE-TIME
Title: Water Treatment		PRELIMINARY

Justification:

Budget is requested for this annual program to ensure reliable safe drinking water service delivery and fire protection for City customers connected to the potable system. Annual items for consideration will renew existing water treatment facilities.

Expected Completion:	December, 2034						
Strategic Direction:	Other						
	Asset Cost	Reserve	Borrow	Fed/Prov	Dev/Com	Utility	Taxation
2025	1,285,000	(1,285,000)	—	—	—	—	—

Service Area: Water Utility	Priority 1	Enhance
		ONE-TIME
Title: Frost Rd Upgrades (w/utilities)		PRELIMINARY

Justification:

Budget is requested to supplement a transportation capital project to connect Frost Road with Chute Lake Rd. The new mainline will be installed within the Frost Roundabout and extension, and decommission or relocating aging watermain and blow offs. Hydrants will be added for more fire flow coverage.

Expected Completion:	December, 2025						
Strategic Direction:	Other						
	Asset Cost	Reserve	Borrow	Fed/Prov	Dev/Com	Utility	Taxation
2025	200,000	(200,000)	—	—	—	—	—

2025 Capital Request Details

Service Area: Water Utility	Priority 1	Enhance
		ONE-TIME
Title: GEID Integration		PRELIMINARY

Justification:

Budget is requested for this project to ensure reliable water service delivery and fire protection for all customers connected to the Glenmore Ellison Improvement District (GEID) water system. This work was previously identified by GEID and recognized here as part the City water utility integration process.

Expected Completion:	December, 2026						
Strategic Direction:	Other						
	Asset Cost	Reserve	Borrow	Fed/Prov	Dev/Com	Utility	Taxation
2025	3,850,000	(3,850,000)	—	—	—	—	—

Service Area: Water Utility	Priority 1	Enhance
		ONE-TIME
Title: KLO Bridge Replacement (w/utilities)		PRELIMINARY

Justification:

Budget is requested for the 2025 component of the Water System Resiliency and Interconnection Program that was started in 2024 for design to coordinate with the KLO Bridge Replacement project through Transportation. The project completes the interconnection of the potable system in South East Kelowna Irrigation District (SEKID). The project includes a connecting water main, a pressure reducing valve station and the future site of a booster station to supply water uphill to Dall Reservoir and provide resiliency to Hall Rd and SEKID users.

Expected Completion:	December, 2025						
Strategic Direction:	Other						
	Asset Cost	Reserve	Borrow	Fed/Prov	Dev/Com	Utility	Taxation
2025	2,000,000	(2,000,000)	—	—	—	—	—

2025 Capital Request Details

Service Area: Water Utility	Priority 1	Enhance
		ONE-TIME
Title: Non-Potable System Upgrades		PRELIMINARY

Justification:

Budget is requested for this annual program to ensure reliable irrigation water service delivery and fire protection for City customers connected to the non-potable system. Annual items for consideration will upgrade existing or install new mainlines, hydrants, pump stations, reservoirs, and pressure reducing valves (PRVs). These upgrades address gaps in resiliency that threaten critical operational and regulatory needs by adding operational capacity. It assures water can be delivered effectively during the critical peak summer periods when vineyards, orchards and market crops require that resilient water supply.

Expected Completion:	December, 2027						
Strategic Direction:	Other						
	Asset Cost	Reserve	Borrow	Fed/Prov	Dev/Com	Utility	Taxation
2025	400,000	(400,000)	—	—	—	—	—

Service Area: Water Utility	Priority 1	Enhance
		ONE-TIME
Title: Potable Water System Upgrades		PRELIMINARY

Justification:

Budget is requested for this annual program to ensure reliable safe drinking water service delivery and fire protection for City customers connected to the potable system. Annual items will upgrade existing or install new mainlines, hydrants, pump stations, reservoirs, and pressure reducing valves (PRVs). These upgrades increase level of service to meet Bylaw 7900 requirements for commercial and multi-family buildings.

Expected Completion:	December, 2028						
Strategic Direction:	Other						
	Asset Cost	Reserve	Borrow	Fed/Prov	Dev/Com	Utility	Taxation
2025	2,897,000	(2,897,000)	—	—	—	—	—