

DISTRICT OF WEST VANCOUVER
750 17TH STREET, WEST VANCOUVER BC V7V 3T3

COUNCIL REPORT

Date:	November 1, 2023
From:	Fatemeh Mansoori, Senior Manager, Engineering Utilities Planning, Design and Project Delivery
Subject:	Proposed "Waterworks Regulation Bylaw No. 5260, 2023, Amendment Bylaw No. 5283, 2023" and Utility Update
File:	1700.09

RECOMMENDATION

THAT

1. Water Utility fees be adjusted for 2024 to the amounts set out in Schedules A and B of the proposed "Waterworks Regulation Bylaw No. 5260, 2023, Amendment Bylaw No. 5283, 2023," as attached; and
2. Proposed "Waterworks Regulation Bylaw No. 5260, 2023, Amendment Bylaw No. 5283, 2023" be read a first, second, and third time.

1. Purpose

The purpose of this report is to provide an update on activities within the Water Utility and to inform Council of the financial impacts and recommended bylaw amendments for the 2024 Water Utility fee structure.

2. Executive Summary

The District's Water Utility and its Five-Year Financial Plan, **Appendix A**, can be roughly divided into five main areas:

- purchase of bulk potable water from Metro Vancouver, the Greater Vancouver Water District (GVWD)
- operation and maintenance of the Eagle Lake and Montizambert source supply systems (dams, intakes, pumps, pipelines, treatment plants, chlorination stations, etc.)
- operation and maintenance of the water distribution system (storage reservoirs, pump stations, valves, mains, etc.)
- renewal of the supply and distribution systems (infrastructure renewal and asset management, debt servicing, and transfer to reserve)
- financing of vehicles and equipment associated with these functions

The Water Utility has operated under a pay-as you-go approach. All costs attributable to the production and delivery of potable water are borne by the Water Utility and are to be paid for in the year that they occur with

some exception to this policy allowing for debt servicing related to distinct investments for the utility.

In 2021, Council adopted an asset management plan which established an updated long-term approach to the water systems capital rehabilitation programming. To meet and sustain long-term funding requirements for the District's water distribution and treatment systems, an increase of annual capital investment program funding of \$500,000 per annum was incorporated into the rate setting for the Water Utility over the next 10 years. This came into effect beginning in 2022.

For 2024, staff are recommending an overall 5.1% revenue increase in the Water Utility to meet both operational and capital renewal programming funding needs. The proposed revenue increases will maintain the Operating Reserve and the Capital Reserve balances at targets consistent with industry best practices.

The proposed rates reflect an annual increase of \$44 for the median single-family household and \$28 for the average multi-family unit over 2023. The average multi-family amount is calculated from the total estimated revenues from multi-family buildings in 2024, divided by the total number of multi-family units.

A proposed Five-Year Financial Plan for the utility is provided as **Appendix A**. Utility equipment funded through the rate reserves is detailed within **Appendix B**. Rates are forecast to increase each year through 2028. Water meter base rates and volume rates are specified in Schedule A and B of the proposed bylaw amendment **Appendix C**.

3. Legislation/Bylaw/Policy

The Provincial Drinking Water Protection Act – An act establishing regulations governing water suppliers in British Columbia.

Metro Vancouver Drinking Water Management Plan 2011 – A plan which sets the direction and priority for provision of safe, clean drinking water; ensures sustainable use of water resources; ensures efficient supply of water.

District of West Vancouver Waterworks Regulation Bylaw No. 5260, 2023– A bylaw to regulate the Waterworks System, the fixing of rates, connection fees, and meter rents with respect to the use of water.

4. Council Strategic Objective(s)/Official Community Plan

Official Community Plan

Section 2.5 of the 2018 Official Community Plan (OCP), Municipal Operations and Infrastructure, outlines several key policies related to water conservation including:

2.5.6 Monitor water usage and revise rate structures as necessary to continue reliable and equitable services.

2.5.7 Encourage use of development practices, landscape designs and built systems that reduce water demand and consumption.

2.5.8 Encourage water conservation through leak detection, water metering and communitywide education programs.

Council's Strategic Objectives

This report also aligns with Council Strategic Objectives:

5.0 Deliver municipal services efficiently.

5. Financial Implications

This report recommends the adoption of Water Utility fees for 2024. The 2024 District's Water Utility budget is approximately \$24.8 million, roughly a \$1.9 million increase over the 2023 budgeted expenditures of \$22.9 million. The year over year increase is attributed to capital investment in infrastructure intended to address system resiliency and redundancy, as well as existing and future service level needs; a portion of the overall project costs are funded by external funding.

For 2024, an overall 5.1% revenue increase in the Water Utility is required. The revenue increase needs will be met with a 5% increase to single family residential users and 10% increase to multi-family and commercial users. An analysis amongst the three rate user classes has found that customer allocation of costs has shifted over the last several years. Based on factors such as meters and services, base demand, peak demand, and fire flow, the distribution of costs required adjustment to more accurately align with the provisional costs associated with each specific user type.

The changes proposed for 2024 reflect an annual median increase of \$44 for a single-family household and an average increase of \$28 for a multi-family unit, as compared to 2023 rates.

Primary cost drivers for rates in 2024 include:

- inflation and increased operating expenses
- an increase to infrastructure construction costs associated with the utility

- major system infrastructure investment

The District last completed a comprehensive review of its Water and Sewer Rate Structure in 2017. The study involved review of previously established utility fiscal policies, an update of the revenue requirements analysis, re-evaluation of customer class "cost-of-service" (given improved reliability of usage data) and updating the rate structures previously implemented by the District. The 2017 study recommended adjustments to utility rates, aimed at securing funding for non-growth capital initiatives, as well as the expenses associated with asset maintenance and replacement. As the anticipated five-year review cycle has concluded, staff plan to commission an updated review of the Water and Sewer Rate Study in 2024. Consistent with earlier comments in this section of the report, as part of this review, the allocation of costs among the three user types will be further evaluated.

For two years, the Utility has relied on a temporary clerical role to provide adequate customer service and administrative support and has also maintained a temporary engineer role to assist in the engineering and planning aspects. While already funded through the existing rates, moving forward, the budget formally accounts for this clerical position (.5 FTE) and the project engineer position(0.35FTE).

6. Background

6.1. Previous Decisions

At its **October 30, 2023, Regular Meeting**, Council passed the following resolution

THAT

1. Proposed "Waterworks Regulation Bylaw No.5260, 2023" be read a first, second and third time; and
2. Proposed "Bylaw Notice enforcement Bylaw No. 4368, 2004, Amendment Bylaw No. 5274, 2023" be read a first, second, and third time.

Following the adoption of the Waterworks Regulation Bylaw No.5260, 2023, the Waterworks Regulation Bylaw No. 4490, 2006 and associated amendments have been repealed and replaced with the Waterworks Regulation Bylaw No. 5260, 2023. Nevertheless, the proposed rate adjustments in this report are in accordance with the endorsement received from the Finance and Audit Committee, dated September 11, 2023.

At its **September 11, 2023, meeting**, the **Finance & Audit Committee** passed the following resolution

THAT

1. the Finance and Audit Committee endorse the following bylaws:
 - Solid Waste Utility Bylaw No. 4740, 2012, Amendment Bylaw No. 5246, 2023;
 - Waterworks Regulation Bylaw No. 4490, 2006, Amendment Bylaw No. 5244, 2023;
 - Sewer and Drainage Utility Fee Bylaw No. 4538, 2007, Amendment Bylaw No. 5245, 2023; and
2. the bylaws be forwarded to Council for consideration.

At its **June 29, 2023, meeting, the Finance & Audit Committee** received for information a memo titled "Utility Funding and Rate Setting", as an introduction to utility funding and rate setting within the District. It was Moved and Seconded:

THAT the Utility Funding and Rate Setting presentation and memo be received for information.

At its **July 11, 2022, Regular Meeting**, Council passed the following resolution

THAT

1. Water Utility fees be increased for 2023 to the amounts set out in Schedules A and B of proposed "Waterworks Regulation Bylaw No. 4490, 2006, Amendment Bylaw No. 5189, 2022," as attached to the report dated June 1, 2022, from the Senior Manager of Engineering Utilities Planning, Design & Project Delivery; and
2. proposed "Waterworks Regulation Bylaw No. 4490, 2006, Amendment Bylaw No. 5189, 2022" be read a first, second, and third time.

At its **July 12, 2021, Regular Meeting**, Council passed the following resolution

THAT

1. The report dated June 23, 2021, titled Water Utility System Asset Management Plan 2021 be received for information;
2. Staff prepare the Water Utility rate setting process to account for a phased increase of the annual capital funding program in order to meet and sustain long-term funding requirements for the District's water distribution and treatment systems;
3. Staff develop and incorporate into the water rate setting process, a Water Utility capital renewal escalation factor that captures construction inflation costs and that this factor be updated and reviewed with Council every three years or as appropriate beginning in 2024; and

4. Staff proceed with preparing loan authorization bylaw(s) to fund the reconstruction and updating of the Westmount Pump Station and Reservoir.

6.2. History

The District's Water Utility produces and delivers potable water to all residents and businesses within the municipality. Fees go directly toward providing drinking water and can be broken down into five main areas:

- purchase of bulk potable water from Metro Vancouver, the Greater Vancouver Water District (GVWD)
- operation and maintenance of the Eagle Lake and Montizambert source supply systems (dams, intakes, pumps, pipelines, treatment plants, chlorination stations, etc.)
- operation and maintenance of the water distribution system (storage reservoirs, pump stations, valves, mains, etc.)
- renewal of the supply and distribution systems (infrastructure renewal and asset management, debt servicing, and transfer to reserve)
- financing of vehicles and equipment associated with these functions

Since 2007, the District has been billing all consumers for water consumption under a full user-pay, universally metered system. The Universal Metering Project was implemented to provide customer equity, to promote water conservation, and to detect leaks.

In 2018, a four-tier rate structure was introduced within the Utility and has been used to provide incentive for water conservation since adoption.

Since the implementation of the four-tier rate structure in 2018, the number of users in tiers three and four have increased by 8% and 5%, while their total water usage has decreased by 4% and 8% respectively.

	Year	0 - 30	31 - 60	60 - 180	180+
Distribution of Customer Bills	2017	20.3%	30.4%	36.6%	12.8%
Distribution of Customer Bills	2022	18.3%	28.9%	39.6%	13.4%
Percent Change		-9.7%	-4.9%	8.1%	4.6%
Distribution of Water Use:	2017	27.1%	18.9%	30.1%	23.9%
Distribution of Water Use:	2022	29.0%	20.0%	29.0%	22.0%
Percent Change		7.2%	5.7%	-3.6%	-8.1%

With respect to financial viability, the Water Utility has operated under a pay-as-you-go approach. All costs attributable to the production and delivery of potable water are borne by the Water Utility and are to be paid for in the year that they occur.

Exceptions to this policy have been related to the investments made in universal metering and to the development of the Eagle Lake water

source. The debt servicing related to these investments appears as a separate line under the Water Utility's expenses, as captured within **Appendix A** to this report. The balances associated with these investments will be paid in full by the end of 2029.

In 2016, a Water Utility Reserve (the Reserve), was adopted for the following reasons:

- to provide a mechanism to accumulate funds for future infrastructure investments
- to be consistent with Divisional long-term financial planning
- to mitigate the effects of escalating regional costs by providing an alternative to unrealistic rate increases (rate stabilization)
- to provide a funding source for operating emergencies which may occur from time to time

Since establishment, the Reserve has operated such that the planned annual contributions to capital are treated as Reserve Fund contributions and transferred to the Reserve. Through the financial planning process, the Reserve serves as a funding source for the annual capital program with appropriations from the Reserve by a Council resolution. A Council resolution would be required for any mid-year emergency appropriations from the Reserve.

The Reserve is treated as appropriated equity and accrues interest. The earned interest becomes part of the accumulated balance of the Reserve and is subject to the Reserve guidelines for use.

7. Analysis

7.1. Discussion

7.1.1. Five-Year Financial Plan (2024 - 2028)

There are several short and long-term cost drivers incorporated into the Five-Year Financial Plan (2024 - 2028) for the Water Utility (Schedule A) as described below:

▪ ***Regional Water Rate Expenditures versus Eagle Lake Supply***

The GVWD rate increase for bulk treated water in 2024 is estimated to be 7.6%, with additional increases for 2025 to 2028 projected at 8.9%, 6.4%, 3.5%, and 2.7% respectively. Although there is uncertainty associated with GVWD rate projections, and they are expected to increase in future years.

To mitigate the rising cost of bulk water purchase from GVWD, the Eagle Lake water source was developed over a series of years culminating in the commissioning of the membrane filtration water treatment plant in 2008. The Eagle Lake Development Plan involved an initial investment of approximately \$21 million, with an additional \$6.5 million capital

investment for subsequent additions and replacements up to the present date.

The Eagle Lake source is an opportunistic supply due to its basin size and elevation. The operation, production, and supply of treated water is managed proactively based on availability within drier, higher demand periods. The plant currently supplies approximately 40% of the municipality's water at a unit cost below that available from Metro Vancouver as illustrated in **Figure 1** below. In 2024 the per unit operating costs of Eagle Lake are estimated to be \$0.79/m³ as compared to Metro Vancouver at a unit cost of \$0.93/m³; these unit rate costs for Eagle Lake do not reflect capital investment costs.

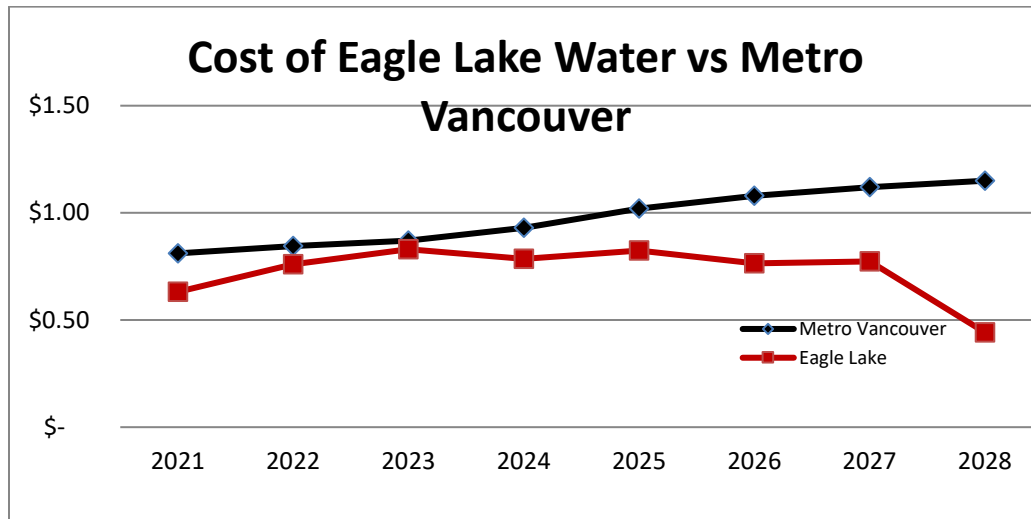


Figure 1

In 2024, the use of the water source at Eagle Lake is expected to save the District approximately \$428,300 compared to purchasing the equivalent amount of water at GVWD rates, taking only operational costs into account.

▪ **Infrastructure Replacement**

Staff continue to focus efforts on refining and implementing a prioritized infrastructure management program for the Water Utility, the basis of which is informed by the following studies:

- Water Master Servicing Study completed in 2016
- Dam Safety Review (DSR) completed in 2017
- Water System Asset Management Plan (WSAMP), completed in 2021

Based on the updated information provided by the Water Master Servicing Study and the DSR, staff completed the updated Water System Asset Management Plan in 2021 to establish a revised long-term approach to the water systems capital rehabilitation program and to optimize and

inform future budget investment requirements necessary for the long-term sustainability and operation of the Water Utility.

Comparing the previous 2010 System Asset Management Plan and the 2021 WSAMP, the renewal funding requirements and the deferred maintenance backlog as captured in 2021 were significantly different than those described in 2010. The most significant drivers contributing to the difference in the backlog were construction cost inflation and immediate needs to address system service level deficiencies which was not considered as part of the original 2010 WSAMP.

As detailed in the June 23, 2021 [Water Utility System Asset Management Plan 2021](#) staff report, endorsed by Council, there are two separate strategies to address the identified backlog projects and to secure the long term future of the Water Utility's assets. The first is to increase the existing capital renewal escalation factor to fund the asset investment required in watermains. Secondly, for the rehabilitation and construction of new nonlinear infrastructure, such as pump stations and reservoirs which will be largely reliant on funding through the Capital Reserve and borrowing.

Staff completed an analysis in 2021 and as the result, and to achieve sustainable funding levels, an increase of annual capital investment program funding of \$500,000 per annum will be incorporated into the rate setting for the Water Utility over the next 10 years. This came into effect beginning in 2022.

▪ **Major Infrastructure Projects**

Westmount Pump Station and Reservoir

The Westmount pump station and reservoir are currently undersized to meet existing and future water conveyance, water supply redundancy, and fire fighting needs, based on the latest hydraulic modelling studies available. They form the critical backbone of the supply system that pumps Metro Vancouver water to the western portions of the District. Without the upsizing of these critical assets, there is significant risk towards the future uninterrupted supply of potable water to the western portions of the District during hot summer periods when there is a limited water supply at the District's Eagle Lake source.

Based on a Class C cost estimates, the total cost of the project is estimated at \$15.4 million. As these projects benefit future growth, there is opportunity for development funding contributions, depending on future population servicing needs. The preliminary design is currently being carried out for these two projects. The cost and the year in which it is incurred will be further refined as more information becomes available throughout the project planning and design process.

11th Street Pump Station Renewal

As part of the 2023 Division programming, the planning and design phase for the 11th Street Pump Station replacement is currently in progress. The existing 11th Street Pump station was constructed in 1960 and has reached its end of useful life. It is a critical infrastructure site within the water distribution system, providing for Metro Vancouver supply to the western portion of the municipality as necessary and, depending on the time of year and availability of the Eagle Lake source, supply to many neighbourhoods above the Upper Levels Highway. Planned work consists of a design-bid build approach, where detailed design is built off previously completed planning work consisting of site layout, feasibility, and costing for the station renewal.

Based on a revised Class C cost estimates as per the 30% preliminary design, the total cost of the construction is estimated at \$6.3 million, of which \$1.3 million is to be funded from external contributions, \$3.8 million from the Capital Reserve, and the remainder from a portion of the 2022 and 2024 Infrastructure Replacement Funding from the water utility rates. Class cost estimates often depend on the complexity of the project, with a Class C estimate being based on preliminary design development and typically an accuracy of +/- 20 - 30%.

Lookout Reservoir

The system addition of a second Lookout Reservoir, located at the second switchback on Cypress Bowl Road, will provide for storage capacity for the neighbourhoods situated above the highway including Rodgers Creek. Its purpose is to address existing deficiencies in water service levels for the area, ensuring adequate levels of service; a component of the infrastructure's capacity will benefit future neighbourhoods in the service area.

The overall project expenditure is projected to amount to \$4.2 million of which \$2.1 million will be funded by the District from the Capital Reserve. The project is currently on track to conclude by the end of 2024.

▪ ***Operations & Maintenance***

An increase of \$133,700 from the 2023 budget has been incorporated into the 2024 Operating Budget. This is due to inflationary increases to the District's operations.

▪ ***Contribution to Operating Reserve***

An increase of \$1.26 million has been incorporated in the rates to maintain 120 days of operating expenses, providing for a buffer should water use or GVWD bulk purchase increase beyond that projected. A utility rate review completed in 2017 recommended building an Operating Reserve equivalent to 120 days of operating expenses. Unused Operating Reserve funds exceeding this amount are transferred into the Capital Reserve

Fund. This amount will maintain the Operating Reserve at 120 days and set aside funds in the Capital Reserve for future works.

▪ **Equipment Replacement**

To have the functions of the Water Utility carry the full cost of the operating and capital needs, the capital replacement of vehicles and equipment primarily used within the utilities department is funded through the Water Utility funds. The planned 2024 capital vehicle and equipment replacement purchases attributable to the Water Utility are detailed in Appendix B.

7.1.2. **Summary of 2024 Water Utility Expenditures**

Figure 2 shows the breakdown of the proposed Water Utility expenditures for 2024.

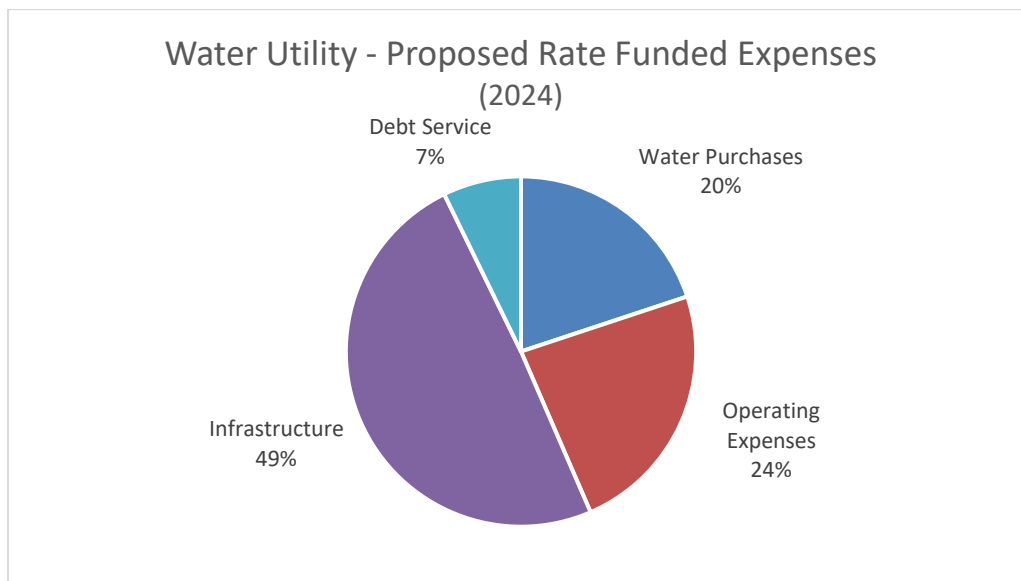


Figure 2

The proposed 2024 - 2028 revenue increases will maintain the Operating Reserve to 120 days of expenses in 2024, maintain the Capital Reserve to 0.5% of total capital assets, and set aside funds for future works including the meter replacement program.

Additional revenue requirements anticipated for the 2024 - 2028 budget years are projected to be 5.1%, 5.8%, 5.8%, 5.4% and 6.2% per year, respectively. Further refinements will be made with continuing efforts related to implementation of the asset management program, fluctuations in the cost of bulk water from Metro Vancouver, the influence of market forces and inflation on system operations and renewal, and the potential to optimize the Eagle Lake water supply when conditions permit.

Figure 3 shows the difference of budgeted expenditures from 2023 to 2024.

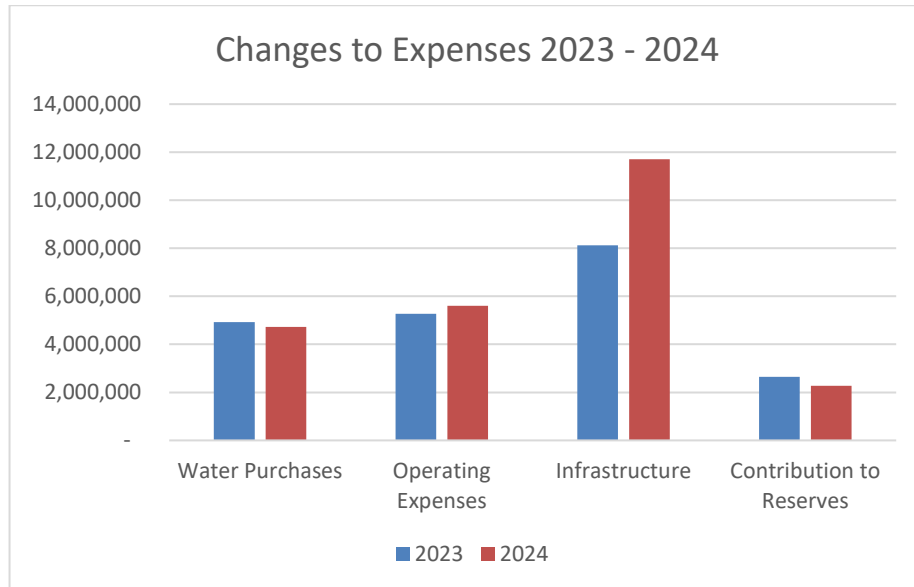


Figure 3

The estimated annual charge for the median single-family household in 2024 is \$929, based on 2022 consumption. This represents an increase of \$44 or 5.4% over 2023.

There are approximately 7,800 multi-family units in West Vancouver which represents about 14.1% of the total residential water usage. The estimated annual charge for the average multi-family unit in 2024 is \$311, based on 2022 consumption. This represents an increase of \$28 or 10% over 2023. This is calculated by the total estimated revenue from multi-family buildings in 2024, divided by the number of multi-family units.

7.2. Sustainability

The District's universal metering program provides the ability for residents to monitor and control their water usage which helps to foster conservation.

Natural Capital

In 2019, the District completed an inventory of its natural capital assets, placing a value of nearly \$574 million on the eco-system services contributed by its abundant water assets. Maintenance and enhancement of these assets will now form a key part of the asset management plans of the Water Utility. Reliance on assets, such as the Eagle Lake protected watershed, integrates natural solutions with built infrastructure, and staff will seek additional ways and leverage opportunities where they exist to further support this objective moving forward.

7.3. Public Engagement and Outreach

Staff apply the District's Community Outreach and Engagement Policy when communicating and engaging with residents on issues pertaining to the Water Utility.

The District's universal water meter system enables targeted engagement and outreach on issues pertaining to the Water Utility. Using water meter data during the summer months, the Engineering Department sends targeted letters to the highest residential water users to encourage water conservation. The high-water user letter has shown to reduce consumption in some of the District's highest water users.

The District also leverages Metro Vancouver's engagement and outreach material regarding the Drinking Water Conservation Plan and staged seasonal water restrictions. Warmer temperatures and longer dry spells due to climate change will likely result in more frequent implementation of higher and more restrictive stages. Engagement and outreach will continue to be important tools to encourage water conservation and reduce the strain on our existing local and regional water supply now and in the future.

7.4. Other Communication, Consultation, and Research

This report and the rate setting exercise for the Water Utility Fund is a collaborative effort with the Financial Services Division. This report and other reports pertaining to the Water Utility are included as part of the communications related to the overall District Budget process.

8. Options

8.1. Recommended Option

THAT

1. Water Utility fees be increased for 2024 to the amounts set out in Schedules A and B of the proposed "Waterworks Regulation Bylaw No. 5260, 2023, Amendment Bylaw No. 5283, 2023," as attached; and
2. The proposed "Waterworks Regulation Bylaw No. 5260, 2023, Amendment Bylaw No. 5283, 2023", be read a first, second and third time.

8.2. Considered Options

Council may request additional information or provide alternate direction (to be specified).

9. Conclusion

This report recommends the adoption of Water Utility fees for 2024. Staff recommend that a Water Utility Fund revenue increase of 5.1% be approved for 2024.

Author: 

Fatemeh Mansoori, Senior Manager Engineering Utilities Planning, Design and Project Delivery

Concurrence 

Isabel Gordon, Director Financial Services

Appendices:

Appendix A - Water Utility – 5-Year Financial Plan (2024-2028)

Appendix B - Planned 2024 Water Capital Vehicle and Equipment Purchases

Appendix C - Proposed "Waterworks Regulation Bylaw No. 5260, 2023 Amendment Bylaw No. 5283, 2023"

District of West Vancouver

Water Utility - 5 Year Financial Plan
Summary

APPENDIX A

	2023	2024	2025	2026	2027	2028
Revenue Requirements	FORECASTED ACTUALS	PROPOSED	PROPOSED	PROPOSED	PROPOSED	PROPOSED
Revenues						
Utility Fee Revenue	\$ 22,956,500	\$ 22,956,500	\$ 24,217,700	\$ 25,652,300	\$ 27,182,500	\$ 28,805,400
Utility Fee Early Payment Discount	\$ (2,295,600)	\$ (2,295,600)	\$ (2,421,800)	\$ (2,565,200)	\$ (2,718,300)	\$ (2,880,500)
Micro Power Generation	\$ 1,500	\$ -	\$ -	\$ -	\$ -	\$ -
Internal / Equipment Recoveries	\$ 150,000	\$ 228,200	\$ 235,046	\$ 242,097	\$ 249,360	\$ 256,841
Transfer from Reserves	\$ 2,790,000	\$ 3,681,800	\$ 2,502,454	\$ 2,830,403	\$ 5,155,640	\$ 5,000,000
Other Revenue	\$ 1,326,000	\$ 26,000	\$ 26,000	\$ 26,000	\$ 26,000	\$ 26,000
Interest Earnings	\$ 146,500	\$ 185,400	\$ 149,700	\$ 144,800	\$ 260,600	\$ 229,100
Total Revenues	\$ 25,074,900	\$ 24,782,300	\$ 24,709,100	\$ 26,330,400	\$ 30,155,800	\$ 31,436,841
Expenses						
Operating Expenses	\$ 9,659,400	\$ 10,335,900	\$ 10,977,500	\$ 11,537,500	\$ 11,968,800	\$ 12,371,100
Debt Service	\$ 1,784,900	\$ 1,717,400	\$ 1,350,300	\$ 1,146,800	\$ 129,000	\$ 521,500
Infrastructure Replacement	\$ 9,840,000	\$ 11,710,000	\$ 11,437,500	\$ 12,672,500	\$ 15,905,000	\$ 16,495,000
Contribution to Reserves	\$ 1,228,800	\$ 2,280,200	\$ 2,378,400	\$ 2,503,800	\$ 3,775,900	\$ 3,607,400
Total Expenses	\$ 22,513,100	\$ 26,043,500	\$ 26,143,700	\$ 27,860,600	\$ 31,778,700	\$ 33,387,500
Net Revenue Required from Rate Increases	2,561,800	(1,261,200)	(1,434,600)	(1,530,200)	(1,622,900)	(1,950,700)
Annual Rate Revenue Requirement		5.1%	5.8%	5.8%	5.4%	6.2%
Cumulative Annual Rate Adjustment		5.1%	10.9%	16.7%	22.1%	28.3%
Net Rate Revenues After Rate Increase	\$ 20,660,800	\$ 21,693,900	\$ 22,995,500	\$ 24,375,200	\$ 25,837,800	\$ 27,388,000
Net Cash Flow After Rate Increase (Inc use of reserves)	4,018,800	2,280,200	2,378,400	2,503,800	3,775,900	3,607,400
Metro Vancouver Rate Increases		7.6%	8.9%	6.4%	3.5%	2.7%

Operating Expenses	2023	2024	2025	2026	2027	2028
Water Purchased from GVRD	4,388,809	4,731,800	5,163,239	5,504,674	5,708,732	5,874,594
Administration	1,099,600	1,387,700	1,429,200	1,472,400	1,517,300	1,564,000
Meters Maintenance	611,800	618,200	642,928	668,645	695,391	723,207
System Operating						
Supply	669,900	683,800	711,152	739,598	769,182	799,949
Distribution	1,898,400	1,929,700	2,006,925	2,087,202	2,170,690	2,257,517
Treatment	990,900	984,700	1,023,995	1,064,955	1,107,553	1,151,856
Total	\$ 9,659,409	\$ 10,335,900	\$ 10,977,439	\$ 11,537,474	\$ 11,968,848	\$ 12,371,122

Infrastructure Management	2023	2024	2025	2026	2027	2028
Long Term - Infrastructure Management						
Capital projects	\$ 9,450,000	\$ 11,400,000	\$ 11,200,000	\$ 12,100,000	\$ 15,500,000	\$ 16,400,000
Equipment Renewals	\$ 390,000	\$ 310,000	\$ 237,500	\$ 572,500	\$ 405,000	\$ 95,000
Total	\$ 9,840,000	\$ 11,710,000	\$ 11,437,500	\$ 12,672,500	\$ 15,905,000	\$ 16,495,000
Funding Sources						
Infrastructure Replacement Funding from Rates	\$ 6,900,000	\$ 7,800,000	\$ 8,700,000	\$ 9,600,000	\$ 10,500,000	\$ 11,400,000
Internal / Equipment Recoveries	\$ 150,000	\$ 228,200	\$ 235,046	\$ 242,097	\$ 249,360	\$ 95,000
Use of Available Capital Reserves	\$ 2,790,000	\$ 3,681,800	\$ 2,502,454	\$ 2,830,403	\$ 5,155,640	\$ 5,000,000
Total	\$ 9,840,000	\$ 11,710,000	\$ 11,437,500	\$ 12,672,500	\$ 15,905,000	\$ 16,495,000

Equipment Renewal	2022	2024	2025	2026	2027	2028
Acquisitions	\$ 390,000	\$ 310,000	\$ 237,500	\$ 572,500	\$ 405,000	\$ 95,000
Recoveries	\$ (150,000)	\$ (228,200)	\$ (235,046)	\$ (242,097)	\$ (249,360)	\$ (256,841)
Total Expense from Reserve	\$ 240,000	\$ 81,800	\$ 2,454	\$ 330,403	\$ 155,640	\$ (161,841)

Water Funds	2023	2024	2025	2026	2027	2028
Water - Operating Surplus Beginning Balance	\$ 3,354,161	\$ 3,175,697	\$ 3,388,807	\$ 3,609,054	\$ 3,793,139	\$ 3,934,959
plus: Net Cash Flow after Rate Increase	\$ 4,018,761	\$ 2,280,199	\$ 2,378,413	\$ 2,503,838	\$ 3,775,939	\$ 3,607,402
less: Transfer of surplus to Capital	\$ (4,197,225)	\$ (2,067,090)	\$ (2,158,166)	\$ (2,319,753)	\$ (3,634,119)	\$ (3,486,263)
Ending Balance	\$ 3,175,697	\$ 3,388,807	\$ 3,609,054	\$ 3,793,139	\$ 3,934,959	\$ 4,056,098
Water - Capital Fund Beginning Balance	\$ 2,874,397	\$ 7,143,482	\$ 5,979,431	\$ 5,784,628	\$ 10,418,595	\$ 9,157,539
plus: Infrastructure Replacement From Rates	\$ 6,900,000	\$ 7,800,000	\$ 8,700,000	\$ 9,600,000	\$ 10,500,000	\$ 11,400,000
plus: Internal / Equipment Recoveries	\$ 150,000	\$ 228,200	\$ 235,046	\$ 242,097	\$ 249,360	\$ 256,841
plus: Transfers from Operating Fund	\$ 4,197,225	\$ 2,067,090	\$ 2,158,166	\$ 2,319,753	\$ 3,634,119	\$ 3,486,263
plus: Grants / Other Outside Sources	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -
plus: Interest Earnings	\$ 71,860	\$ 178,587	\$ 149,486	\$ 144,616	\$ 260,465	\$ 228,938
less: Capital Expenditures	\$ (7,050,000)	\$ (11,437,928)	\$ (11,437,500)	\$ (12,672,500)	\$ (15,905,000)	\$ (16,495,000)
Ending Balance	\$ 7,143,482	\$ 5,979,431	\$ 5,784,628	\$ 10,418,595	\$ 9,157,539	\$ 8,034,581
Water - Future Water Projects Beginning Balance	\$ 2,987,387	\$ 272,072	\$ 6,801	\$ 6,971	\$ 7,146	\$ 7,324
plus: Infrastructure Replacement From Rates	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
plus: Transfers from Water Reserve Fund	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
plus: Interest Earnings	\$ 74,685	\$ 6,802	\$ 170	\$ 174	\$ 179	\$ 183
less: Capital Expenditures	\$ (2,790,000)	\$ (272,072)	\$ -	\$ -	\$ -	\$ -
Ending Balance	\$ 272,072	\$ 6,801	\$ 6,971	\$ 7,146	\$ 7,324	\$ 7,507
Total	\$ 10,591,251	\$ 9,375,039	\$ 9,400,654	\$ 14,218,879	\$ 13,099,822	\$ 12,098,187

Current Five Year Plan Includes the following Assumptions:

Estimated contractual staff/labour increases

4% CPI O&M increases for five years 2023 - 2027

Increases to the Metro Vancouver Bulk Water Rate as provided by Metro Vancouver in Fall 2020 (See above)

Increases in the Infrastructure Management Program to reach CPI adjusted sustainable funding levels per the 2020 Water Asset Management Plan

Planned 2024 Utilities Capital Vehicle and Equipment Purchases

Type	Details	Cost	Water	Sewer
Crew Van	Replace 2011 workhorse crew van, M003. M003 has come to the end of its useful life. This van will be replaced with an all-electric van, which will greatly reduce the District's GHG emissions.	\$620,000	\$310,000	\$310,000
Total Vehicles & Equipment		\$620,000	\$310,000	\$310,000

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District of West Vancouver

**Waterworks Regulation
Bylaw No. 5260, 2023,
Amendment Bylaw No. 5283, 2023**

Effective Date:

Waterworks Regulation Bylaw No. 5260, 2023, Amendment Bylaw No. 5283, 2023

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District of West Vancouver

Waterworks Regulation Bylaw No. 5260, 2023, Amendment Bylaw No. 5283, 2023

WHEREAS the Council of The Corporation of the District of West Vancouver deems it expedient to amend Waterworks Regulation Bylaw No. 5260, 2023;

NOW THEREFORE, the Council of The Corporation of the District of West Vancouver enacts as follows:

Part 1 Citation

- 1.1 This bylaw may be cited as Waterworks Regulation Bylaw No. 5260, 2023, Amendment Bylaw No. 5283, 2023.

Part 2 Severability

- 2.1 If a portion of this bylaw is held invalid by a Court of competent jurisdiction, then the invalid portion must be severed and the remainder of this bylaw is deemed to have been adopted without the severed section, subsection, paragraph, subparagraph, clause or phrase.

Part 3 Amendment

- 3.1 Waterworks Regulation Bylaw No. 5260, 2023, is amended as follows:
- Deleting Schedules A and B and replacing with new Schedules A and B, as attached hereto.

Part 4 Effective Date

- 4.1 Waterworks Regulation Bylaw No. 5260, 2023, Amendment Bylaw No. 5283, 2023 will be effective on January 1, 2024.

Schedules

Schedule A – Water Meter Base Rates
Schedule B – Water Meter Volume Rates

READ A FIRST TIME on [Date]

READ A FIRST TIME on [Date]

READ A SECOND TIME on [Date]

READ A THIRD TIME on [Date]

Mayor

Corporate Officer

Schedule A – Water Meter Base Rates

1. 2024 Water Base Charge (Quarterly) for Universal Metered Customers

Meter Size	Single Family Residential	Multi-Family Residential	Commercial
16 mm	\$98.53	\$221.05	\$294.72
19 mm	\$98.53	\$221.05	\$294.72
25 mm	\$98.53	\$221.05	\$294.72
38 mm	\$154.91	\$394.58	\$542.52
50 mm	\$245.93	\$511.48	\$864.29
75 mm	\$655.41	\$1,380.64	\$1,823.12
100 mm	\$918.56	\$2,145.31	\$2,892.12
150 mm	\$1,592.99	\$4,013.19	\$5,514.09
200 mm		\$5,685.60	\$8,647.76
250 mm		\$8,792.94	\$12,160.37

Schedule B – Water Meter Volume Rates

1. 2024 Metered Water Volume Rates Based on Quarterly Consumption

	First 30 Cubic Metres (0 - 30 m³)	From 31 - 60 Cubic Metres (31 - 60 m³)	From 61 - 180 Cubic Metres (61 - 180 m³)	All in Excess 181 Cubic Metres (Over 181 m³)
Single Family Residential	\$1.63	\$1.87	\$2.86	\$3.89

	All Usage Per Cubic Meter (m³)
Multi-Family Residential	\$2.20
Commercial	\$2.20

Per section 13.5.5 of “Waterworks Regulation Bylaw No. 5260, 2023,” the fee due and payable that are shown in Schedule “A” and Schedule “B” shall be subject to a discount of ten (10) per cent, provided rates for the current billing are paid in full on or before the close of business on the due date set out on the billing form.