



City of Tualatin

Water Rates and SDCs Study

DRAFT REPORT
May 2023

Washington
7525 166th Avenue NE, Ste. D215
Redmond, WA 98052
425.867.1802

Oregon
5335 Meadows Road, Ste. 330
Lake Oswego, OR 97035
503.841.6543

Colorado
1320 Pearl St, Ste 120
Boulder, CO 80302
719.284.9168

www.fcsgroup.com

This entire report is made of readily
recyclable materials, including the bronze
wire binding and the front and back cover,
which are made from post-consumer
recycled plastic bottles.

 **FCS GROUP**
Solutions-Oriented Consulting

TABLE OF CONTENTS

Table of Contents	i
Section I. Introduction.....	1
Section II. Revenue Requirement	2
Section III. SDC Update.....	8
Section IV. Summary	16

Section I. INTRODUCTION

STUDY BACKGROUND

The City of Tualatin (City) contracted with Murraysmith in 2018 to update its Water System Master Plan. In 2021, Murraysmith contracted with FCS GROUP to perform a rate revenue requirement study and system development charge study in support of that Water System Master Plan.

The City provides water services to approximately 27,200 people in its service area. Its water supply comes from a wholesale agreement with the Portland Water Bureau (PWB). The City charges monthly rates to its customers to provide the resources needed to operate, maintain and upgrade its water system, as well as to purchase water from PWB. It also charges system development charges (SDCs) to provide for partial funding of its capital improvement program.

The City's current water SDC is \$5,566 for a 5/8" x 3/4" meter, with larger meters charged based on their relative flow rates. The existing water rates are shown in **Exhibit 1.1** below.

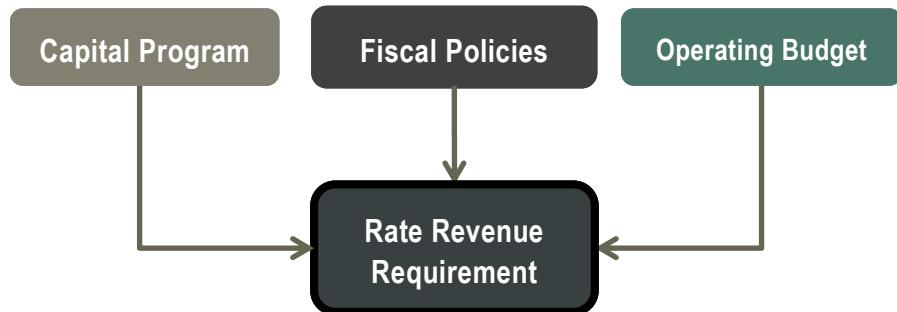
Exhibit 1.1 – Existing Water Rates and SDCs

Charge Type	Rate	Basis
Volume Charge	\$3.48	Per 100 cubic feet (CCF)
Water Service Charge	\$4.94	Per month
Water Facility Charge	\$4.88	Per month (residential customers only)

REVENUE REQUIREMENT BACKGROUND AND RESULTS

The revenue requirement identifies the total amount of rate revenue needed to fully fund the utility on a standalone basis, considering operating and maintenance expenditures, fiscal policy achievement, and capital needs identified in the City's capital plan. **Exhibit 1.2** provides a diagram of the methodology.

Exhibit 1.2 – Revenue Requirement Overview



This study focuses on the FY 2023 through FY 2032 forecast period. The revenue requirement results indicate sufficient revenue from existing rates and adequate reserves to cover operating costs until FY 2027. However, the cost of purchased water – which currently makes up about 45 percent of the City's operating budget – is projected to nearly double in FY 2027 and increase dramatically again in FY 2032. In addition, the capital improvement program laid out in the City's Water System Master

Plan will require debt financing to complete without associated spikes in rates. The increased cost of water and the cost of debt service necessary to finance the City's capital improvement program means that the City will need to increase rates.

The resulting rate increase schedule is summarized in **Exhibit 1.4** below. As shown, rates must increase by 12.00 percent each year for several (seven) years before dropping to inflationary increases of 4.25 percent.

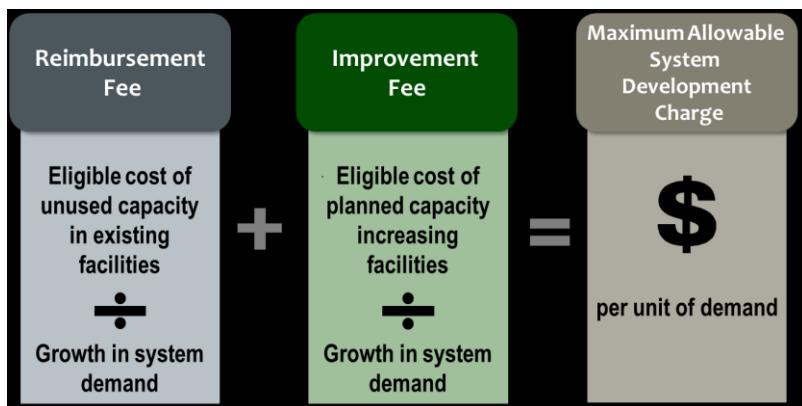
Exhibit 1.4 – Recommended Across-the-Board Rate Increases

	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032
Rate Increases	12.00%	12.00%	12.00%	12.00%	12.00%	12.00%	12.00%	4.25%	4.25%

SDC BACKGROUND AND RESULTS

SDCs are enabled by state statute, authorized by local ordinance, and constrained by the United States Constitution. The legal context of system development charges is discussed further in a later section. In general, SDCs are calculated by adding a reimbursement fee component (if applicable) and an improvement fee component—both with potential adjustments. Each component is calculated by dividing the eligible cost by growth in units of demand. The unit of demand becomes the basis of the charge. **Exhibit 1.3** below provides an overview of this calculation:

Exhibit 1.3 – SDC Calculation Overview



Based on the project list laid out in the Water System Master Plan, which is expected to serve growth through 2040, as well as the cost of available capacity currently in the City's water system, the water SDC is calculated to be \$8,290 per meter capacity equivalent (MCE).

Section II. REVENUE REQUIREMENT

As previously mentioned, the main purpose of the revenue requirement analysis is to develop a funding plan (“revenue requirement”) for the FY 2023 through FY 2032 study period. The revenue requirement identifies the total rate revenue needed to fully fund the utility on a standalone basis by considering current financial obligations including operating expenditures, policy-driven commitments, and future capital project needs (net of grants and other non-rate resources).

FISCAL POLICIES

The basic framework for evaluating utility revenue needs includes sound fiscal policies. Several policy topics are important to consider further as part of managing the finances of the City’s water utility, including operating reserves, capital reserves, and debt management.

- **Operating Reserves.** An operating reserve is designed to provide a liquidity cushion; it protects the utility from the risk of short-term variation in the timing of revenue collection or payment of expenses. Industry practice for utility operating reserves typically ranges from 30 days (8%) to 120 days (33%) of operating expenses, with the lower end more appropriate for utilities with stable revenue streams and the higher end of the range more appropriate for utilities with significant seasonal-based fluctuations. This analysis assumes that the City will maintain a balance of no less than 90 days of operating expenses, which is equal to \$1,540,190 in FY 2023.
- **Capital Reserves.** This reserve provides a source of emergency funding for unexpected asset failures or other unanticipated capital needs and is maintained in addition to the operating reserves. This capital reserve policy is not intended to guard against catastrophic system failure or extreme acts of nature. This analysis uses the contingency amount the City budgets for in water budget as the minimum capital fund balance target, which is equal to \$1,303,724 in FY 2023.
- **Debt Management.** This analysis assumes that the City will need to issue debt to provide funding for its capital improvement program. Revenue bonds are a common financing option for water utilities and generally have higher interest costs and stricter covenants than other types of loans. To be conservative, this analysis assumes that the City will use revenue bonds when financing is needed. Revenue bonds were modeled with 20-year terms at 3.25% interest. In addition, debt service coverage ratios are a common requirement of issuing revenue bonds. This analysis assumes that the City will maintain a debt service coverage ratio of 1.50 on its revenue bonds – that is, it is assumed that the utility’s revenues net of operating expenses will exceed debt service by at least 150 percent.

ECONOMIC & INFLATION FACTORS

The operating and maintenance expenditure forecast largely relies on the City’s FY 2023 budget. The line items in the budget are then adjusted each future year by using one of the following applicable factors. As such these factors will not be applied until FY 2024, and beyond.

- **General Cost Inflation.** Assumed to be 1.73 percent per year based on a ten-year average of the Consumer Price Index for Urban Consumers (CPI-U).

- **Construction Cost Inflation.** Assumed to be 2.97 percent per year based on a ten-year average of the Engineering News-Record's Construction Cost Index (20-City Average).
- **Labor Cost Inflation.** Assumed to be 1.74 percent per year based on a ten-year average of the Employment Cost Index for Wages.
- **Benefit Cost Inflation.** Assumed to be 3.12 percent per year based on a ten-year average of the Employment Cost Index for Benefits.
- **Fund Earnings.** Conservatively assumed to be 0.45 percent per year based on a recent earnings report from the State's Local Government Investment Pool (LGIP) at the time of the analysis.
- **Customer Account Growth.** Assumed to be 0.99 percent per year based on the recent Water System Master Plan.

FUND BALANCES

The FY 2023 starting cash balances associated with the utility funds are shown below in **Exhibit 2.1** and total \$11,069,690, based on the City's FY 2022 ending fund balance. The City starts FY 2023 with a large surplus of reserves compared to the minimum target balance discussed in the section on fiscal policies.

Exhibit 2.1 – Existing Fund Balances

Fund	Beginning 2023 Balances	2023 Minimum Target
Operating Reserve	\$9,510,370	\$1,540,190
Capital Reserve	\$1,559,320	\$1,303,724
Total	\$11,069,690	\$2,843,914

OPERATING REVENUES & EXPENSES

In FY 2023, the City is expecting to collect \$7.5 million in rate revenues and \$170,000 in non-rate revenues. In addition, the City is expecting to collect about \$252,000 in SDC revenues to help pay for its capital improvement program.

In FY 2023, the City is budgeting for \$6.2 million in operating expenses, including its existing debt service obligations which total about \$600,000 in FY 2023. About \$2.8 million, or 45 percent of those costs are related to water purchases from PWB. Budgeted operating expenses are projected into the future based on the inflation factors discussed in the previous section. The cost of water purchases is discussed separately below.

Cost of Water Purchases

By 2027, PWB must complete a new filtration facility to remove the microorganism Cryptosporidium. The bureau is currently developing a new Regional Water Sales Agreement with its wholesale water purchasers given the increase in water supply costs PWB is expecting. The exact impact of this new facility on wholesale water costs is still being decided, but it is known that water purchases will rise sharply in 2027, corresponding with the completion of the filtration facility.

The forecast in **Exhibit 2.2** was made for the City of Tualatin's cost of purchased water as a part of an engagement with the City of Portland; it is still an early forecast, and the numbers will likely change.

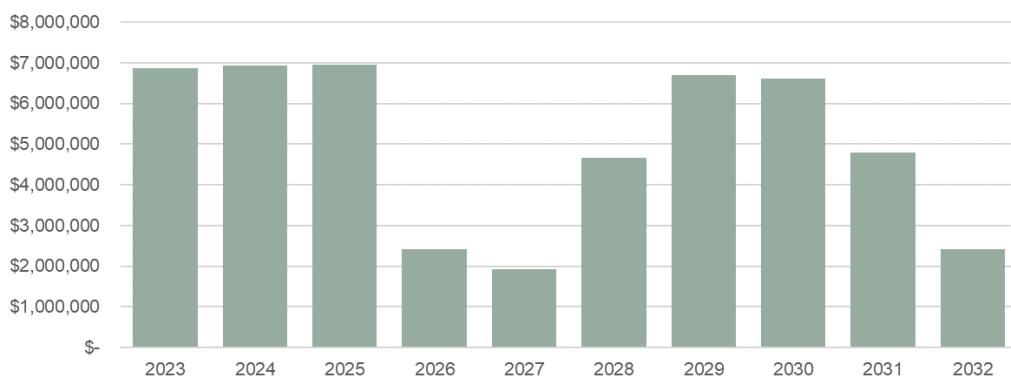
Exhibit 2.2 – Schedule of Purchased Water Costs

Fiscal Year	Cost of Purchased Water	Increase (\$)	Increase (%)
2023	\$2,851,640	\$-	-%
2024	3,066,498	214,858	7.53%
2025	3,338,506	272,008	8.87%
2026	3,386,610	48,104	1.44%
2027	6,017,869	2,631,259	77.70%
2028	7,687,435	1,669,567	27.74%
2029	8,557,451	870,016	11.32%
2030	12,145,466	3,588,016	41.93%
2031	12,353,882	208,416	1.72%
2032	12,660,476	306,594	2.48%

CAPITAL EXPENDITURES

The Water System Master Plan outlines in detail all the capital projects the City will need to complete over the next twenty years. The total, escalated cost of these projects between FY 2023 and FY 2032 is \$50.3 million. **Exhibit 2.3** below summarizes the capital program by forecast year.

Exhibit 2.3 - Capital Program Summary



REVENUE BOND ISSUANCES

As discussed in the section on fiscal policies, it is assumed that the City will issue debt to help pay for its capital improvement program. The section on fiscal policies also discusses the terms of those issuances. **Exhibit 2.4** below shows the schedule of revenue bond issuances used in the analysis.

Exhibit 2.4 – Revenue Bond Issuance Schedule

Fiscal Year	Issuance
2023	\$-
2024	7,500,000
2025	-
2026	-
2027	1,600,000
2028	-
2029	11,000,000
2030	-
2031	6,500,000
2032	-

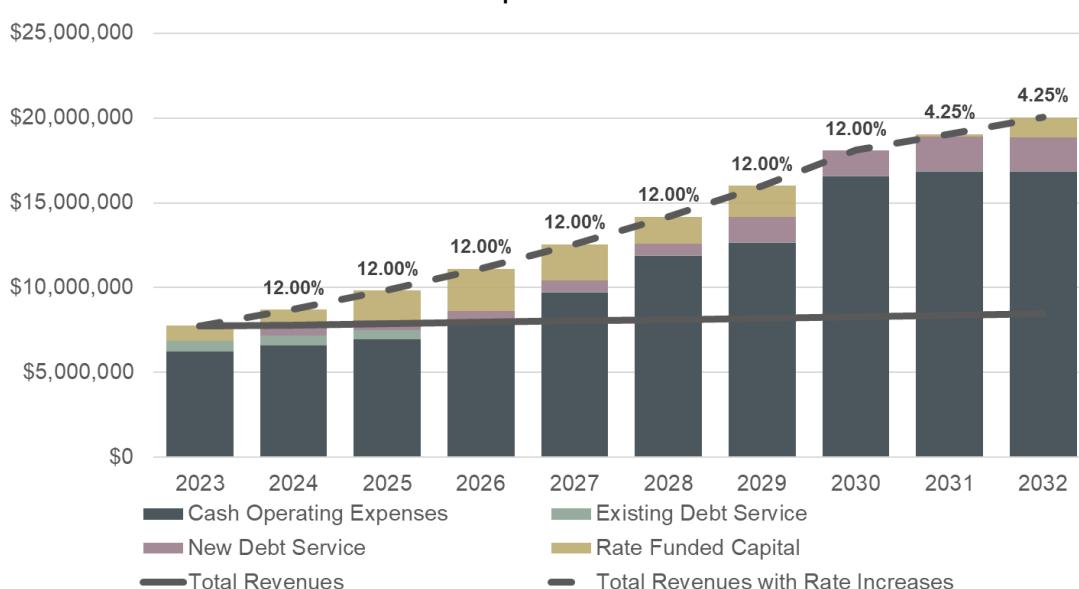
The following section summarizes the revenue requirement results.

REVENUE REQUIREMENT SUMMARY

Exhibit 2.5 graphically represents the revenue requirement forecast through FY 2032. Above each bar is the expected rate increase that year.

- Solid black line: Revenue at existing rates.
 - Revenue is expected to be roughly \$7.7 million in FY 2023. Revenue is projected to increase at the account growth rate described in the section on inflation factors.
- Dashed black line: Revenues with rate increases.
 - Rate revenue must increase by 12.00 percent each year from FY 2024 to FY 2030 to allow the utility to cover its debt service coverage obligations and maintain positive cash balances. After that, rate increases can drop to more inflationary levels.
- Dark blue bar: FY 2023 budget plus inflation.
 - Operating expenses are based on the adopted FY 2023 budget and increase with the annual cost escalation assumptions discussed in the section on inflation factors.
- Green bar: Existing debt service.
 - The City has existing annual debt service obligations of about \$600,000 in FY 2023 through FY 2025, at which point the debt service drops to about \$60,000 annually.
- Pink bar: Future debt service.
 - Based on the schedule of debt issuances shown in **Exhibit 2.4**, the City will incur new annual debt service obligations of about \$560,000 in FY 2024, rising to \$2.0 million by FY 2032.
- Gold bar: Rate-Funded Capital (i.e., cash available for capital).
 - Rate-funded capital starts at \$919,000 in FY 2023 and rises to a high of \$2.5 million in FY 2026. Rate-funded capital drops off after that as new debt service obligations ramp up.

Exhibit 2.5 –Revenue Requirement Forecast FY 2023-2032



Section III. SDC UPDATE

This section describes the legal context of SDCs and provides an update to the City's water SDCs.

LEGAL CONTEXT

SDCs are enabled by state statute, authorized by local ordinance, and constrained by the United States Constitution.

State Statute

Oregon Revised Statutes (ORS) 223.297 to 223.316 enable local governments to establish SDCs, which are one-time fees on development that are paid at the time of development or redevelopment that creates additional demand for the water system. SDCs are intended to recover a fair share of the cost of existing and planned facilities that provide capacity to serve future users (i.e., growth).

ORS 223.299 defines two types of SDC:

- A reimbursement fee that is designed to recover “costs associated with capital improvements already constructed, or under construction when the fee is established, for which the local government determines that capacity exists.”
- An improvement fee that is designed to recover “costs associated with capital improvements to be constructed.”

ORS 223.304(1) states, in part, that a reimbursement fee must be based on “the value of unused capacity available to future system users or the cost of existing facilities” and must account for prior contributions by existing users and any gifted or grant-funded facilities. The calculation must “promote the objective of future system users contributing no more than an equitable share to the cost of existing facilities.” A reimbursement fee may be spent on any capital improvement related to the system for which it is being charged (whether cash-financed or debt-financed).

ORS 223.304(2) states, in part, that an improvement fee must be calculated to include only the cost of projected capital improvements needed to increase system capacity for future users. In other words, the cost of planned projects that correct existing deficiencies or that do not otherwise increase capacity for future users may not be included in the improvement fee calculation. An improvement fee may be spent only on capital improvements (or portions thereof) that increase the capacity of the system for which it is being charged (whether cash-financed or debt-financed).

In addition to the reimbursement and improvement fees, ORS 223.307(5) states, in part, that “system development charge revenues may be expended on the costs of complying” with state statutes concerning SDCs, including “the costs of developing system development charge methodologies and providing an annual accounting of system development charge expenditures.”

Local Ordinance

The City's code authorizes and governs the imposition and expenditure of SDCs in the City. The relevant sections are in Chapter 2-06 of the Code of the City of Tualatin.

United States Constitution

The United States Supreme Court has determined that SDCs, impact fees, or other exactions that comply with state and/or local law may still violate the United States Constitution if they are not proportionate to the impact of the development. The SDCs calculated in this report are designed to meet constitutional and statutory requirements.

SDC CALCULATION

This section summarizes the calculation of the maximum allowable water SDC.

Growth

The calculation of projected growth begins with defining the units by which current and future demand will be measured. Then, using the best available data, the current level of demand is quantified, and the future level of demand is estimated. The difference between the current level and the future level is the growth in demand that will serve as the denominator in the SDC calculations. Note that the planning period for the SDC calculation is through 2040 rather than 2032, as the project list in the master plan is designed to serve growth through 2040.

Unit of Measurement

A good unit of measurement allows an agency to quantify the incremental demand of development or redevelopment that creates additional demand for system facilities. A more precise unit of measurement allows an agency to distinguish different levels of demand added by different kinds of development or redevelopment.

For water SDCs, demand is often measured in terms of meter capacity equivalents (MCEs), where one MCE is equal to the maximum flow in gallons per minute provided by the smallest water meter the City installs. To calculate the demand incurred by other development types, MCEs can be assigned based on the differential flow rates of different meter sizes.

Currently, the City charges its water SDC using the flow rates of a 5/8" meter as its base MCE. This report continues this practice.

Growth in Demand

The Water System Master Plan uses usage-based equivalent residential units (ERUs) to estimate the impacts on the system of new development. In this system, one ERU is equal to the annual average consumption of a single-family dwelling unit. According to the Water System Master Plan, the City is expecting to grow by 3,900 ERUs from 17,898 ERUs in 2020 up to 21,798 ERUs in 2040.

The City currently has 13,156 MCEs when assuming that its smallest meter has the flow capacity of a 5/8" meter. Assuming the growth assumptions discussed in the plan hold and that ERUs are proportional to MCEs, that would imply there were 12,773 MCEs in 2020, and will be increase by 2,783 to 15,556 in 2040. That growth of 2,783 MCEs is the denominator for the SDC calculation.

These calculations are summarized below in **Exhibit 3.1**.

Exhibit 3.1 – Growth in MCEs

Growth	2020	2023	2040	Growth (2020-	Growth Rate	Growth Share Percentage
				2040)		
ERUs	17,898	18,435	21,798	3,900	0.99%	17.89%
MCEs	12,773	13,156	15,556	2,783	0.99%	17.89%

Source: 2021 Water System Master Plan, Table 3-6

Improvement Fee Cost Basis

An improvement fee is the eligible cost of planned projects per unit of growth that such projects will serve. The growth component (denominator) was calculated above and the following section will focus on the improvement fee cost basis (numerator).

A project's eligible cost is the product of its total cost and its eligibility percentage. The eligibility percentage represents the portion of the project that creates capacity for future users. Murraysmith provided estimates of eligibility for every project on the project list.

Projects in the improvement fee cost basis were taken from the City's Water System Master Plan. **Exhibit 3.1** below shows all the projects in the water system improvement fee cost basis. The eligibility for each project is shown in the SDC Eligibility column, and the SDC Eligible Costs column shows that the full amount of the improvement fee cost basis is \$21.0 million.

Exhibit 3.2 – Improvement Fee Cost Basis

CIP #	Project Type	Description	Timing	Cost Estimate	SDC Eligibility	SDC-Eligible Costs
303	Transmission	C Level Transmission - Oversize Autumn Sunrise piping	0-5	\$ 1,304,000	56%	\$ 724,444
605	Facilities	Seismic Upgrades at B-2 and C Level Reservoirs	0-5	450,000	18%	80,512
603	Facilities	B to C Level Pump Station at ASR Site (after or concurrent with 601)	0-5	2,000,000	18%	357,831
302A	Transmission	C Level Transmission - new I-5 crossing and connect at Greenhill Rd	0-5	2,042,000	56%	1,134,444
604	Facilities	Emergency Supply Improvements Placeholder	0-5	2,000,000	18%	357,831
N/A	Transmission	Basalt Creek Pipeline from Boones to Grahams	0-5	2,555,000	18%	457,129
301A	Transmission	B Level Transmission upsizing - Ibach to B Level Reservoirs	0-5	4,655,000	56%	2,586,111
601	Facilities	B Level Reservoir 1 (predate or concurrent with 603)	0-5	6,250,000	72%	4,500,000
607	Facilities	C Level Pump Station, On Site Power Generation	0-5	200,000	72%	144,000
610	Facilities	Miscellaneous Physical Site and Cyber Security Upgrades	0-5	250,000	18%	44,729
611	Facilities	SCADA Upgrades	0-5	2,050,000	18%	366,777
613	Facilities	A-1 Reservoir upgrades	0-5	2,100,000	18%	375,723
404	System Looping	90th Ave (A Level)	6-10	255,000	18%	45,623
401	System Looping	Blake Street – 105th to 108th	6-10	924,000	18%	165,318
405	System Looping	Leveton (A Level)	6-10	549,000	18%	98,225
402	System Looping	Manhasset Dr (A Level)	6-10	617,000	18%	110,391
403	System Looping	Amu St Extension (A Level)	6-10	515,000	18%	92,141
406	System Looping	Iowa St (C Level)	6-10	755,000	18%	135,081
302B	Transmission	C Level Transmission upsizing - SW 82nd Ave to C Level Reservoirs	6-10	1,210,000	56%	672,222
301B	Transmission	B Level Transmission upsizing - Ibach to Sagert	6-10	5,400,000	56%	3,000,000
606	Facilities	Upgrade Martinazzi Pump Station	6-10	5,500,000	18%	984,035
612	Facilities	ASR Well Rehabilitation	6-10	600,000	18%	107,349
614	Facilities	A-2 Reservoir upgrades	6-10	1,500,000	18%	268,373
615	Planning	Water System Master Plan Update	12	250,000	18%	44,729
220	Fire Flow	Residential - SW Dakota Dr	11-20	305,000	18%	54,569
214	Fire Flow	Non-residential - SW Sagert St and 65th Ave	11-20	932,000	18%	166,749
202	Fire Flow	Non-residential - SW Bridgeport Rd	11-20	1,210,000	18%	216,488
701	Renewal and Replacement	Annual Replacement of Aging Pipes	11-20	9,000,000	18%	1,610,239
217	Fire Flow	Residential - SW Lummi St	11-20	204,000	18%	36,499
208	Fire Flow	Non-residential - SW 97th Ave	11-20	343,000	18%	61,368
205	Fire Flow	Non-residential - SW 89th Ave	11-20	343,000	18%	61,368
209	Fire Flow	Non-residential - SW Manhasset Dr	11-20	343,000	18%	61,368
207	Fire Flow	Non-residential - SW 95th Ave	11-20	343,000	18%	61,368
216	Fire Flow	Non-residential - SW 95th Ave	11-20	412,000	18%	73,713
222	Fire Flow	Non-residential - SW Herman Rd	11-20	480,000	18%	85,879
218	Fire Flow	Residential - SW Columbia Cir	11-20	1,222,000	18%	218,635
211	Fire Flow	Non-residential - SW 119th Ave	11-20	617,000	18%	110,391
206	Fire Flow	Non-residential - SW 90th Ct	11-20	617,000	18%	110,391
212	Fire Flow	Non-residential - SW 125th Ct	11-20	686,000	18%	122,736
210	Fire Flow	Non-residential - SW 124th Ave	11-20	686,000	18%	122,736
215	Fire Flow	Non-residential - SW Mohawk St	11-20	1,303,000	18%	233,127
201	Fire Flow	Non-residential - SW Hazel Fern Rd, McEwan Rd, and I-5 Crossing	11-20	-	18%	-
608	Facilities	B-1 Reservoir seismic upgrades	11-20	2,110,000	18%	377,512
609	Facilities	Portland Supply Valve Seismic Upgrades	11-20	1,000,000	18%	178,915
702	Renewal and Replacement	Childs Road I-5 crossing and AC Main Replacement	11-20	900,000	18%	161,024
602	Facilities	B Level Reservoir 2	20+	-	100%	-
				Total	\$ 66,987,000	\$ 20,978,095

Source: 2021 Water System Master Plan, Section 8

Reimbursement Fee Cost Basis

A reimbursement fee is the eligible cost of water facilities available for future users per unit of growth that such facilities will serve. The denominator of this equation is calculated as the growth in demand. The following section focuses on the cost of reimbursable water facilities. In the City's case, the pumping, storage, and transmission systems have capacity available for growth. The next sections calculate the reimbursement fee cost basis for each of those functions.

Pumping

According to the Water System Master Plan, capacity in the pumping system exists from the B to C level. There is an existing demand of 0.69 million gallons per day (MGD) of pumping from the B to C level. In 2040, those demands will rise to 1.32 MGD. Currently, there is 2.02 MGD of capacity in the B to C level pumping system. Since demands in 2040 will not exceed the existing capacity, the capacity available for growth is the difference between existing and future demands, or 0.63 MGD. That capacity represents 31.19 percent of the total capacity of the B to C Level pumping system.

According to the City's fixed asset schedule, the original cost of B to C level pumping assets was \$1.1 million. There is no outstanding principal or prior outside funding related to such assets. Therefore, the eligible cost of the B to C level pumping system is \$1.1 million multiplied by the capacity available for growth of 31.19 percent, which is equal to \$342,000.

These calculations are summarized in **Exhibit 3.2** below.

Exhibit 3.2 – Reimbursable Cost of Pumping Capacity

B to C Level	
Existing Demands (MGD)	0.69
2040 Demands (MGD)	1.32
Existing Station Firm Capacity (MGD)	2.02
Available Capacity (MGD)	0.63
Available Capacity %	31.19%
Original Cost	\$ 1,095,801
Outstanding Principal	-
Outside Funding	-
Reimbursable Cost	\$ 341,760

Storage

According to the Water System Master Plan, capacity in the storage system exists in Pressure Zone C. There is an existing demand of 1.29 million gallons (MG), and a 2040 demand of 1.98 MG. There is existing capacity for 1.80 MG. Since demands in 2040 exceed existing capacity, the capacity available for growth is the difference between existing demand and existing capacity, or 0.51 MG. That capacity represents 28.33 percent of the total capacity of the Pressure Zone C storage.

According to the City's fixed asset schedule, the original cost of storage assets in Pressure Zone C was \$2.3 million. There is no outstanding principal or prior outside funding related to such assets. Therefore, the eligible cost of the Pressure Zone C storage assets is \$2.27 million multiplied by the capacity available for growth of 28.33 percent, which is equal to \$642,000.

These calculations are summarized in **Exhibit 3.3** below.

Exhibit 3.3 – Reimbursable Cost of Storage Capacity

Pressure Zone C	
Existing Storage Requirements (MG)	1.29
2040 Storage Requirements (MG)	1.98
Existing Storage (MG)	1.80
Available Capacity (MG)	0.51
Available Capacity %	28.33%
Original Cost	\$ 2,266,594
Outstanding Principal	-
Outside Funding	-
Reimbursable Cost	\$ 642,202

Transmission

According to Murraysmith's estimates, the City currently has 21.79 percent of its transmission capacity available for growth. According to the City's fixed asset schedule, the original cost of those assets is \$8.75 million, and there is no outstanding principal or prior outside funding related to those assets. Therefore, the eligible cost of transmission assets is 21.79 multiplied by the original cost of \$8.8 million, or \$1.9 million.

These calculations are summarized in **Exhibit 3.4** below.

Exhibit 3.4 – Reimbursable Cost of Transmission Capacity

Capacity Available through 2040	21.79%
Original Cost	\$ 8,752,604
Outstanding Principal	-
Outside Funding	-
Reimbursable Cost	\$ 1,907,144

Reimbursement Fee Cost Basis

Based on the previous sections, the total reimbursement fee cost basis is \$2.9 million. That calculation is summarized in **Exhibit 3.5** below.

Exhibit 3.5 – Reimbursement Fee Cost Basis

Reimbursable Cost	
Transmission	\$ 1,907,144
Pumping	341,760
Storage	642,202
Total	\$ 2,891,105

SDC Calculation

This section combines the eligible costs from the improvement fee cost basis and the reimbursement fee cost basis and applies some adjustments. The result is a total SDC per MCE.

Adjustments

The City must reduce its improvement fee cost basis to account for any remaining fund balance in its current SDC fund. This is done to avoid double-charging for projects that the City has already collected improvement fees for. The improvement fee cost basis is therefore reduced by \$1.0 million. This adjustment is shown in **Exhibit 3.6** below.

Exhibit 3.6 – Adjustment to Improvement Fee Cost Basis

Unadjusted Improvement Fee Cost Basis	\$ 20,978,095
Improvement Fee Fund Balance	(1,018,898)
Improvement Fee Cost Basis	\$ 19,959,197

To account for the cost of complying with the SDC law, the City may add \$221,000 to the full SDC cost basis. This is based on the transfer to the general fund made from the SDC fund annually over the forecast period.

Calculated SDC

Exhibit 3.7 below summarizes the full calculation of the SDC. As shown, the full SDC is \$8,290 per MCE.

Exhibit 3.7 – Calculated SDC

Cost Basis:	
Improvement Fee	\$ 19,959,197
Reimbursement fee	2,891,105
Compliance Costs	221,400
Total Cost Basis	\$ 23,071,702
Growth in MCEs	2,783
Improvement Fee per MCE	\$ 7,171
Reimbursement Fee per MCE	1,039
Compliance Fee per MCE	80
Total SDC per MCE	\$ 8,290

To apply the SDC per MCE, the City may use the schedule shown in **Exhibit 3.8** below, which applies the SDC per MCE to different water meter sizes based on their relative flow rates.

Exhibit 3.8 – SDC Schedule

Meter Size	Meter Equivalent	SDC
5/8" x 3/4"	1.00	\$8,290
3/4" x 3/4"	1.50	\$12,435
1"	2.50	\$20,724
1 1/2"	5.00	\$41,448
2"	8.00	\$66,317
3"	16.00	\$132,635
4"	25.00	\$207,242
6"	50.00	\$414,484
8"	80.00	\$663,174
10"	115.00	\$953,313

SDC Indexing

ORS 223.304 allows for the periodic indexing of SDCs for inflation, as long as the index used is:

- (A) A relevant measurement of the average change in prices or costs over an identified time period for materials, labor, real property or a combination of the three;
- (B) Published by a recognized organization or agency that produces the index or data source for reasons that are independent of the system development charge methodology; and
- (C) Incorporated as part of the established methodology or identified and adopted in a separate ordinance, resolution or order.

In accordance with Oregon statutes, it is recommended that the City use the *Engineering News-Record* (ENR) Construction Cost Index (CCI) –Seattle, Washington as the basis for adjusting SDCs annually. ENR does not have a comparable Oregon-specific index.

Section IV. SUMMARY

Revenue Requirement Summary

Exhibit 4.1 summarizes the recommended across-the-board rate increases. These increases allow the utility to accomplish the following:

- Fund existing and forecasted operating expenses, plus cost escalation and increases in water costs;
- Fund \$50.3 million in capital projects from FY 2023-2033 (including grants and other sources);
- Maintain a debt service coverage ratio of 1.50;
- Maintain utility reserves at close to recommended levels throughout the forecast.

Exhibit 4.1 – Recommended Across-the-Board Rate Increases

	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032
Rate Increases	12.00%	12.00%	12.00%	12.00%	12.00%	12.00%	12.00%	4.25%	4.25%

Exhibit 4.2 gives the rate schedule by using the recommended rate increases above.

Exhibit 4.2 – Rate Schedule

Across-the-Board Rate Schedule	Previous 2022	Existing 2023	ATB 2024	ATB 2025	ATB 2026	ATB 2027	ATB 2028	ATB 2029	ATB 2030	ATB 2031	ATB 2032
Annual System-Wide Rate Increase			12.00%	12.00%	12.00%	12.00%	12.00%	12.00%	12.00%	4.25%	4.25%
Usage Rate per CCF	\$3.34	\$3.48	\$3.90	\$4.37	\$4.89	\$5.48	\$6.13	\$6.87	\$7.69	\$8.02	\$8.36
Water Service Charge (all customers)	\$4.74	\$4.94	\$5.53	\$6.20	\$6.94	\$7.77	\$8.71	\$9.75	\$10.92	\$11.38	\$11.87
Water Facility Charge (residential customers)	\$4.68	\$4.88	\$5.47	\$6.12	\$6.86	\$7.68	\$8.60	\$9.63	\$10.79	\$11.25	\$11.72

Note: "Across-the-Board" (ATB) means that all stated rates increase by the same percentage (both the fixed and volume charges), which maintains the existing rate structure.

Rate and SDC Comparisons

As a resource to the City and its customers, a rate survey of Oregon water rates and SDCs was performed in April 2023. **Exhibit 4.3** shows typical monthly single-family residential water bills for some comparable jurisdictions. Note that each jurisdiction has a unique set of geographic traits, customers, and system characteristics that can have a significant impact on rates. Additionally, some of these jurisdictions may or may not be planning to increase rates in FY 2024.

Exhibit 4.3 – Monthly Water Bill Comparison

Jurisdiction	Monthly Water Bill*
Portland	\$104.05
Tualatin Valley Water District	\$77.49
Tigard	\$72.43
Beaverton	\$63.20
Lake Oswego	\$54.09
Hillsboro	\$46.23
Oregon City	\$44.05
Wilsonville	\$42.99
Tualatin (Proposed)	\$42.18
Tualatin (Current)	\$37.66

**Assumes a single-family residence with 8 CCF of usage*

As shown below in **Exhibit 4.4**, even if the City adopts the fully calculated water SDC, it will still have a comparable charge relative to similar jurisdictions in the region.

Exhibit 4.4 – Water SDC Comparison

Jurisdiction	SDC for an SFR*
Oregon City	\$13,967
Hillsboro	\$13,395
Beaverton	\$10,329
Tualatin Valley Water District	\$9,716
Lake Oswego	\$9,571
Tualatin (Proposed)	\$8,290
Wilsonville	\$7,349
Tigard	\$5,973
Tualatin (Current)	\$5,566
Portland	\$4,563

**SFR = single-family residence*

Updating This Study's Findings

It is recommended that the City revisit the study findings during the forecast period to check that the assumptions used are still appropriate and no significant changes have occurred that would alter the results of the study. The City should use the study findings as a living document, routinely comparing the study outcomes to actual revenues and expenses. Any significant or unexpected changes will require adjustments to the rate strategy proposed in this report.