

Tualatin Valley Water District



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2021 Resolution Listing

January 20, 2021

Resolution 01-21 – A resolution adopting the investment policy for the Tualatin Valley Water District

Resolution 02-21 – A resolution amending system development charges for the Tualatin Valley Water District and declaring an effective date

April 21, 2021

Resolution 03-21 – A resolution transferring General Fund materials and services appropriation to Customer Emergency Assistance Fund materials and services appropriation for the biennial budget period 2019-21

May 19, 2021

Resolution 04-21 – A resolution approving the District's Financial Plan for the 2021-2023 biennium

Resolution 05-21 – A resolution transferring General Fund general operating contingency appropriation to Willamette Intake Facilities Fund materials and services appropriation and capital outlay appropriation for the biennial budget period 2019-21

June 16, 2021

Resolution 06-21 – A resolution adopting the budget and making appropriations for the Tualatin Valley Water District for the 2021-23 biennium

Resolution 07-21 – Acting as the Local Contract Review Board, a resolution declaring an exemption from competitive bidding for the Taylors Ferry Reservoir Replacements and Pump Station project and authorize proceeding with a construction manager/general contractor contract

July 21, 2021

Resolution 08-21 – A resolution establishing the water rate setting process for the 2021-23 biennium

August 18, 2021

Resolution 09-21 – A resolution of the Board of Commissioners mandating COVID-19 vaccinations for all District employees except those employees who have an exemption for a disability or religious beliefs and directing the Chief Executive Officer to implement a testing program for employees

September 15, 2021

Resolution 10-21 – A resolution establishing water rates and other service charges for the Tualatin Valley Water District with an effective date of November 1, 2021

October 20, 2021

Resolution 11-21 – A resolution of the Board of Commissioners of Tualatin Valley Water District, Oregon, approving the application for grant funds through the Bureau of Reclamation for the WaterSMART: Water and Energy Efficiency Grants for Fiscal Year 2022

Resolution 12-21 – A resolution adopting revised policies of the Board of Commissioners

December 15, 2021

Resolution 13-21 – A resolution establishing regular monthly meeting dates of the Board of Commissioners for the calendar year 2022

Resolution 14-21 – A resolution restating and amending Resolution 10-21 to establish civil penalties, fines and other charges for the Tualatin Valley Water District effective January 15, 2022



RESOLUTION NO. 01-21

A RESOLUTION ADOPTING THE INVESTMENT POLICY FOR THE TUALATIN VALLEY WATER DISTRICT.

WHEREAS, the Board of Commissioners (Board), in compliance with ORS 294.135, adopts the District’s Investment Policy annually; and

WHEREAS, the Investment Policy was last adopted by the Board through its approval of Resolution 03-20 on January 15, 2020; and

WHEREAS, the Investment Policy provides guidance on investment decisions and operating principles for the effective management of financial risk, portfolio diversification and internal controls, and allows for the purchase of investments having a maturity longer than 18 months as allowed by ORS 294.135; and

WHEREAS, the Investment Policy remains in compliance with ORS 294.035 regulating the investment of public funds by municipal subdivisions and policy guidelines established by the State of Oregon Short Term Fund (OSTF) Board; and

WHEREAS, the OSTF Board approved the District’s Investment Policy in April 2009, and subsequent amendments to the Investment Policy since that time have conformed with OSTF guidance; and

WHEREAS, there are no recommended changes for the Investment Policy, and being fully advised.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COMMISSIONERS OF THE TUALATIN VALLEY WATER DISTRICT THAT:

Section 1: The Investment Policy attached hereto as Exhibit A and incorporated by reference is hereby adopted, and staff is directed to implement in the ordinary course of the District business.

Approved and adopted at a regular meeting held on the 20th day of January 2021.

Bernice Bagnall, President

Todd Sanders, Secretary

Exhibit A

INVESTMENT POLICY



Adopted January 20, 2021

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1. SCOPE

This policy applies to activities of Tualatin Valley Water District (District) with regard to investing the financial assets of all funds as defined by the District in its Chart of Accounts except that funds held by trustees or fiscal agents are excluded from these rules; however, all funds are subject to regulations established by the State of Oregon.

The purpose of this Investment Policy is to establish the investment objectives, delegation of authority, standards of prudence, eligible investments and transactions, internal controls, reporting requirements, and safekeeping and custodial procedures necessary for the prudent management and investment of the funds of the District.

This policy has been adopted by Resolution 01-21 by the District's Board of Commissioners on January 20, 2021 and replaces the District's previous Investment Policy.

Other than bond proceeds or other unusual situations, the total of all funds ranges from \$40,000,000 to \$130,000,000. The Chart of Accounts currently defines the following funds that are not held by trustee or fiscal agent:

- 1.) Cash Pool
- 2.) General Fund
- 3.) Capital Improvement Fund
- 4.) Capital Reserve Fund
- 5.) Debt Proceeds Fund
- 6.) Revenue Bond Debt Service Fund
- 7.) Willamette River Water Coalition
- 8.) Customer Emergency Assistance Fund
- 9.) Willamette Intake Facilities
- 10.) Willamette Water Supply System

If, in the course of its activities, the District should define further funds (not held by trustee or fiscal agent), these rules shall also apply to the investment of the financial assets of those new funds. These funds will be invested in compliance with the provisions of, but not necessarily limited to, ORS 294.035 through ORS 294.048; and ORS 294.125 through ORS 294.155. Investment of any tax-exempt borrowing proceeds and any related debt service funds will comply with the arbitrage restrictions on all applicable Internal Revenue Codes.

The District acts as collection agent for several other utilities. These funds are to be transferred to the respective agency in compliance with the intergovernmental agreements. Currently the agreements vary from two business days from receipt, the second business day following the week of collection, and twice a month following the 15th and end of month. The method of transfer is by requesting a Pool-to-Pool account transfer at the Local Government Investment Pool (LGIP), a check, or an automated clearing house (ACH) deposit if the agency requests it.

2. GOVERNING AUTHORITY

The investment program shall be operated in conformance with federal, state, and other legal requirements. Specifically, this investment policy is written in conformance with ORS 294.035; 294.040; 294.052; 294.135; 294.145 and 294.810. All funds within the scope of this policy are subject to regulations established by the state of Oregon. Any revisions or extensions of these sections of the ORS shall be assumed to be part of this Investment Policy immediately upon being enacted.

3. OBJECTIVES

The District's investment objectives are as follows:

3.1: Safety

- Preservation of capital and the protection of principal.
- Diversification to avoid incurring unreasonable risks regarding specific security types or individual issuers.

3.2: Liquidity

- Maintenance of sufficient liquidity to meet operating requirements.

3.3: Limit Risk

- Avoidance of imprudent credit, market, or speculative risk.

3.4: Legality

- Conformance with federal, state, and other legal requirements.

3.5: Return

- Attainment of a market rate of return throughout all economic and fiscal cycles.

4. STANDARDS OF CARE

4.1: Delegation of Authority

- The Chief Financial Officer is the designated Investment Officer of the District and is responsible for investment decisions, under the review of the Board of Commissioners. The Chief Financial Officer may delegate authority to another member of the Finance Department to perform all or some of the duties of the Investment Officer.
- The Investment Officer is responsible for setting investment policy and guidelines subject to review and adoption by the Board of Commissioners and, if required, review and comment by the Oregon Short Term Fund Board. Further, the Investment Officer will be responsible for the day-to-day operations of the investment process which include, but are not limited to, choosing what to buy or sell, from whom investments will be purchased, executing the buy/sell orders, producing necessary reports, and supervising staff. In addition to the active management of the investment portfolio, the Investment Officer is responsible for the maintenance of other written administrative procedures consistent with this policy and the requisite compliance.
- To further manage the risk and return of the investment portfolio, the Investment Officer will administer an active cash management program that maintains historical cash flow information (e.g., debt service, payroll, revenue receipts, and any extraordinary expenditures).
- Subject to required procurement procedures, the District may engage the support services of outside professionals and services as necessary for the efficient management of the investment program. External service providers shall be subject to Oregon Revised Statutes and the provisions of this Investment Policy. The Advisor shall provide non-discretionary advisory services, which requires prior approval from the Investment Officer. If the District hires an Investment Advisor to provide investment advisory services, the Advisor is authorized to transact with its direct dealer relationships on behalf of the District.

4.2: Prudence

- The standard of prudence to be used by the Investment Officer in the context of managing the financial resources shall be the “prudent person” standard, which states: “Investments shall be made with judgment and care, under circumstances then prevailing, which persons of prudence, discretion and intelligence exercise in the management of their own affairs, not for speculation, but for investment, considering the probable safety of their capital as well as the probable income to be derived.”
- The Investment Officer and staff, acting in accordance with the Investment Policy and exercising due diligence, shall not be held personally responsible for a specific security’s credit risk, market price changes, or loss of principal if securities are liquidated prior to maturity provided these deviations and losses are reported as soon as practical and action is taken to control adverse developments.

4.3: Ethics and Conflict of Interest

- District officers and employees involved in the investment process shall refrain from personal business activity that could conflict with the proper execution and management of the investment program, or that could impair their ability to make impartial decisions. Employees and investment officials shall disclose to the Chief Executive Officer any material interests in financial institutions with which they conduct business. They shall further disclose any person financial/investment positions that could be related to the performance of the investment portfolio. Employees, officers and their families shall refrain from undertaking personal investment transactions with the same individual with whom business is conducted on behalf of the District. Officers and employees shall, at all times, comply with the State of Oregon’s Government Ethics requirements set forth in ORS 244.

5. SAFEKEEPING, ACCOUNTING, AND CONTROLS

5.1: Safekeeping and Collateralization

- All trades of marketable securities will be executed on a delivery vs. payment (DVP) basis to ensure that securities are deposited in the District’s safekeeping institution prior to the release of funds. The trust department of a bank may be designated as custodian for safekeeping securities purchased from that bank. The custodian shall provide monthly statements and accrual basis reports to Tualatin Valley Water District listing security holdings, issuer, coupon, maturity, CUSIP number, purchase or sale price, transaction date, accrued interest, and other pertinent information. The custodian shall also provide daily access regarding pending investment transactions, future call notices, and any other important information. Upon request, the safekeeping institution shall make available a copy of its Statement on Standards for Attestation Engagements (SSAE) No. 16.
- Demand and time deposits shall be collateralized through the State collateral pool as required by ORS 295 for any excess over the amount insured by an agency of the US Government. Additional collateral requirements may be required if the Chief Financial Officer or the Investment Officer deems increased collateral is beneficial to the protection of the monies under the District’s management.

5.2: Accounting Method

- The District shall comply with all required legal provisions and Generally Accepted Accounting Principles (GAAP). The accounting principles are those contained in the pronouncements of the authoritative bodies including, but not necessarily limited to, the American Institute of Certified Public Accountants (AICPA); the Financial Accounting Standards Board (FASB); and the Government Accounting Standards Board (GASB).

5.3: Internal Controls

- The Investment Officer shall maintain a system of written internal controls which shall be reviewed and tested by the independent auditor at least annually or upon any extraordinary event, e.g., turnover of key personnel, the discovery of any inappropriate activity. The internal controls shall address the following points at a minimum:
 - i. Compliance with Investment Policy
 - ii. Control of Collusion
 - iii. Separation of transaction authority from accounting and record keeping
 - iv. Custodial safekeeping
 - v. Avoidance of physical delivery of securities whenever possible and address control requirements for physical delivery where necessary
 - vi. Clear delegation of authority to subordinate staff members
 - vii. Confirmation of transactions for investments and wire transfers in written or digitally verifiable electronic form
 - viii. Dual authorizations of wire and automated clearing house (ACH) transfers
 - ix. Staff training
 - x. Review, maintenance and monitoring of security procedures both manual and automated

6. QUALIFIED INSTITUTIONS, INVESTMENT ADVISORY SERVICES, AND COMPETITIVE TRANSACTIONS

6.1: Qualified Financial Institutions – Broker/Dealers

- The Investment Officer, and if applicable, the investment advisory firm as described in Section 6.3, shall maintain a list of all authorized broker/dealers and financial institutions which are approved for investing funds within the scope of this investment policy. Any firm is eligible to make an application to the District, and on due consideration and approval, may be added to the list. Additions or deletions to the list will be made at the Investment Officer's discretion. The following minimum criteria must be met prior to authorizing investment transactions. The Investment Officer may impose more stringent criteria.
 - a. Broker/Dealer firms must meet the following minimum criteria:
 - i. Be registered with the Securities and Exchange Commission (SEC);
 - ii. Be registered with the Financial Industry Regulatory Authority (FINRA).
 - iii. Provide most recent audited financials.
 - iv. Provide FINRA Focus Report filings.
 - b. Approved broker/dealer employees who execute transactions with the District must meet the following minimum criteria:
 - i. Be a registered representative with the Financial Industry Regulatory Authority (FINRA);
 - ii. Be licensed by the state of Oregon;
 - iii. Provide certification (in writing) of having read; understood; and agreed to comply with the most current version of this investment policy.
- At the request of the District, the firms performing investment services shall provide their most recent financial statements for review. Further, there should be in place, proof as to all the necessary credentials and licenses held by employees of the broker/dealers who will have contact with the District as specified by, but not necessarily limited to, the Financial Industry Regulatory Authority (FINRA), Securities and Exchange Commission (SEC), etc. The District, or District's Investment Advisory Firm, shall conduct an annual evaluation of each firm's creditworthiness to determine if it should remain on the list. Securities broker/dealers not affiliated with a bank shall be required to be registered in the state of Oregon or be classified as reporting dealers affiliated with the Federal Reserve as primary dealers.

- If an investment advisory firm is retained by the District to execute transactions on the District's behalf, it will have authority to execute investment trades and transactions from its list of authorized broker/dealers and financial institutions. The advisor's broker/dealer list will be provided to the Investment Officer for approval. The Investment Officer can assign the responsibility of the broker/dealer due diligence process to the advisor, and all licensing information on the counterparties will be maintained by the advisor and available upon request.

The advisor broker/dealer review should include:

- i. FINRA Certification check
- ii. Firm Profile
- iii. Firm History
- iv. Firm Operations
- v. Disclosures of Arbitration Awards, Disciplinary and Regulatory Events
- vi. State Registration Verification
- vii. Financial review of acceptable FINRA capital requirements or letter of credit for clearing settlements.

The advisor must provide the District with any changes to the list prior to transacting on behalf of the District.

6.2: Qualified Financial Institutions – Banks

- All bank financial institutions that provide deposits, certificates or any other deposit of the District must be either fully covered by the Federal Deposit Insurance Corporation (FDIC) or the bank must be a participant of the State of Oregon – Public Funds Collateralization Program (PFCP). ORS Chapter 295 governs the collateralization program for banks at the State level. Bank depositories are required to pledge collateral against any public fund deposits in excess of the FDIC insurance amounts. This provides additional protection for public funds in the event of a bank loss. ORS 295 sets the specific value of the collateral, as well as the types of collateral that are acceptable. ORS 295 creates a shared liability structure for participating bank depositories, better protecting public funds though still not guaranteeing that all funds are 100% protected.

6.3: Investment Advisory Services

- The District may enter into contracts with external investment advisory firms as it applies to the investment of its short-term operating funds and capital funds including bond proceeds and bond reserve funds. The investment advisory firm must work on a non-discretionary basis, which requires that the Investment Officer approves all transactions prior to execution.
- If an investment advisor is hired, the advisor will serve as fiduciary for the District and comply with all requirements of this Investment Policy. The Investment Officer remains the person ultimately responsible for the prudent management of the portfolio.
- Factors to be considered when hiring an investment advisory firm may include, but are not limited to:
 - i. The firm's major business
 - ii. Ownership and organization of the firm
 - iii. The background and experience of key members of the firm, including portfolio manager expected to be responsible for the District's account
 - iv. The size of the firm's asset base, and the portion of that base which would be made up by Tualatin Valley Water District's portfolio if the firm were hired
 - v. Management fees
 - vi. Cost analysis by Investment Officer

- A periodic (at least annual) review of all authorized investment advisors under contract will be conducted by the Investment Officer to determine their continued eligibility within the portfolio guidelines.
- Requirements of Investment Advisors
 - i. The investment advisor firm must be registered with the Securities and Exchange Commission (SEC) or licensed by the state of Oregon; *(Note: Investment advisor firms with assets under management exceeding \$100 million must be registered with the SEC, otherwise the firm must be licensed by the State of Oregon).*
 - ii. All investment advisor firm representatives conducting investment transactions on behalf of the District must be registered representatives with FINRA.
 - iii. All investment advisor firm representatives conducting investment transactions on behalf of District must be licensed by the State of Oregon.
 - iv. Contract terms will include that the Investment advisor will comply with the District's Investment Policy.
- The Investment Advisor must notify the District immediately if any of the following issues arise while serving under a District Contract:
 - i. Pending investigations by securities regulators
 - ii. Significant changes in net capital
 - iii. Pending customer arbitration cases
 - iv. Regulatory enforcement actions

6.4: Competitive Selection of Bids or Offers

- Each investment transaction shall be competitively transacted with broker/dealers who have been authorized by the District or investment advisory firm. At least two broker/dealers shall be contacted for each transaction and their bids and offering prices shall be recorded. A record, subject to District archiving policy, shall be maintained by the District of all bids and offerings for security transactions in order to ensure that the District receives competitive pricing.
- If the District is offered a security for which there is no readily available competitive offering, then the Investment Officer shall document quotations for comparable or alternative securities. When purchasing original issue instrumentality securities, no competitive offerings will be required as all dealers in the selling group offer those securities at the same original issue price.

7. AUTHORIZED AND SUITABLE INVESTMENTS

7.1: Authorized Investments

- All investments of the District shall be made in accordance with Oregon Revised Statutes: ORS 294.035 (Investment of surplus funds of political subdivisions; approved investments), ORS 294.040 (Restriction on investments under ORS 294.035), ORS 294.135 (Investment maturity dates), ORS 294.145 (Prohibited conduct for Investment Officer including not committing to invest funds or sell securities more than 14 business days prior to the anticipated date of settlement), ORS 294.805 to 294.895 (Local Government Investment Pool). Any revisions or extensions of these sections of the ORS shall be assumed to be part of this Investment Policy immediately on being enacted.
- This policy recognizes S&P, Moody's, and Fitch Ratings as the major Nationally Recognized Statistical Ratings Organizations (NRSRO).
- In the case of split ratings, where the major NRSROs issue different ratings, the lower rating shall be used to determine compliance with this investment policy. Minimum credit ratings and percentage limitations apply to the time of purchase.

7.2: Suitable Investments

US Treasury Obligations: Direct obligations of the United States Treasury whose payment is guaranteed by the United States. [ORS 294.035(3)(a)]

US Agency Obligations Primary: Senior debenture obligations of US federal agencies and instrumentalities or U.S. government sponsored enterprises (GSE) that have actively traded markets and provide a higher level of liquidity. These include: Federal National Mortgage Association (FNMA), the Federal Home Loan Mortgage Corporation (FHLMC), Federal Home Loan Banks (FHLB), and the Federal Farm Credit Bureau (FFCB).

US Agency Obligations Secondary: Other US government sponsored enterprises that are less marketable are considered secondary GSEs. They include but are not limited to: Private Export Funding Corporation (PEFCO), Tennessee Valley Authority (TVA), Financing Corporation (FICO) and Federal Agricultural Mortgage Corporation, (Farmer Mac).

Municipal Debt: Lawfully issued debt obligations of the States of Oregon, California, Idaho, and Washington and political subdivisions of those states if the obligations have a long-term rating of AA- or better by S&P, Aa3 or better by Moody's, or AA- or better by Fitch.

Corporate Notes: Corporate Notes must be rated AA- or better by S&P, Aa3 or better by Moody's, or AA- or better by Fitch [ORS 294.035(3)(b)].

Commercial Paper: Commercial Paper must be rated A1 or better by Standard and Poor's, P1 or better by Moody's Services, or F1 or better by Fitch [ORS 294.035(3)(b)] and has long-term bonds which have a minimum rating of AA- by Standard and Poor's and Aa3 by Moody's. Issuer constraints for commercial paper combined with corporate notes will be limited by statute to 5% of market value per issuer.

Bank Deposit/ Savings Accounts: Time deposit open accounts or savings accounts in insured institutions as defined in ORS Section 706.008, in credit unions as defined in ORS Section 723.006 or in federal credit unions, if the institution or credit union maintains a head office or a branch in Oregon [ORS Section 294.035(3)(d)].

Certificates of Deposit: Certificates of deposit in insured institutions as defined in ORS 706.008, in credit unions as defined in ORS Section 723.006 or in federal credit unions, if the institution or credit union maintains a head office or a branch in Oregon [ORS Section 294.035(3)(d)].

Bankers' Acceptances: Bankers' acceptances, if the bankers' acceptances are: (i) Guaranteed by, and carried on the books of, a qualified financial institution; (ii) Eligible for discount by the Federal Reserve System; and (iii) Issued by a qualified financial institution whose short-term letter of credit rating is rated AAA by S&P, Aaa by Moody's, or AAA by Fitch. For the purposes of this paragraph, "qualified financial institution" means: (i) A financial institution that is located and licensed to do banking business in the State of Oregon; or (ii) A financial institution that is wholly owned by a financial holding company or a bank holding company that owns a financial institution that is located and licensed to do banking business in the State of Oregon. [ORS 294.035(3)(h)]

Local Government Investment Pool: State treasurer's local short-term investment fund up to the statutory limit per ORS 294.810.

8. INVESTMENT PARAMETERS

8.1: Investment Maturity

- The Investment Officer may invest funds that are related to cash flows for future construction projects or that are being accumulated for future renewal and replacement of infrastructure, by purchasing

securities that will be held for a maximum of 5 years. Except for the aforesaid funds and funds requiring special handling (bond proceeds subject to arbitrage, etc.), investments beyond 5 years require the express approval of the Board of Commissioners. The first priority will be to invest in maturities that match liquidity needs of the District. Thereafter, the District shall target to maintain maturities within the following parameters for the total portfolio:

Maturity Constraints	Minimum % of Total Portfolio
Under 30 days	10%
Under 1 year	25%
Under 5 years	100%
Maturity Constraints	Maximum of Total Portfolio in Years
Weighted Average Maturity	2.00
Security Structure Constraint	Maximum % of Total Portfolio
Callable Agency Securities	25%

- Five-years maximum maturity of any single issue.
- Further, the District shall target the weighted average maturity (WAM) of the total fund to one year which includes both liquidity funds and core investments.
- Cash flow projections will be reviewed and updated at least monthly and will be the controlling guide to establishing maturities. Maturities will be selected to ensure that sufficient cash is available to meet requirements. At least one month’s estimated cash operating requirements will be maintained in the Local Government Investment Pool (LGIP) at all times.

8.2: Portfolio Diversification

Diversification Constraints on Total Holdings: Liquidity and Core Funds

Issue Type	Maximum % Holdings	Maximum % per Issuer	Ratings S&P	Ratings Moody’s
US Treasury Obligations	100%	None	N/A	N/A
US Agency Primary Securities FHLB, FNMA, FHLMC, FFCB	100%	40%	N/A	N/A
US Agency Secondary Securities FICO, FARMER MAC etc.	10%	5%	Security must be rated	Security must be rated
Municipal Bonds (OR, CA, ID, WA)	10%	5%	AA-	Aa3
Corporate Notes			AA-	Aa3
Commercial Paper	35%*	5%**	A1	P1
Bank Time Deposits/Savings Accounts	20%	10%	Oregon Public Depository	Oregon Public Depository
Certificates of Deposit	10%	5%	Oregon Public Depository	Oregon Public Depository
Banker’s Acceptance	25%	5%	AAA Underlying	Aaa Underlying
Oregon Short Term Fund	Maximum allowed per ORS 294.810	None	N/A	N/A

*35% maximum combined corporate and commercial paper per ORS.

**Issuer constraints apply to the combined issues in corporate and commercial paper holdings.

8.3: Prohibited Investments

- The District shall not invest in “144A” private placement securities, this includes commercial paper privately placed under section 4(a)(2) of the Securities Act of 1933.
- The District shall not lend securities nor directly participate in a securities lending or reverse repurchase program.
- The District shall not purchase mortgage backed securities.
- The District will not purchase, per ORS 294.040, any bonds of issuers listed in ORS 294.035(3)(a) to (c) that have a prior default history.

8.4: Investment of Proceeds from Debt Issuance

- Investments of bond proceeds are restricted under bond covenants that may be more restrictive than the investment parameters included in this policy. Bond proceeds shall be invested in accordance with the parameters of this policy and the applicable bond covenants and tax laws.
- Funds from bond proceeds and amounts held in a bond payment reserve or proceeds fund may be invested pursuant to ORS 294.052. Investments of bond proceeds are typically not invested for resale and are maturity matched with outflows. Consequently, surplus funds within the scope of ORS 294.052 are not subject to this policy’s liquidity risk constraints within Section 8.1.

8.5: Investment of Reserve or Capital Improvements

- Pursuant to ORS 294.135(1)(b), reserve or capital Improvement project monies may be invested in securities exceeding three years when the funds in question are being accumulated for an anticipated use that will occur more than 18 months after the funds are invested, then, upon the approval of the governing body of the county, municipality, school district or other political subdivision, the maturity of the investment or investments made with the funds may occur when the funds are expected to be used.

9. INVESTMENT POLICY COMPLIANCE

9.1: Compliance Report

- A compliance report shall be maintained quarterly to document the portfolio versus the investment policy.

9.2: Compliance Measurement and Adherence

- Compliance Measurement
 - i. Guideline measurements will use market value of investments based in investment parameters.
 - ii. Rating and distribution criteria will be based on the settlement date of each purchase.
- Compliance Procedures
 - i. If the portfolio falls outside of compliance with adopted investment policy guidelines or is being managed inconsistently with this policy, the Investment Officer shall bring the portfolio back into compliance in a prudent manner and as soon as prudently feasible.
 - ii. Violations of portfolio guidelines as a result of transactions; actions to bring the portfolio back into compliance and; reasoning for actions taken to bring the portfolio back into compliance shall be documented and reported to the Board of Commissioners.

- iii. Due to fluctuations in the aggregate surplus funds balance, maximum percentages for a particular issuer or investment type may be exceeded at a point in time. Securities need not be liquidated to realign the portfolio; however, consideration should be given to this matter when future purchases are made to ensure that appropriate diversification is maintained.
- iv. As determined on any date that the security is held within the portfolio. If the credit rating of a security is subsequently downgraded below the minimum rating level for a new investment of that security, the Investment Officer shall evaluate the downgrade on a case-by-case basis in order to determine if the security should be held or sold. The Investment Officer will apply the general objectives of safety, liquidity and legality to make the decision.

10. REPORTING REQUIREMENTS AND PERFORMANCE MEASUREMENT

10.1: Reporting Requirements

- The Investment Officer shall generate monthly reports for management purposes. The Board of Commissioners will be provided with reports which will include but not necessarily be limited to; portfolio activity, instruments held by type, investment allocations by maturity, estimated market valuations, as well as any narrative necessary for adequate clarification.

10.2: Performance Evaluation

- The portfolio will be invested into a predetermined structure that will be measured against a selected benchmark portfolio. The structure will be based upon a chosen minimum and maximum effective duration and will have the objective to achieve market rates of returns over long investment horizons. The purpose of the benchmark is to appropriately manage the risk in the portfolio given interest rate cycles. The core portfolio is expected to provide similar returns to the benchmark over interest rate cycles but may underperform or outperform in certain periods. The portfolio will be positioned to first protect principal and then achieve market rates of return. The benchmark used will be a 0-3 year or 0-5 year standard market index and comparisons will be calculated monthly and reported quarterly.
- When comparing the performance of the District's portfolio, all fees and expenses involved with managing the portfolio shall be included in the computation of the portfolio's rate of return.
- The mark to market pricing will be calculated monthly and be provided in a monthly report.
- The Investment Advisor shall make available quarterly and annual reports to the District that contains sufficient information to permit an informed outside reader to evaluate the performance of the investment program.

10.3: Monitoring and Adjusting the Portfolio

- The Investment Officer will routinely monitor the contents of the portfolio comparing the holdings to the markets, relative values of competing instruments, changes in credit quality, and benchmarks. If there are advantageous transactions, the portfolio may be adjusted accordingly.
- The policies set forth in this document will be adhered to and monitored on a monthly basis.

11. INVESTMENT POLICY ADOPTION

This Investment Policy will be formally adopted by the Board of Commissioners; and thereafter, this policy will be readopted annually, even if there are no changes. Prior to adoption by the Board of Commissioners, if changes to the Investment Policy require review and comment by the Oregon Short Term Fund Board, such review will be sought prior to formal adoption.

12. GLOSSARY OF INVESTMENT TERMS

Accrued Interest: The interest accumulated on a security since the issue date or since the last coupon payment. The buyer of the security pays the market price plus accrued interest.

Agency Securities: Government sponsored enterprises of the US Government.

Basis Point: One-hundredth of 1 percent. One hundred basis points equal 1 percent.

Bond: An interest-bearing security issued by a corporation, government, governmental agency, or other body. It is a form of debt with an interest rate, maturity, and face value, and it is usually secured by specific assets. Most bonds have a maturity of greater than one year and generally pay interest semiannually.

Bond Discount: The difference between a bond's face value and a selling price, when the selling price is lower than the face value.

Broker: An intermediary who brings buyers and sellers together and handles their orders, generally charging a commission for this service. In contrast to a principal or a dealer, the broker does not own or take a position in securities.

Callable: A bond that may be redeemed by the issuer before maturity for a call price specified at the time of issuance.

Call Date: The date before maturity on which a bond may be redeemed at the option of the issuer.

Collateral: Securities or other property that a borrower pledges as security for the repayment of a loan. Also refers to securities pledged by a bank to secure deposits of public monies.

Commercial Paper: Short-term, unsecured, negotiable promissory notes issued by businesses.

Commission: Broker's or agent's fee for purchasing or selling securities for a client.

Core Fund: Core funds are defined as operating fund balance which exceeds the District's daily liquidity needs.

Corporate Notes: A debt instrument issued by a corporation with a maturity of greater than one year and less than ten years.

Coupon Rate: The annual rate of interest that the issuer of a bond promises to pay to the holder of the bond.

Coupon Yield: The annual interest rate of a bond, divided by the bond's face value and stated as a percentage. This usually is not equal to the bond's current yield or its yield to maturity.

Current Maturity: The amount of time left until an obligation matures. For example, a one-year bill issued nine months ago has a current maturity of three months.

Current Yield: The remaining or final interest due on a security as a percentage of a security's market price.

CUSIP: The Committee on Uniform Security Identification Procedures, which was established under the auspices of the American Bankers Association to develop a uniform method of identifying municipal, U.S. government, and corporate securities.

Dealer: An individual or firm that ordinarily acts as a principal in security transactions. Typically, dealers buy for their own account and sell to a customer from their inventory. The dealer's profit is determined by the difference between the price paid and the price received.

Delivery: Either of two methods of delivering securities: delivery vs. payment and delivery vs. receipt (also called “free”). Delivery vs. payment is delivery of securities with an exchange of money for the securities. Delivery vs. receipt is delivery of securities with an exchange of a signed receipt for the securities.

Discount: The reduction in the price of a security; the difference between its selling price and its face value at maturity. A security may sell below face value in return of such things as prompt payment and quantity purchase. “At a discount” refers to a security selling at less than the face value, as opposed to “at a premium”, when it sells for more than the face value.

Full Faith and Credit: Indicator that the unconditional guarantee of the issuer (e.g., the United States government, State of Oregon) backs the repayment of a debt.

Government Bonds: Securities issued by the federal government; they are obligations of the U.S. Treasury. Also known as “governments.”

Government Sponsored Enterprise (GSE): Financial services corporations created by the United States government. Their function is to enhance the flow of credit to targeted sectors of the economy, make those segments of the capital market more efficient, and reduce the risk to investors. The desired effect of the GSEs is to enhance the availability and reduce the cost of credit to the targets. Examples include Federal Home Loan Banks (FHLB), Federal National Mortgage Association (FNMA), Federal Home Loan Mortgage Corporation (FHLMC), and Federal Farm Credit Banks (FFCB).

Interest: Compensation paid, or to be paid, for the use of money. The rate of interest is generally expressed as an annual percentage.

Interest Rate: The interest payable each year on borrowed funds, expressed as a percentage of the principal.

Investment Advisor or Manager: An investment advisor that acts on a non-discretionary basis to provide investment and risk strategies. The advisor must act in a fiduciary capacity.

Investment Portfolio: A collection of securities owned by the District and held by a custodian.

Investment Securities: Securities purchased for an investment portfolio, as opposed to those purchased for resale to customers.

Liquidity: The ease at which a security can be bought or sold (converted to cash) in the market. A large number of buyers and sellers and a high volume of trading activity are important components of liquidity.

Liquidity Component: A percentage of the total portfolio dedicated to providing liquidity needs for the District.

Local Government Investment Pool: Oregon's Local Government Investment Pool (LGIP) created by Oregon Laws in 1973, Chapter 748. It is a diversified portfolio offered to eligible participants of the State of Oregon. The Local Government Investment Pool is an alternate investment vehicle offered to participants that includes, but is not limited to, any municipality, political subdivision or public corporation of Oregon that by law is made the custodian of, or has control of, any public funds. The LGIP is commingled with the State's short-term funds.

Mark to Market: Adjustment of an account or portfolio to reflect actual market price rather than book price, purchase price, or some other valuation.

Mortgage-Backed Securities: Mortgage-backed securities are debt obligations that represent claims to the cash flows from pools of mortgage loans, most commonly on residential property. Mortgage loans are purchased from banks, mortgage companies, and other originators and then assembled into pools by a

governmental, quasi-governmental, or private entity. The entity then issues securities that represent claims on the principal and interest payments made by borrowers on the loans in the pool, a process known as securitization. Senior debentures of GSE's Federal National Mortgage Association (FNMA), Federal Home Loan Mortgage Corporation (FHLMC) are not considered mortgage-backed securities.

Municipals (Munis): Securities, usually bonds, issued by a state or its agencies. The interest on munis is generally exempt from federal income taxes and state and local income taxes in the state of issuance. Municipal securities may or may not be backed by the issuing agency's taxation powers.

Par Value: The value of a security expressed as a specific dollar amount marked on the face of the security, or the amount of money due at maturity. Par value should not be confused with market value.

Portfolio: A collection of securities held by an individual or institution.

Prudent Person Rule: A long-standing common-law rule that requires a trustee who is investing for another to behave in the same way as a prudent individual of reasonable discretion and intelligence who is seeking a reasonable income and preservation of capital.

Quotation, or Quote: The highest bid to buy or the lowest offer to sell a security at a particular time.

Settlement Date: The actual date when a security is purchased and comes under the ownership of the buyer.

Spread: The difference between two figures or percentages. E.g. the difference between the bid and ask prices of a quote or between the amount paid when a security is bought and an amount received when sold.

Trade Date: The date when a security transaction is executed.

Treasury Bill (T-Bill): An obligation of the U.S. government with a maturity of one year or less. T-bills bear no interest but are sold at a discount.

Treasury Bonds and Notes: Obligations of the U.S. government that bear interest. Notes have maturities of one to ten years; bonds have longer maturities.

Weighted Average Maturity: The weighted sum of the average years to maturity of the investments held by the District.

Yield: The annual rate of return on an investment, expressed as a percentage of the investment. Income yield is obtained by dividing the current dollar income by the current market price for the security. Net yield, or yield to maturity, is the current income yield minus any premium above par or plus any discount from par in the purchase price, with the adjustment spread over the period from the date of purchase to the date of maturity of the bond.

Yield to Maturity: The average annual yield on a security, assuming it is held to maturity; equals to the rate at which all principal and interest payments would be discounted to produce a present value equal to the purchase price of the bond.

Tualatin Valley Water District



Delivering the Best Water Service Value

RESOLUTION NO. 02-21

A RESOLUTION AMENDING SYSTEM DEVELOPMENT CHARGES FOR THE TUALATIN VALLEY WATER DISTRICT AND DECLARING AN EFFECTIVE DATE.

WHEREAS, on July 18, 2012, the Board of Commissioners adopted Ordinance 01-12 “System Development Charge Ordinance” to impose system development charges (SDCs) and other related procedures to comply with ORS 223.297 to ORS 223.314, inclusive, to provide revenues necessary for capital improvements constructed and to be constructed; and

WHEREAS, in accordance with the methodology identified in Section 4 of Ordinance 01-12, the District calculated the amount of the SDC to be imposed by the Board of Commissioners to collect the statutorily authorized, necessary revenues; and

WHEREAS, Section 9B of Ordinance 01-12 requires the District to review its SDCs annually in relation to the Engineering News Record (ENR) Construction Cost Index (CCI) (Seattle); and

WHEREAS, construction costs increased 6.02% between December 2019 and December 2020 as evidenced by the ENR CCI (Seattle); and

WHEREAS, pursuant to Section 9 of Ordinance 01-12, the Board of Commissioners by this resolution amends the SDC for the District as set forth below.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COMMISSIONERS OF THE TUALATIN VALLEY WATER DISTRICT THAT:

Section 1: Resolution 02-20 is hereby repealed and superseded by this resolution effective at 7:00 A.M., Pacific Standard Time on March 1, 2021.

Section 2(a): Pursuant to Ordinance 01-12, the SDC is calculated for a 5/8 x 3/4-inch meter by a weighting factor. The weighting factors adopted by the Board are based on the American Water Works Association safe operating capacities for displacement type meters.

The SDCs for meter sizes up to 1-1/2 inches are:

Reimbursement Fee	\$ 1,446/ERU
Improvement Fee	6,675/ERU
<u>Administration</u>	<u>136/ERU</u>
Total SDC	\$ 8,257/ERU

<u>Meter Size</u>	<u>Weighting Factors (ERUs)</u>	<u>Charge</u>
5/8 x 3/4-inch	1.0	\$ 8,257
3/4 x 3/4-inch	1.5	12,386

1-inch	2.5	20,643
1.5-inch	5.0	41,285

Section 2(b): Pursuant to Section 2(a) above, for meters over 1.5-inch, the SDC shall be determined based on the customer’s anticipated water usage. Anticipated peak-day water usage will be divided by the peak-day system design flow of 844 gallons per day per equivalent residential unit (ERU) to determine peak-day ERUs. Anticipated average daily water usage will be divided by 358 gallons per day per ERU to determine average-day ERUs (storage ERUs).

Peak-Day SDC cost is:

Reimbursement Fee	\$ 949 per peak-day ERU
Improvement Fee	<u>5,841</u> per peak-day ERU
Peak-Day SDC cost	\$6,790 per peak-day ERU

Storage SDC cost is:

Reimbursement Fee	\$ 633 per storage ERU
Improvement Fee	<u>834</u> per storage ERU
Storage SDC cost	\$1,467 per storage ERU

The SDC shall be the sum of the peak-day SDC cost per ERU multiplied by the peak-day ERUs and the storage SDC cost per ERU multiplied by the storage ERUs.

Section 2(c): The SDC paid for meters larger than 1-1/2 inches as of the effective date of this resolution may be adjusted upward based on actual usage pursuant to an SDC agreement to be executed with the District. If during the term of the SDC agreement, the usage is greater than 110% of anticipated volume during a 12-month period, an additional SDC may be charged, using the same techniques for calculating peak-day and storage ERUs and multiplying the peak-day SDC cost per ERU and the storage cost per ERU then in effect.

Section 2(d): The SDC paid for a residential ¾-inch or 1-inch water meter, in the circumstance where a larger meter is required only for the purpose of meeting a residential multi-purpose fire sprinkler system requirement, will consist of the SDC for the appropriate size meter that would be required without the multi-purpose fire sprinkler system plus 18% of the difference between the price of the SDC for the meter size meeting the domestic water requirements and the SDC for the meter size meeting the fire sprinkler requirement. The 18% factor represents the approximate storage cost component of the SDC. Should the customer regularly use the capacity of the ¾-inch or 1-inch meter to meet its domestic needs, the customer will be required to pay the remainder of the SDC at the current rate then in effect.

Section 2(e): If the customer has been charged by the District for an illegal connection and requests a contract for payment of the SDC, the District may withhold the option of providing a contract for said payment of SDC.

Section 2(f): If the SDC is financed as permitted by ORS 223.208, the financing charge established by the District is 9.0% as authorized in ORS 82.010 Legal Rate of Interest and for a maximum term of 10 years.

Approved and adopted at a regular meeting held on the 20th day of January 2021.

Bernice Bagnall, President

Todd Sanders, Secretary

Tualatin Valley Water District



Delivering the Best Water Service Value

RESOLUTION NO. 03-21

A RESOLUTION TRANSFERRING GENERAL FUND MATERIALS AND SERVICES APPROPRIATION TO CUSTOMER EMERGENCY ASSISTANCE FUND MATERIALS AND SERVICES APPROPRIATION FOR THE BIENNIAL BUDGET PERIOD 2019-21.

WHEREAS, during the COVID-19 healthcare crisis, many of the District's customers are finding it difficult to pay their water bills; and

WHEREAS, the District has maintained budgetary savings in its General Fund during the COVID-19 healthcare crisis by reducing expenditures for the Sustainability Committee, Employee Recognition Event and the Holiday Lunch; and

WHEREAS, management has identified \$8,400 of appropriations described above as being available to be transferred from the General Fund (Fund 01) to the Customer Emergency Assistance Fund (Fund 43); and

WHEREAS, the District's employees suggested these budgetary savings be dedicated to assist customers experiencing difficulty paying their water bills because of the COVID-19 healthcare crisis; and

WHEREAS, funds transferred from the General Fund (Fund 01) to the Customer Emergency Assistance Fund (Fund 43) will be available to assist customers in paying their water bills; and

WHEREAS, Oregon local budget law under Oregon Revised Statutes (ORS) 294.305 to ORS 294.565 allows the District's Board of Commissioners, by resolution, to transfer appropriations between funds; and

WHEREAS, the Board of Commissioners finds the public is best served by transferring the appropriations from the General Fund to the Customer Emergency Assistance Fund.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COMMISSIONERS OF THE TUALATIN VALLEY WATER DISTRICT THAT:

Section 1: The General Fund (01) materials and services appropriation is reduced by \$8,400, the interfund transfer appropriation for the General Fund is increased by \$8,400 and the Customer Emergency Assistance Fund (43) materials and services appropriation is increased by \$8,400 for the 2019-21 biennial budget period.



Approved and adopted at a regular meeting held on the 21st day of April 2021.

Bernice Bagnall, President

Todd Sanders, Secretary

Tualatin Valley Water District



Delivering the Best Water  Service  Value

RESOLUTION NO. 04-21

A RESOLUTION APPROVING THE DISTRICT'S FINANCIAL PLAN FOR THE 2021-2023 BIENNIUM.

WHEREAS, the Board of Commissioners adopted the Tualatin Valley Water District's Financial Management Policies by Resolution 08-19 (Policies), and the Policies require the District to periodically prepare a Financial Plan for Board approval; and

WHEREAS, with assistance of management, the Board has assessed risks and benefits of various capital and operational plans which factor into rates, borrowing needs and levels of financial reserves; and

WHEREAS, at its March 17, 2021 regular meeting, the Board approved the 2022-23 Financial Strategy for the District which provided management guidance that balances risks, costs and benefits to allow management to prepare the Financial Plan for the 2021-2023 biennium.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COMMISSIONERS OF THE TUALATIN VALLEY WATER DISTRICT THAT:

Section 1: The 2021-23 Financial Plan attached hereto as Exhibit 1 and incorporated by reference, is hereby approved.

Section 2: Management will prepare updated Financial Plans in accordance with the District's Financial Management Policies.

Approved and adopted at a regular meeting held on the 19th day of May 2021.

Bernice Bagnall, President

Todd Sanders, Secretary

Exhibit 1



TUALATIN VALLEY
WATER DISTRICT

2021-2023 Financial Plan



ISSUED MAY 2021

1850 SW 170th Ave., Beaverton, OR 97003
Phone: (503) 848-3000

www.TVWD.org

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1 Introduction

Tualatin Valley Water District (TVWD or *District*) serves about 60,000 accounts in parts of Washington County, Oregon. The District's service area is about 45 square miles, home to approximately 217,000 people in portions of the cities of Beaverton, Hillsboro, Tigard, and unincorporated Washington County. In the fiscal year ended June 30, 2020 (FY2020), the District supplied an average of 21.4 million gallons of water per day (MGD) to its customers. The daily amounts ranged from a minimum of approximately 15.2 million gallons (MG) to a peak day of 38.6 MG.

To provide this service to its customers, the District currently relies on three water sources: the City of Portland Water Bureau (Portland), the Joint Water Commission (JWC)¹, and Grabhorn Aquifer Storage and Recovery (ASR). The District's capacity from Portland is 42.3 MGD, with another 14.5 MGD available from the JWC. The total of these amounts is well above the average and peak daily flow requirements of the District's customers.

To deliver water to its customers, the District maintains approximately 750 miles of pipe, ranging in size from 2 to 60 inches. Thirteen pumping stations move water throughout the District. There are 23 finished water reservoirs with a combined storage capacity of 67 MG. The major pumping stations and the reservoirs have full telemetry control systems. The District's water system is monitored 24 hours a day, seven days a week. In addition to monitoring water flows and pressure, the District's state-of-the-art Supervisory Control and Data Acquisition (SCADA) system monitors several water quality parameters and security alarms. If the system identifies anything out of the ordinary, alarms alert an operator to the possible problem and staff are dispatched as needed.

Maintaining a reliable and efficient water system is a major focus at TVWD. Capital improvement projects are planned and constructed throughout the year to meet current and future water needs. At any given time, the District has a variety of these projects underway, including pipe replacement, reservoir construction, and building improvements.

In addition to the types of capital expenditures just mentioned, the District is engaged in a major infrastructure project to develop a new water source on the mid-Willamette River for the Tualatin Valley. This project is commonly referred to as the Willamette Water Supply Program (WWSP), and includes capital improvements that are part of two new regional water entities.

1. Willamette Intake Facilities (WIF) Commission – The WIF is a joint venture of the District and the cities of Beaverton, Hillsboro, Sherwood, Tigard, and Wilsonville to jointly own and operate a raw water intake facility located at the current Willamette River Water Treatment Plant in Wilsonville, Oregon. The District serves as the Managing Agency for the WIF.
2. Willamette Water Supply System (WWSS) Commission – The WWSS is a joint venture of the District and the cities of Hillsboro and Beaverton to construct and operate supply facilities that convey raw water from the WIF, treat the raw water to potable standards, and convey the potable water to each partner's distribution systems.² The District serves as the Managing Agency for the WWSS.

¹ The District is a partner in the JWC along with the cities of Beaverton, Forest Grove, and Hillsboro.

² The WWSP website (<http://www.ourreliablewater.org/>) provides additional information including activities-to-date, maps, and other related information for all WIF and WWSS projects.

The WWSP began in FY2014 and will be complete in FY2026. Its total program cost (including inflation) is substantial at approximately \$1.3 billion. Until 2018, the District had assumed that it would fund its projected share (approximately \$729 million at the time) with cash and revenue bond proceeds.³ In 2019, the District and its WWSS partner, the City of Hillsboro (Hillsboro), applied for loans through the Water Infrastructure Finance and Innovation Act (WIFIA) program, a federal loan and guarantee program administered by the U.S. Environmental Protection Agency (EPA). The District closed its original WIFIA loan agreement on August 2, 2019 and Hillsboro closed its agreement shortly thereafter. Section 1.2.2 provides additional details on the District's original WIFIA loan, amendments made in the spring of 2020, and the District's re-executed loan which closed on September 15, 2020.

To forecast its financial resource requirements, including future revenues from rates and charges, the District maintains a financial forecast model (Forecast) that is used to analyze revenue requirements⁴ scenarios under alternative capital improvements plans and cost assumptions.

1.1 The Forecast Model

This Financial Plan summarizes the Forecast results, which are based on the District's latest data and assumptions. These data and assumptions include capital improvement plan (CIP) costs, operations and maintenance (O&M) costs, rate and non-rate revenues, system development charge (SDC) collections, reserve funds, and various assumptions around interest rates and cost escalation factors for future years of the projection period.

The model examines the impacts of funding capital improvements with a mix of rate revenue, reserves, system development charges, and proceeds from future borrowings. The scenario presented in this Financial Plan is based on the District's latest CIP projections, budget numbers, and collective estimates of interest rates and escalation factors as of April 2021. The scenario is projected to generate enough revenue to meet the District's future revenue requirements, maintain prudent reserve fund balances, exceed target minimum debt service coverage ratios, and keep the District below its target maximum net leverage ratio.

The Forecast that this Financial Plan is based on uses the 30-year planning period of FY2021 through FY2050. However, in most instances, this Financial Plan provides summary data from the first 10 years of the forecast period (FY2022-FY2031). Throughout this document, this period may be referred to as the "10-year presentation period" or simply the "presentation period".

1.2 Notable Changes from Prior Financial Plan

1.2.1 COVID-19

The COVID-19 pandemic and resulting economic crisis have had significant impacts on the District's financial performance over the last year, including:

- Large unfavorable monthly water sales variances over the summer of 2020.

³ WWSP partner costs will be funded individually by the District's partners, with payments made through the District as Managing Agency of the WWSP.

⁴ Revenue requirements include cash-funded capital improvements, debt service, and operational expenditures.

- Temporary moratorium on shutting off customers' service for non-payment. The number of water customers in shutoff status increased from 1,180 in April 2020 to a total of 1,856 in March 2021.
- Increase in the accounts receivable (AR) for customers who would have experienced shutoff from \$234 thousand in April 2020 to \$815 thousand in March 2021.
- A corresponding increase in the average age of accounts receivable (AR Aging) for these customers from 51 days in April 2020 to 100 days in March 2021.
- Clear indications, as measured in days of sales outstanding (DSO), that many customers are taking longer to pay their water bills than before the COVID-19 crisis began.
- Declining yields on the District's portfolio of investments.

As the COVID-19 crisis has extended into 2021, the District continues to monitor its revenues, collections, and expenses to anticipate potential impacts on the District's financial performance. The District anticipates that revenues will be lower than planned and estimates that it will finish the 2019-2021 biennium with an unfavorable water sales revenue variance between \$9 and \$11 million. Additionally, over the next few years, the District expects a significant increase in spending on the Willamette Water Supply Program, which will result in a significant decrease in its investment portfolio.

1.2.2 WIFIA Loan Updates

As noted above in the Introduction, the District closed its original WIFIA loan agreement on August 2, 2019. The original loan, which would fund up to 49% of the District's share of WIFIA-eligible project costs, included an interest rate of 2.39% that would free up the District's financial resources for other purposes and lower the overall levels of annual revenues required from rates and charges. The District and the EPA estimated that the initial WIFIA loan would save the District's customers approximately \$138.4 million.

To date, the District has not drawn on its WIFIA loan. In the spring of 2020, the District requested the EPA amend the District's draw schedule under its existing WIFIA loan. This requested amendment better aligned the District's WIFIA draws with its new projected cash flow requirements. The EPA approved the revised draw schedule, allowing the District to make more of its total WIFIA funding (i.e., \$387.75 million) available earlier in the WWSP's life cycle.

After the District closed its WIFIA loan on August 2, 2019, market conditions changed and interest rates declined. To achieve interest rate savings, the District requested that its WIFIA loan be re-executed. The EPA allowed this re-execution, and the District closed its re-executed WIFIA loan on September 15, 2020 at a lower interest rate of 1.35%. Under the new terms (i.e., revised draw schedule and lower interest rate), the District and the EPA estimated additional savings of approximately \$122 million for the District's customers.

1.3 Financial Plan Section Descriptions and Highlights

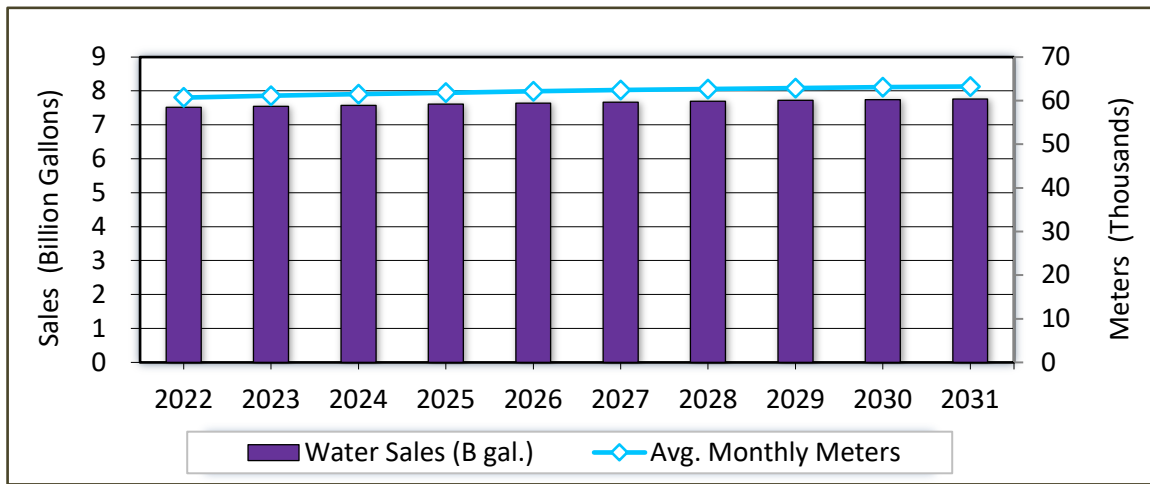
This Financial Plan guides the financial management of the District and it will be updated periodically to reflect future assumptions and outcomes. In addition to regular updates, the District anticipates that its Financial Plan will evolve to provide additional information intended to help the Board and management

in the execution of their responsibilities. Therefore, content or sections may change over time.⁵ The next four pages present brief overviews for each section of this Financial Plan.

SECTION 2 – FINANCIAL MANAGEMENT OBJECTIVES AND POLICIES. This section describes the objectives that form the basis of the District’s financial management activities, and the key financial planning assumptions and policies used in the Forecast model.

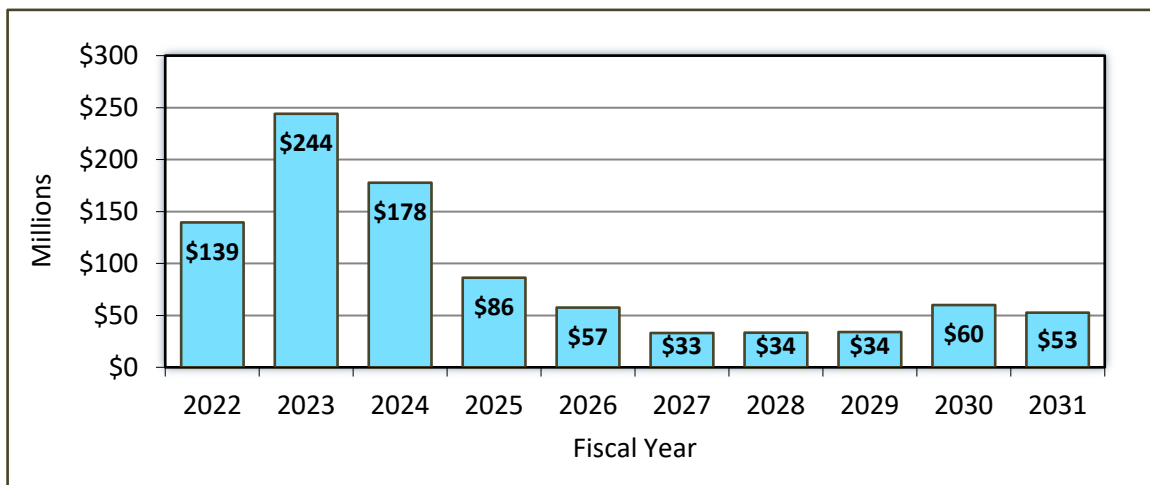
SECTION 3 – WATER SALES PROJECTIONS. This section describes the District’s water sales forecast and the data used in the preparation of this Financial Plan. Figure 1-1 presents projected annual water sales and average meters served.

Figure 1-1: Water Sales and Meters Forecast by Fiscal Year



SECTION 4 – CAPITAL IMPROVEMENT PLAN. This section describes various elements of the District’s CIP, including projected costs by category. Figure 1-2 provides a summary of projected CIP expenditures over the 10-year presentation period. Total expenditures over this period are approximately \$918.4 million.

Figure 1-2: Projected CIP Expenditures



⁵ As examples, a future version of the Financial Plan may include sections for an Operations Plan and historical financial performance information.

SECTION 5 – CAPITAL FINANCING PLAN. This section provides a detailed overview of the types and anticipated timing of debt required to finance the CIP and the methodology used to optimize the District’s capital financing mix (Figure 1-3). Section 5 also describes the debt assumptions used in the Forecast model and projections of future debt repayments (Figure 1-4).

Figure 1-3: Ten-year Financing Mix (Cash v. Debt through FY2031)

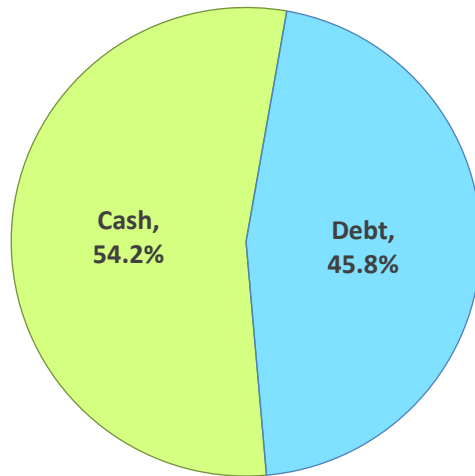
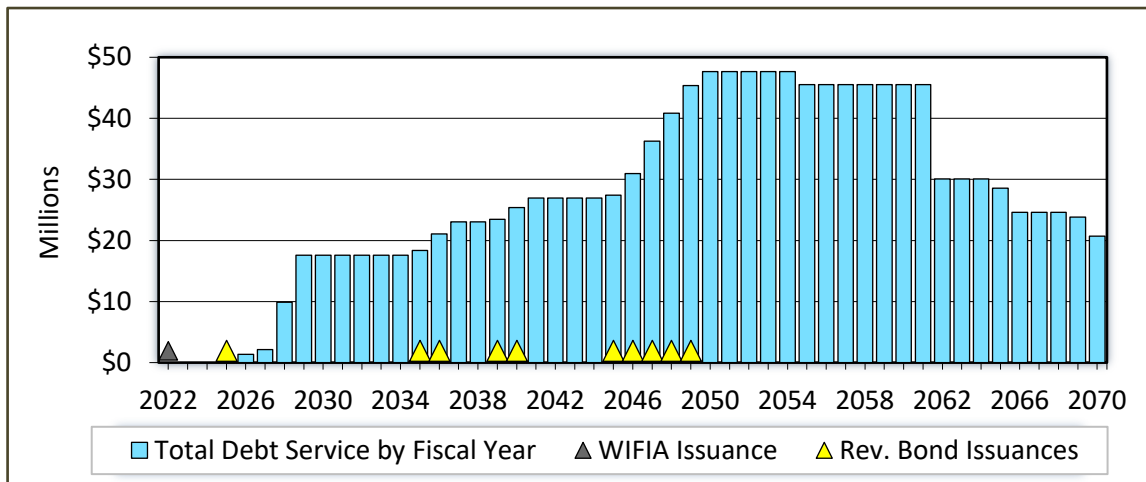


Figure 1-4: Projected Debt Repayments (Total Debt Service on WIFIA and Revenue Bonds)



SECTION 6 – FINANCIAL FORECAST. This section demonstrates the overall feasibility of the District’s capital financing plan. It provides descriptions of the District’s current and projected rates and charges, and descriptions of the projected sources and uses of funds during the presentation period.

Figure 1-5 (next page) presents the Forecast customer impacts over the presentation period, including typical monthly bills and annual rate revenue adjustments of 9.5% in FY2022 and FY2023, and 3.9% per year thereafter.

Figure 1-5: Rate Adjustments and Typical Bill Impacts by Fiscal Year

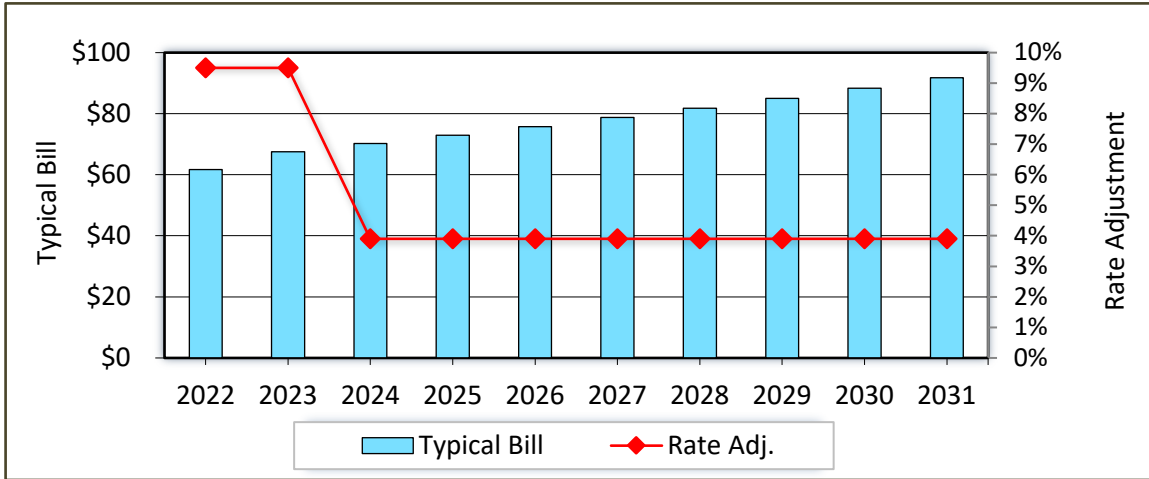


Figure 1-6 below shows that projected debt service coverage (DSC)⁶ will exceed the District’s target minimum of 2.0x for the foreseeable future. Note that Figure 1-6 presents ten years of results beginning with FY2027 instead of FY2022. This is to show projected DSC for a period after which the bulk of the District’s near-term debt service requirements will be in place.

Figure 1-6: Projected Debt Service Coverage Ratio

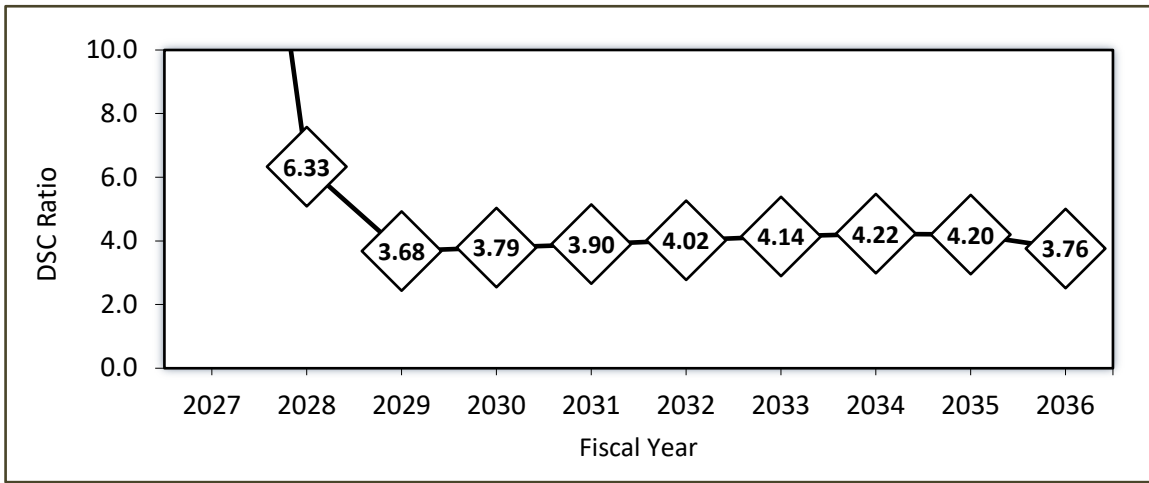
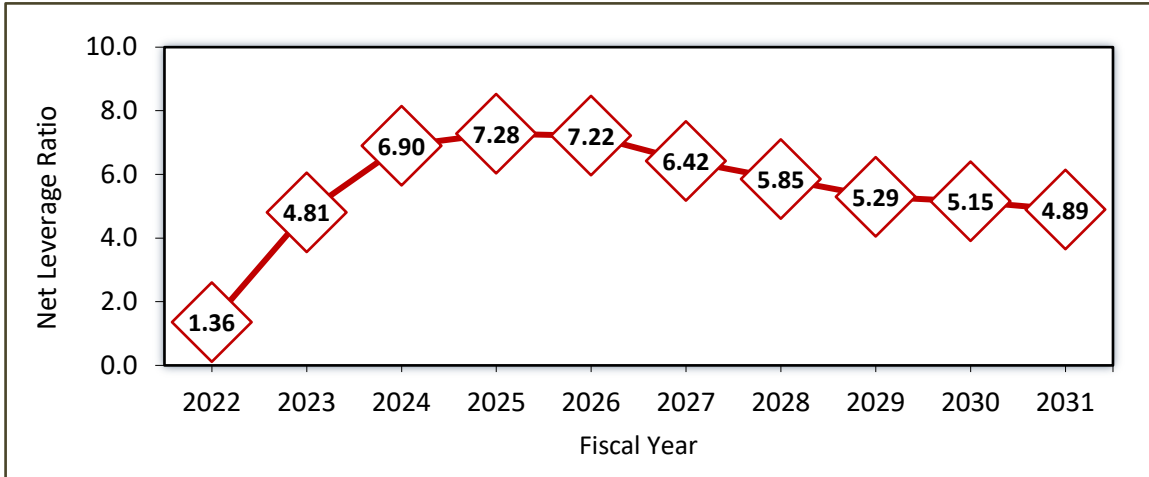


Figure 1-7 below shows that the District’s estimated net leverage ratio will peak below the District’s target maximum of 8.0x in FY2025 and decline annually in future years.⁷

⁶ A DSC ratio measures the availability of current financial resources to pay for debt service. It is the ratio of annual revenues (net of operating expenses) to total annual debt service.

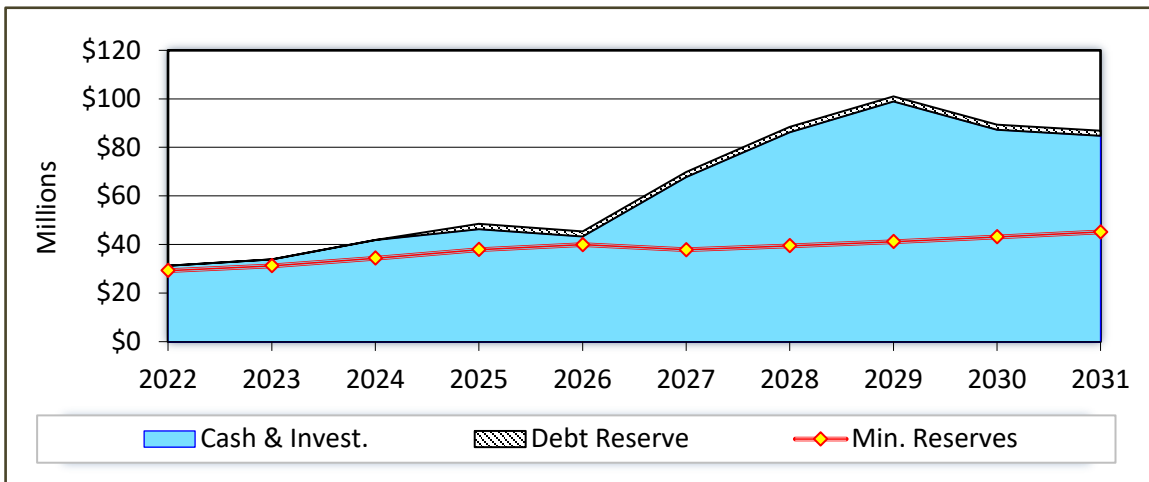
⁷ For background information on the Net Leverage ratio, see Section 2.2.1.1 in this report.

Figure 1-7: Projected Net Leverage Ratio



SECTION 7 – FUNDS AND RESERVES. This section describes the summary funds used in the Forecast model. The projections in this section, summarized in Figure 1-8, demonstrate that the District will have enough liquidity to meet both its operating and capital investment commitments.

Figure 1-8: Projected Year-End Cash Balances by Fiscal Year



APPENDICES. Along with a service area map inside the back cover, the Appendices include the following:

- Appendix A – Proposed Financial Plan Assumptions for the Financial Management Policies
- Appendix B – Six-Year Capital Improvement Plan Summary
- Appendix C – Ordinance 01-19 – Authorizing the Issuance of Debt
- Appendix D – Master Revenue Bond Declaration
- Appendix E – First Supplement to Master Revenue Bond Declaration
- Appendix F – Parity Certificate and Transcript Documents
- Appendix G – PERS Valuation Report
- Appendix H – Forecast Model Summary Results
- Appendix I – Map – Tualatin Valley Water District (Washington County, Oregon)

1.4 Conclusion

It must be noted that many assumptions were employed in the financial planning analysis underlying this document. For this reason, the results presented herein are not concrete in nature and should be considered as planning estimates.

In the future, the actual rate adjustments required to fund revenue requirements may vary from the estimates presented in Section 6 – *Financial Forecast*. As time passes and projections become reality, future capital requirements, O&M costs, customer demands, and other assumptions will influence the accuracy of these estimates. Therefore, the District will continue to take great care to mitigate risk by following prudent management practices, including reviewing rates and revenues annually (at a minimum) to see if additional adjustments are necessary.

2 Financial Management Objectives and Policies

The District's Financial Plan incorporates the Board's financial policies and objectives into an actionable plan that guides the District's financial activities. To develop the District's Financial Plan, the Board considers alternative financial outcomes at public meetings and workshops periodically throughout the year. The Forecast is used to inform the Board on the impact that various policy decisions have on the District's financial outcomes. This includes, for example, changes in water rates, use of long-term debt, etc.

Most of the District's financial policies are included in its *Financial Management Policies* document.⁸ In addition to the *Financial Management Policies*, the Board separately adopts the District's *Investment Policy* annually as required by Oregon law.⁹

The aim of this section is threefold:

- Provide context for understanding the policies in terms of financial management objectives.
- Describe key District financial policies, including recent enhancements.
- Present background information on credit ratings.

2.1 Financial Management Objectives

This section provides a context for understanding the District's financial policies in terms of certain financial management objectives –

- Promoting Stability and Continuity
- Providing Best Value to the Community
- Providing a Definitive Policy Framework for District Staff
- Managing Risks to Financial Condition
- Following Established Public Management Best Practices

PROMOTING STABILITY AND CONTINUITY. The long-term, strategic intent articulated by many financial policies necessarily demands a long-term perspective from the organization. These policies promote stability and continuity by institutionalizing good financial management practices. They also prevent the need to re-invent responses to recurring issues.

PROVIDING BEST VALUE TO THE COMMUNITY. By clarifying and crystallizing strategic intent for financial management, financial policies define a shared understanding of how the organization will develop its financial practices and manage its resources to provide the best value to the community.

PROVIDING A DEFINITIVE POLICY FRAMEWORK FOR DISTRICT STAFF. Financial policies define limits on the actions staff may take. The policy framework provides the boundaries within which staff can innovate to further the organization's strategic intent.

⁸ The District's current *Financial Management Policies* were adopted by the Board of Commissioners on March 20, 2019 by Resolution 08-19. The document is available on the District's website, under "Supporting Documents" on the Finance Department page (<https://www.tvwd.org/finance>).

⁹ The District's current *Investment Policy* was adopted by the Board of Commissioners on January 16, 2019 by Resolution 01-19.

MANAGING RISKS TO FINANCIAL CONDITION. A key component of governance accountability is not to incur excessive risk in the pursuit of public goals. Financial policies identify important risks to financial condition.

FOLLOWING ESTABLISHED PUBLIC MANAGEMENT BEST PRACTICES. The Government Finance Officers Association (GFOA), through its officially adopted Best Practices endorsement of National Advisory Council on State and Local Budgeting (NACSLB) budget practices and the GFOA Distinguished Budget Presentation Award Program, has recognized financial policies as an essential part of public financial management.

2.2 Key Financial Policies and Assumptions

The District’s financial policies cover a range of diverse activities. However, for long-range financial planning, policies related to capital financing and reserve levels are of particular importance. The following subsection describes each of these key policies in greater detail.

Financial Planning Assumptions¹⁰

- Debt Service Coverage Ratio
- Net Leverage Ratio
- Additional Bonds Test
- Debt Structure Considerations

Reserve Policies

- Working Capital
- Capital Reserves
- Debt Service Reserves

2.2.1 Financial Planning Assumptions

The financial planning assumptions provide guidance for future debt issuance, structure, and management. The assumptions are incorporated into policies that establish certain limits which recognize the District’s capital requirements, its ability to repay financial obligations, and the existing legal, economic, financial, and debt market conditions. Specifically, the policies are intended to assist the District in the following:

1. Evaluating available debt issuance options;
2. Maintaining appropriate capital assets for present and future needs;
3. Promoting sound financial management through accurate and timely information on financial conditions;
4. Protecting and enhancing the District’s credit rating(s); and
5. Safeguarding the legal use of the District’s financing authority through an effective system of internal controls.

The District’s debt financing assumptions and debt structure considerations are discussed in the following two subsections. For more detail and additional information on the District’s policies on *Debt Financing*, please see the District’s *Financial Management Policies* document.

¹⁰ Assumptions used in the Forecast are from the District’s *Financial Management Policies*, except for the additional WIFIA-related assumptions described in *Section 5.3.1 – WIFIA Debt Assumptions*.

2.2.1.1 Forecast Model Assumptions for Debt Financing

DEBT SERVICE COVERAGE (DSC) RATIO. A DSC ratio measures the availability of current financial resources to pay for debt service. It is the ratio of annual revenues (net of operating expenses) to total annual debt service. For example, a DSC ratio of 1.0x means that after paying all operating expenses¹¹, an issuer only has exactly enough funds to pay debt service obligations. Similarly, a DSC ratio of 1.5x means that after paying all operating expenses, an issuer has 50% more than the amount needed to pay debt service obligations. This additional capacity allows the issuer to fund other capital expenditures with cash (thereby resulting in lower debt leverage) and providing a buffer should revenue be unexpectedly lower (e.g., due to weather or other unforeseen events), or operating expenses being unexpectedly higher.

DSC is one of the primary metrics used by credit ratings agencies and investors to assess the credit worthiness of an issuer. In this way, it is like a ratio of monthly income to mortgage payment used in qualifying for a home mortgage. All other things being equal, an issuer with a higher DSC ratio may indicate less borrowing, better credit ratings, and a lower cost of debt. Conversely, a similar utility with a lower DSC ratio may indicate more debt outstanding, lower credit ratings, and more expensive debt.

The District's master revenue bond declaration (Master Declaration) is the document that will govern debt issuance. In this document, the District commits to set rates at levels to meet rate covenants and additional bonds tests imposed by then-existing financing covenants. In addition to the legal and/or contractual requirements associated with future revenue bonds, the District will strive to maintain a minimum annual debt service coverage ratio of 2.0 times average annual debt service.¹²

NET LEVERAGE RATIO. A net leverage ratio measures an entity's total outstanding debt to its financial resources. It is similar to the DSC ratio described above, but different in its measurement and perspective:

- The DSC ratio is a measurement of annual net revenues to total annual debt payments. Target DSC ratios are set as a *minimum* bar to clear.
- Conversely, net leverage measures cumulative debt outstanding to revenue (and other resources), and the target is set as a *maximum* "not-to-exceed" ratio.

Historically the District assumed a cap on its use of long-term debt as a measure of its maximum leverage. For this year, the District has included net leverage as a consideration or financial metric. The *Proposed Financial Plan Assumptions for the Financial Management Policies* in Appendix A include newly established targets for net leverage, where the maximum net leverage ratio in the Financial Plan shall be 8.0 times adjusted annual net revenue. Additionally, the projected net leverage ratio in the Financial Plan:

- Shall not exceed the target maximum in any forecast period.
- Shall not exceed a net leverage ratio of 7.0x for more than three consecutive years.

¹¹ Excluding depreciation. Although depreciation is an operating expense, it is a non-cash expense and is therefore excluded from the calculation of the DSC ratio.

¹² The District sets its minimum DSC ratio target higher than the expected required minimum of 1.25 times debt service. This is a matter of prudent financial policy, in which the District strives to achieve a higher standard than the requirements typically set forth in bond covenants.

The addition of the net leverage ratio to the District's financial planning is due, in part, in response to credit rating criteria used by ratings agencies. It is also replacing the assumed debt issuance cap previously used.

The District's Board of Commissioners has demonstrated a strong commitment to the financial health of the District. This commitment is demonstrated by a history of implementing changes in water rates that are necessary to meet the needs of the water system and customers. Therefore, DSC is not typically considered a constraint at the District. However, given the substantial amounts of debt funding that will be required for its CIP, the District's net leverage ratio may become a constraining factor at some point. This is especially true when considering the perspectives of the credit market and ratings agencies.

2.2.1.2 Debt Structure Considerations

MATURITY OF DEBT. The final maturity of the debt shall not exceed, and preferably be less than, the remaining useful life of the assets being financed, and to comply with Federal tax regulations, the average life of a financing shall not exceed 120% of the average life of the assets being financed.

DEBT SERVICE STRUCTURE. Debt service payments for any new money debt issue will generally be structured to create more level debt service payments over the life of the debt. Exceptions are permitted for refunding debt that will have varying principal repayments structured to fill in the gaps created by refunding specific principal maturities. The Chief Financial Officer (CFO) may also structure the amortization of principal to wrap around existing obligations or to achieve other financial planning goals. Deferring the repayment of principal should be avoided except in select instances where it will take time before project revenues are sufficient to pay debt service.

LIEN STRUCTURE. Senior and subordinate liens may be used to maximize the most critical constraint, either cost or capacity, thus allowing for the most beneficial leverage of revenues.

CAPITALIZED INTEREST. The District may elect to fund capitalized interest in connection with the construction of certain projects if revenue from such projects is not initially available to pay debt service on related debt. Additionally, the District may consider funding capitalized interest if it would minimize the financial impact of such borrowing on District customers.

RESERVE FUNDS. A reserve fund for a debt issuance may be required for credit rating or marketing reasons. If required, such reserve funds can be funded with:

- The proceeds of a debt issue,
- The reserves of the District, or
- A surety policy.

A cash reserve fund will be invested pursuant to the investment restrictions associated with the respective financing documents and the District's separate investment policy. For each debt issue, the CFO will evaluate whether a reserve fund is beneficial for credit rating or marketing purposes and the prudence of funding or maintaining the reserve requirement with cash or a surety policy, in addition to determining the benefits of borrowing the necessary funds or using cash reserves.

REDEMPTION PROVISIONS. In general, the District will have the right to optionally redeem debt at par no later than 10 1/2 years after issuance. Redemption provisions will be established on a case-by-case basis, taking into consideration market conditions and the results of a call option analysis prior to the

time of sale. Because the issuance of non-callable debt may restrict future financial flexibility, cost will not be the sole determinant in the decision to issue non-callable debt.

CREDIT ENHANCEMENT. Credit enhancement (e.g., bond insurance or letters of credit) on District financings will only be used when net debt service is reduced by more than the cost of the enhancement. The District will evaluate the availability and cost/benefit of credit enhanced debt versus unenhanced debt prior to issuing any debt.

2.2.2 Reserve Policies

Maintaining fund balances is an important function for the District to operate efficiently over the long run. The District's reserve policies guide the development of minimum cash balances that directly affect this District's Financial Plan, rates and charges, and budget. The accumulation or use of fund balances and reserves is a practice that may allow financial decisions in one year to affect future years. Because of the nature of these effects, these policies provide guidance to:

- District management in developing the various plans proposed to the Board, and
- The Board in making its financial decisions.

The decision to retain financial resources in fund balance or reserves directly affects:

- Financial risks from unexpected disruptions to revenue or unplanned expenditures.
- Water rates required in the current and future years.
- The District's credit rating(s).
- Other related financial matters.

The District's reserves requirements are highlighted in the following three subsections. For more detail and additional information on the District's policies on *Minimum Fund Balances and Reserves*, please see the District's *Financial Management Policies* document.¹³

2.2.2.1 Working Capital

The District separately measures its current and non-current assets and liabilities. The District can use this distinction to calculate working capital (i.e., current assets less current liabilities). The measure of working capital indicates the relatively liquid portion of the District's assets, which constitutes a margin or buffer for meeting obligations. Additionally, credit ratings agencies consider the availability of working capital in their evaluations of the District's creditworthiness. Therefore, working capital is a crucial consideration in this Financial Plan.

The District's *Financial Management Policies* state that working capital shall be maintained at a level considered adequate to mitigate current and future risks (e.g., revenue shortfalls and unanticipated expenses) and to provide stable services and fees. The policies state that this level will be at least equal to two months of annual operations and maintenance expense (i.e., 60 days cash on hand).

2.2.2.2 Capital Reserves

The District's rate setting goals include a preference to avoid sudden and/or unexpected rate increases for customers. Capital reserves are one mechanism the District can use to lower the overall costs of

¹³ Available on the Finance page of the District's website (<https://www.tvwd.org/finance>).

acquiring capital assets by saving money early in the planning process. Capital reserve levels are determined through the financial planning process and identified in this Financial Plan.

In the Forecast model, the District targets 250 days of annual O&M for financial planning purposes. This reserve balance is intended to meet the requirements of the working capital and capital reserves targets.

2.2.2.3 Debt Service Reserves

A reserve fund for a debt issuance may be required for credit rating or marketing reasons. The District fully redeemed its last outstanding revenue bonds in June of 2015 and its Debt Service Fund has not been used since that time. For planning purposes, the District assumes that any debt reserves required for future revenue bonds will be funded from the proceeds of each bond issuance.

This cash reserve fund will be invested pursuant to the investment restrictions associated with the respective financing documents and the District's separate investment policy. For each debt issue, the CFO will evaluate whether a reserve fund is required for credit rating or marketing purposes and the benefits of funding or maintaining the reserve requirement with cash or a surety policy, in addition to determining the benefits of borrowing the necessary funds or using cash reserves.

2.3 District Credit Ratings

The primary goal of the District's Financial Plan is to provide the financial foundation on which to build and operate its expanding system infrastructure. As described earlier, financial policies represent a tradeoff among various objectives. Prudent financial management means striking a balance among these objectives in a manner that provides for a sustainable enterprise with the ability to face the risks and capitalize on the opportunities before it.

Though high underlying credit ratings are not an end in-and-of themselves, they are one of the best measures of success in creating a financially sustainable enterprise. For several years, the District has worked with its professional advisers to develop a targeted credit rating for its long-term debt. Based on the District's alignment with the rating criteria of the various rating agencies and considering the effect on the District's cost of capital, the District targeted financial performance that would result in a credit rating of at least AA+/Aa1. The District believes its financial performance may support a rating of AAA.

As part of the application process for the WIFIA loan program, the District was required to get credit ratings from two national rating agencies. The District selected Standard & Poor's and Fitch Ratings for its ratings and achieved its minimum targeted rating from each agency.

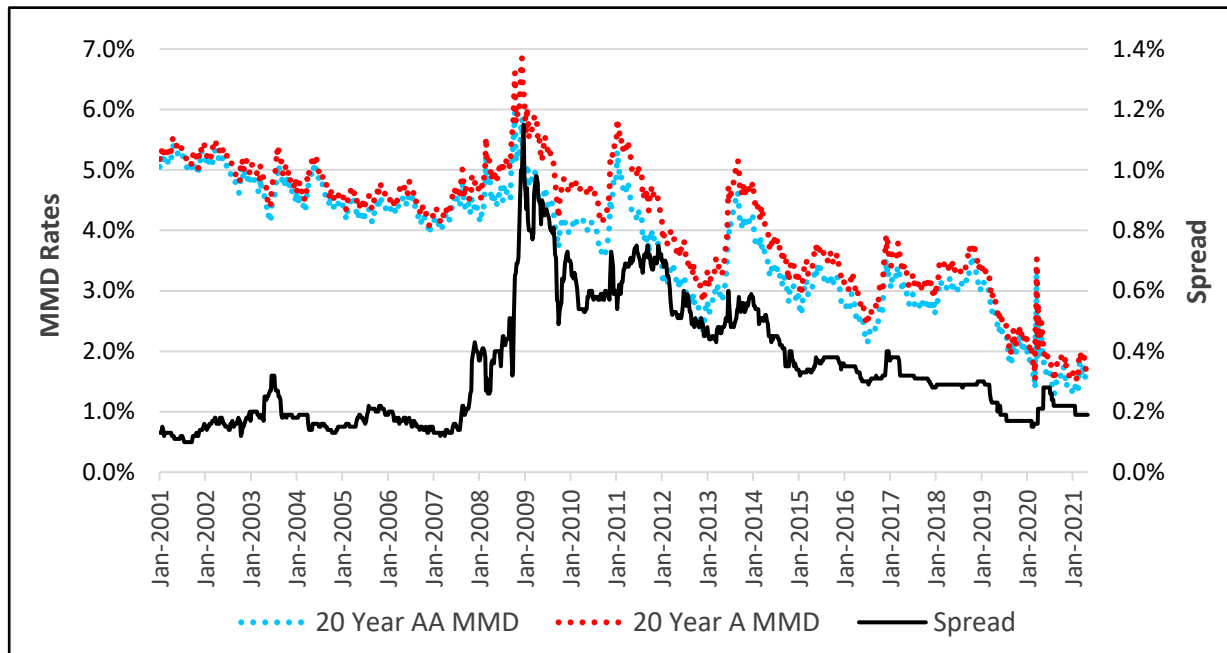
Table 2-1 (next page) provides a scale comparison for investment grade securities for three national rating agencies. The District's ratings are shaded.

Table 2-1: Rating Scales by Agency

Standard & Poor's	Fitch Ratings	Moody's Investor's Service
AAA	AAA	Aaa
AA+	AA+	Aa1
AA	AA	Aa2
AA-	AA-	Aa3
A+	A+	A1
A	A	A2
A-	A-	A3
BBB+	BBB+	Baa1
BBB+	BBB+	Baa2
BBB-	BBB-	Baa3

The direct financial value of a strong credit rating is a function of investor perceptions of risk. In terms of basis points savings on long-term debt, the graph below shows the value of 'AA'-rated credit vs. 'A'-rated credit since 2001.

Figure 2-1: Spread Between 'AA' versus 'A' Rated Debt* – The Benefit of Staying 'AA' or Better



* 20-year AA vs. A MMD Historical Rate Comparison (1/5/2001-5/4/2021); from PFM Financial Advisors LLC.

The graph makes clear that the value of a strong credit rating varies over time. Over the period presented, the value has ranged from a low of 10 basis points to a high of 115 basis points, while averaging 31 basis points. To put this in perspective, an additional 31 basis points results in an additional \$5.3 million in interest on every \$100 million in outstanding debt (i.e., over 30 years).

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3 Water Sales Projections

3.1 Water Sources

One of the District's primary responsibilities is to meet the water demands of existing and future customers. No single water source is sufficiently robust to meet this challenge, and the District's Board has long recognized the need to balance water supplies among multiple sources. Currently, the District purchases most of its water through a wholesale contract with the City of Portland. The remainder of the water needed by the District's customers comes from the Joint Water Commission (JWC) and the District's aquifer storage and recovery (ASR) facilities.

3.1.1 City of Portland Water Bureau

TVWD purchases water from Portland under an existing regional water sales agreement. TVWD has no equity share in the Portland supply and, under the terms of the agreement, is required to pay for a minimum average of 13.16 MGD even if the District uses less. Under the agreement, this 13.16 MGD is referred to as the guaranteed purchase quantity (GPQ). If the District requires more water than the GPQ, the District will pay Portland for the additional costs. Water is billed at a pre-determined rate which includes a return on investment for Portland, with significant rate increases tied to high usage during summer months. The District's connection to the Portland system can provide up to 42.3 MGD from Portland, however, there are significant incentives to manage the existing supply system to limit the financial impacts of the existing Portland water sales agreement.

3.1.2 Joint Water Commission

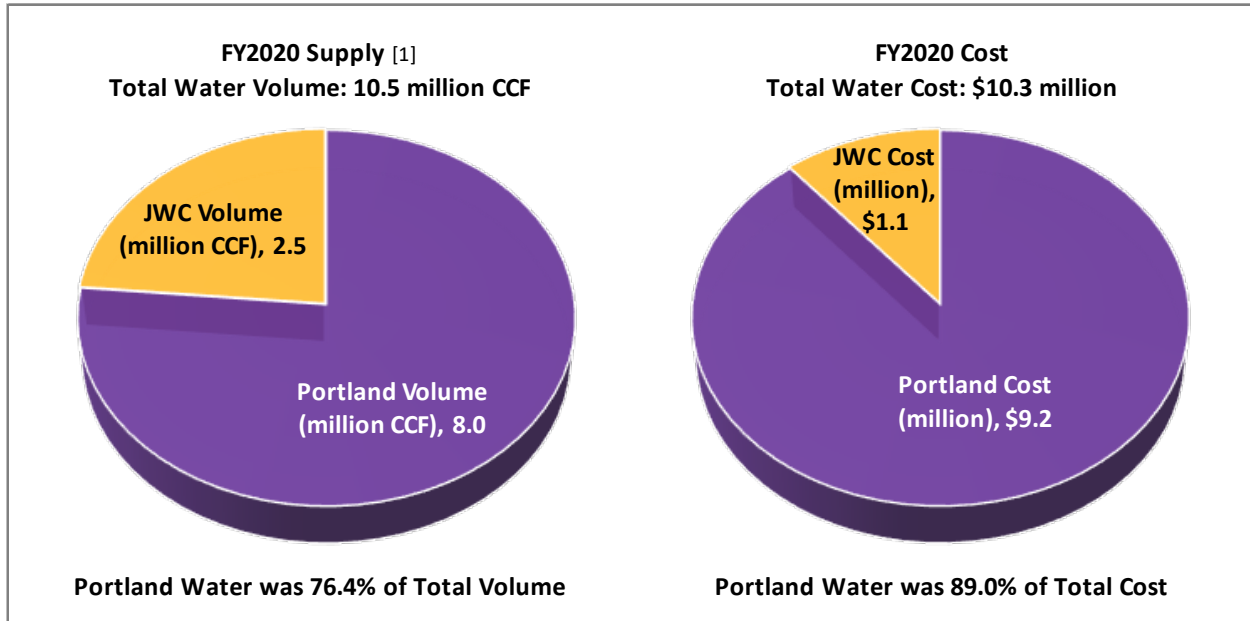
The JWC is a partnership of the District and the cities of Hillsboro, Beaverton, and Forest Grove. The JWC operates a treatment plant and related storage and transmission facilities. As a member of the JWC, the District owns capacity rights in the JWC's facilities. TVWD's capacity share of the JWC water treatment plant is 14.5 MGD, and the District owns rights to approximately 7,000 acre-feet of storage¹⁴ at Barney Reservoir, one of the two primary impoundments that provide stored raw surface water supply to the JWC (the other is Hagg Lake). JWC members share actual operating and maintenance costs in proportion to their water usage and ownership shares.

JWC water is billed to the District at actual water production cost with no return on investment since TVWD provided the capital. In the summer months, purchased water costs from the JWC are significantly lower than the cost of Portland water. Therefore, the District maximizes its purchases from the JWC source while concurrently making the contractually required minimum purchases from Portland during the peak season.

Figure 3-1 (next page) illustrates the comparative volume and costs of the District's supplies from Portland and the JWC.

¹⁴ 7,000 acre-feet is equivalent to approximately 12.5 MGD over a 180-day peak-season period.

Figure 3-1: Comparison of Existing Supplies and Related Costs



[1] CCF = one hundred cubic feet or 748 gallons.

3.1.3 Grabhorn Aquifer Storage and Recovery

The District also uses its existing Grabhorn ASR well to supplement supply during peak-summer periods. The Grabhorn ASR facility can store up to 300 million gallons of water and was designed to deliver up to 3 MGD of supply over a 100-day period.

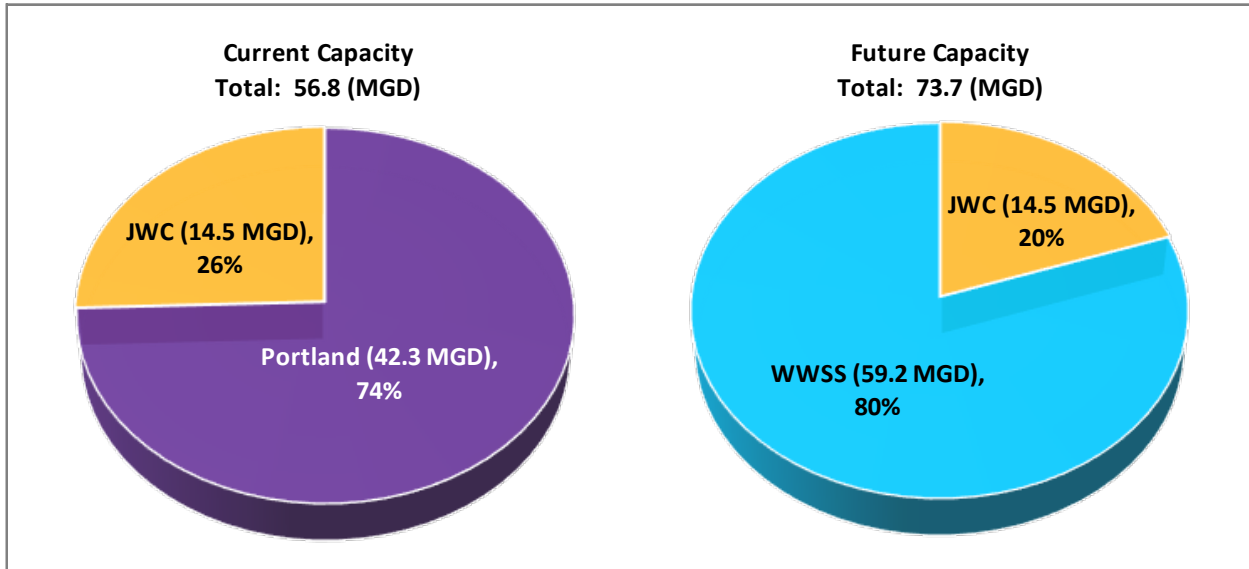
To reduce the higher costs of purchasing water for peak-summer use, the District forecasts its projected demand on a regular basis. This short-term demand forecasting helps the District meet the minimum purchase requirement of the Portland agreement while efficiently using the JWC and ASR sources to help meet higher demands during summer months.

3.1.4 Willamette Water Supply System

In 2013, the District’s Board decided to expand the District’s portfolio of water sources and develop a new water supply on the mid-Willamette River near Wilsonville. With the development of the Willamette Water Supply System (WWSS), the District plans to replace its Portland purchased water with this new source. The WWSS is scheduled to be available by July 1, 2026.

Figure 3-2 (next page) summarizes the District’s current source water capacities and its planned capacities beginning in FY2027.

Figure 3-2: Current v. Future Source Water Capacity



Developing the new water supply is considered an integral element of the District’s core mission. The planning, design, and construction of the WWSS is being done by the Willamette Water Supply Program (WWSP). Once complete, the WWSS will be a seismically hardened water supply system to meet the long-term needs of its residential, commercial, and industrial customers.

The WWSS is a regional effort which will result in long-term regional benefits. It is being implemented as a regional partnership, with TVWD serving as the Managing Agency for two new regional water entities with ownership interest in different parts of the total program:

1. Willamette Intake Facilities (WIF) Commission – The WIF is a joint venture of the District and the cities of Beaverton, Hillsboro, Sherwood, Tigard, and Wilsonville to jointly own and operate a raw water intake facility located at the current Willamette River Water Treatment Plant in Wilsonville, Oregon. The District serves as the Managing Agency for the WIF.
2. Willamette Water Supply System (WWSS) Commission – The WWSS is a joint venture of the District and the cities of Hillsboro and Beaverton to construct and operate supply facilities that convey raw water from the WIF, treat the raw water to potable standards, and convey the potable water to each partner’s distribution systems.¹⁵ The District serves as the Managing Agency for the WWSS.

3.2 Water Demand Forecast

In February 2018, the District and the City of Beaverton (Beaverton) entered into a service area agreement (Beaverton Service Area Agreement). This service area agreement provided a framework for the District and Beaverton to plan for serving customers within Beaverton’s corporate jurisdiction in places where it overlaps with the District’s boundaries. The agreement provided Beaverton an opportunity to withdraw a limited number of customers from the District, thereby making them

¹⁵ The WWSP website (<http://www.ourreliablewater.org/>) provides additional information including activities-to-date, maps, and other related information for all WIF and WWSS projects.

Beaverton customers. Since then, Beaverton has withdrawn approximately 4,300 water services from the District.

The water demand forecast underlying this Financial Plan incorporates Beaverton's withdrawals. Related reductions in the District's service accounts and associated water consumption are embedded in the projected source water purchases and rate revenue (fixed charges and water sales) included in the Forecast model.

At this time, the District is aware of limited additional areas from which Beaverton could withdraw customers in the future.¹⁶ Regardless of the ultimate number of services that Beaverton withdraws, the probability is low that future withdrawal(s) would occur all at once. Rather, a series of withdrawals with subsequent transfer activities over multiple years may impact the District's finances in a gradual way.

Given the staggered timing of customer transfers to wheeling status and then separated status (i.e., served directly by Beaverton), the impact to the District's finances has been gradual. Should Beaverton pursue additional transfers in the future as the implementation of the agreement proceeds, the District will refine the projected revenue impacts in the Forecast.

Before factoring in assumed withdrawals by Beaverton, the assumed annual customer growth rate begins at 0.70% in FY2022 and then declines by 0.05% annually until it reaches zero in FY2036. These reductions in growth recognize the anticipation of slowing of development as the District approaches its build-out capacity. Expansions of the region's urban growth boundary on the northern edge of the District's current service area may increase these assumed growth rates for future years.

Since the last Financial Plan (Issued May 2019),¹⁷ the District has seen fluctuations in its water demand. In the summer of 2019, consumption per capita declined 8% but then stabilized until the COVID-19 pandemic hit in 2020. The District saw further declines in the summer of 2020, likely due to the economic impacts of the pandemic. Since November 2020, it appears that water usage per customer has rebounded somewhat.

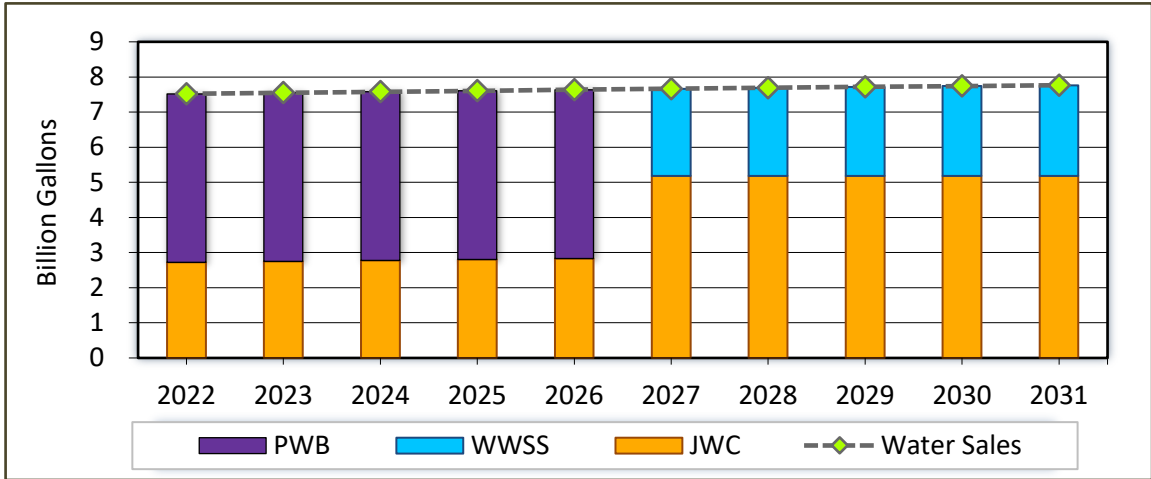
In its Forecast modeling, the District assumes that these past conservation savings and declines in system demands are permanent and forecasts sales growth at approximately half the rate of customer growth in FY2022 (i.e., 0.37%). This assumption is related to a combination of factors including the potential for mild weather, a successful conservation program that has depressed summer water demands, and the District's similar experience to the nation-wide trends towards higher density developments, smaller family sizes, and widespread assimilation of water-efficient appliances. The Forecast uses the assumed 0.37% annual sales growth rate through FY2028. After FY2028, the District assumes that sales growth will align with customer growth, ultimately becoming zero by FY2036.

On the following page, Figure 3-3 summarizes projected water demand and the assumed mix of supply sources used as the basis for purchased water costs in the Forecast model. Note that the impacts of the Beaverton withdrawals are already included in the FY2022 numbers. Additional future withdrawals by Beaverton would impact the projections shown below, and the District would necessarily adjust its assumptions and Financial Plan.

¹⁶ Section 3.7 of the Beaverton Service Area Agreement defines the obligations of Beaverton to assume a proportionate share of the District's the outstanding debt for all withdrawals effective after July 2, 2020.

¹⁷ The 2019-2020 Financial Plan document is available on the District's website, under "Supporting Documents" on the Financial Plan page (<https://www.tvwd.org/finance/page/financial-plan>).

Figure 3-3: Balancing Water Supplies and Demand by Fiscal Year



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4 Capital Improvement Plan

Each biennium the District updates its capital improvement plan, which includes expenditures for the Willamette Water Supply Program, Joint Water Commission, and in-District projects.

- The WWSP was established to develop and deliver the Willamette Intake Facilities (WIF), Willamette Water Supply System (WWSS), and Metzger Pipeline East (MPE) to the District and its partners by July 2026.
- As discussed in Section 3.1.2, the District is a partner in the JWC along with the cities of Beaverton, Forest Grove, and Hillsboro. As a member of the JWC, the District also participates in the development of its capital budget.
- For in-District projects, status updates on current projects and new project requests are prepared by the Engineering & Operations Department.

Table 4-1 summarizes the current biennial CIP budget (FY2022 and FY2023) and forecast expenditures through FY2031.¹⁸ The District’s share of projected WWSP (including WIF & WWSS projects) and JWC capital costs are summarized in the top two rows of the table. The categories listed below JWC are all in-District capital expenditures.

Table 4-1: Summary of Forecast CIP Expenditures by Category and Fiscal Year (\$ Millions)

Category	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Totals
WWSP/WWSS	\$73.4	\$171.3	\$130.4	\$56.9	\$36.1	\$3.6	\$2.4	\$1.9	\$17.3	\$17.1	\$510.3
JWC	0.6	0.1	0.3	0.7	0.6	1.0	1.0	1.1	1.1	1.1	7.7
TVWD Source	7.5	0.3	0.5	0.2	1.5	0.0	0.0	0.0	0.0	0.0	10.0
Storage	2.3	6.1	6.1	0.5	0.0	1.4	2.3	0.1	0.1	0.1	18.9
Pumping	1.0	1.0	3.1	4.8	0.4	3.3	2.1	0.2	0.2	1.1	17.2
Pipelines*	45.0	59.1	32.0	18.2	11.3	15.5	13.7	19.5	20.9	17.4	252.7
PRVs/Vaults	1.2	0.8	0.7	0.3	0.4	0.5	0.4	0.6	0.4	0.4	5.7
Facilities/Fleet/IT	4.9	1.7	0.7	0.7	0.7	1.1	2.6	1.2	1.2	1.2	15.9
Meters/Svcs	1.8	1.9	1.9	2.0	2.1	2.1	2.2	2.3	2.4	2.5	21.1
Other	1.7	1.8	2.4	2.0	4.3	4.5	6.9	7.2	16.5	11.7	59.0
Totals	\$139.4	\$244.0	\$177.9	\$86.3	\$57.5	\$33.0	\$33.6	\$33.9	\$60.1	\$52.7	\$918.4
Summary											
WWSP/WWSS	\$73.4	\$171.3	\$130.4	\$56.9	\$36.1	\$3.6	\$2.4	\$1.9	\$17.3	\$17.1	\$510.3
JWC	0.6	0.1	0.3	0.7	0.6	1.0	1.0	1.1	1.1	1.1	7.7
In-District	65.5	72.6	47.3	28.6	20.7	28.4	30.2	30.9	41.7	34.5	400.5

*Includes Metzger Pipeline East (\$114.3 million in FY2022-26; \$132.5 million total), being delivered by the WWSP.

- The largest element of the District’s ten-year CIP is the WWSP/WWSS at approximately \$510 million. This number represents the District’s share of all remaining WWSP project expenditures, including the costs of the raw water facilities, water treatment plant, finished water pipelines, and terminal reservoirs. The District and its partners plan to end the WWSP in FY2026, with

¹⁸ A complete project list with 6-year cost projections is included in *Appendix B – Six-Year Capital Improvement Plan Summary*. Detailed estimates and descriptions for each project, as presented in the District’s 2021-2023 requested budget, are available on the District’s website, under “Supporting Documents” on the Financial Plan page (<https://www.tvwd.org/finance/page/financial-plan>).

several million in program close-out costs projected for FY2027. There are, however, additional WWSS-related project costs in future years.

The timing of these future projects costs is based on efforts by the District and its partners to lessen the near-term financial pressure on customers by pushing some elements of WWSP projects into future years. These elements include a planned expansion of the water treatment plant, a second 15 MG storage tank at the terminal reservoir site, the northernmost finished water pipeline, and an optional element of the WWSS control system.

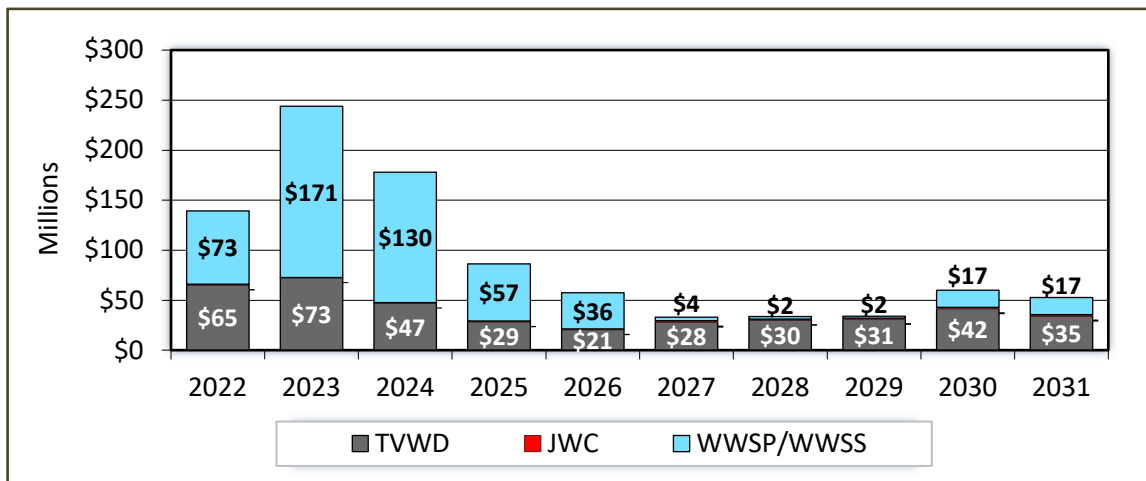
- Pipelines will be the next costliest category of ten-year and future CIP expenditures. Included in the \$252.7 million shown above is the District’s Mains Replacement Program (approximately \$81 million) and Metzger Pipeline East (\$114 million) which will deliver WWSS water to both the District’s Metzger and Wolf Creek service areas.
- One reservoir replacement and several other reservoir improvements are included in the \$18.9 million for Storage.
- Similarly, at nearly \$17.2 million for Pumping, the District is planning several major expansions and improvements to existing pump stations over the next ten years.

Figure 4-1 presents a graphical summary of the projected annual CIP expenditures for the next ten years. As shown in Table 4-1 above, the costs underlying the graph total \$918.4 million for the presentation period. This total represents the costs of the in-District CIP and the District’s cost shares of JWC and WWSP/WWSS capital expenditures. These projected expenditures form the capital funding needs of the District during the Financial Plan period.

As shown, the funding needs decline at the completion of the WWSP. However, in FY2027 and beyond, the District is projecting additional WWSS-related projects, increased spending in its Mains Replacement Program, and in additional future improvements/replacements of storage and pump station facilities.

In Figure 4-1 below, note that only the in-District and WWSP costs are labeled. The JWC amounts are not labeled because they are relatively small, and the labels would crowd the larger in-District and WWSP amounts shown.

Figure 4-1: Projected Annual CIP Expenditures by Fiscal Year



5 Capital Financing Plan

The capital financing plan for the District's projected capital expenditures is one of the primary drivers for this Financial Plan. The capital financing plan considers the District's financial objectives and the mix of current and future funds available for capital investment to determine the optimal funding sources for the projected CIP expenditures. The optimal funding mix will be achieved by balancing the use of cash funding and debt proceeds to fund the CIP while minimizing increases to customers' rates.

This section provides an overview of the debt instruments the District anticipates using to finance its projected CIP, the methodology used to optimize the CIP financing mix, and the fundamental assumptions underlying the projected debt service schedules for new debt.

5.1 Borrowing Options

Certain rules and regulations make clear the types and limits of debt financing available to the District. Some rules exist on the national level, while others are specified by Oregon law. The District shall comply with the debt limitations imposed by the Oregon Constitution, Oregon Revised Statutes (ORS), and Oregon Administrative Rules (OAR). The District will further comply with Security and Exchange Commission (SEC) and Municipal Securities Rulemaking Board (MSRB) rules regarding debt issuance, and with IRS regulations for tax-exempt or tax-advantaged debt.

The following describes the specific debt instruments that the District has selected for its capital financing plan.

5.1.1 Types and Use of Long-Term Debt

REVENUE BONDS. Revenue bonds are obligations payable from the net revenues of the District's operations. As users of the District facilities will benefit from long-term capital investments in future years, it is appropriate that future revenues pay a share of the costs and more closely match the term of repayment to the expected economic useful life of the project being financed.

Long-term revenue bonds issued by the District will only be used to finance and refurbish capital facilities, projects, and certain equipment where it is determined to be cost effective and fiscally prudent. Revenue bonds will be structured to achieve the lowest possible net cost to the District considering market conditions, terms that are advantageous to the District, risks, the Financial Plan, and the nature and type of security to be provided.

Although revenue bonds are not subject to constitutional or statutory debt limits, the District's debt will not exceed legal or contractual limitations, such as rate covenants or additional bonds tests imposed by then-existing financing covenants. Prior to the issuance of any new revenue bonds, the CFO will cause the impact of future debt service payments on total annual fixed costs to be analyzed.

WIFIA. The Water Infrastructure Finance and Innovation Act (WIFIA) program is a federal loan and guarantee program, administered by the U.S. EPA, that aims to accelerate investment in the nation's water infrastructure by providing credit assistance for regionally and nationally significant projects. The District closed its original WIFIA loan agreement on August 2, 2019 but has since revised its agreement to amend the District's draw schedule. This amendment better aligned the District's WIFIA draws with its new projected cash flow requirements.

Additionally, the District re-executed its agreement to realize potential interest savings from declining interest rates that followed the original closing. The District's re-executed WIFIA loan closed on September 15, 2020. The new agreement includes total available funding of approximately \$387.75 million, the amended draw schedule from the original loan, and a lower interest rate of 1.35%. Under the new terms, the District and the EPA estimated additional savings of approximately \$122 million for the District's customers.

WIFIA is a highly valuable addition to the District's portfolio of future debt because it locked in a low interest rate for the length of the program, provides favorable loan terms, and allows for customized disbursement and repayment schedules.

FEDERAL, STATE, OR OTHER LOAN PROGRAMS. To the extent it benefits the District, the District may participate in federal, state, or other loan programs. The CFO shall evaluate the requirements of these programs to determine if the District is well served by employing them. For planning purposes and in the event the District employs a federal, state, or other loan program, the District shall treat and report these obligations in a manner consistent with other similar debt instruments. To the extent required by the loans or other outstanding debt agreements, the District shall include the financial requirements of these obligations when determining additional bonds test, coverage requirements, etc.

5.1.2 Authority to Issue Debt

The District has authority under state law to enter into financial obligations for the borrowing options described above. Below are descriptions of the actions the District has taken to obtain the authority to issue debt.

ORDINANCE. At its April 17, 2019 regular meeting, the Board of Commissioners adopted Ordinance 01-19 (Ordinance) authorizing the issuance of debt. The Ordinance authorizes \$600 million in net bond proceeds to fund capital expenditures, identifies an additional \$80 million to fund debt service reserves and issuance costs, authorizes the District's participation in the WIFIA loan program as well as additional revenue bond issuances, and identifies the types of capital expenditures that may be funded by the borrowings.¹⁹ The Ordinance also delegates to the District's CFO, Chief Executive Officer (CEO), or other designated employees of the District to issue the revenue bonds authorized by the Ordinance.²⁰

MASTER DECLARATION. On August 2, 2019, the District executed its master revenue bond declaration (Master Declaration). The Master Declaration establishes the terms under which the District's long-term borrowings are incurred and the terms under which future obligations may be issued on a parity. On September 15, 2020, the Master Declaration was supplemented as part of the WIFIA loan re-execution. Under certain future circumstances, the Master Declaration may be supplemented or amended further by Supplemental Declaration.^{21,22}

¹⁹ The authorized capital expenditures include all system improvements of the District, including investments in the District's joint ventures such as the Willamette Water Supply System.

²⁰ A signed copy of the Ordinance is included as *Appendix C – Ordinance 01-19 – Authorizing the Issuance of Debt*.

²¹ The District's Master Declaration and First Supplement are included as *Appendix D – Master Revenue Bond Declaration* and *Appendix E – First Supplement to Master Revenue Bond Declaration*, respectively.

²² The District's signed Parity Certificate and related transcript documents are included as *Appendix F – Parity Certificate and Transcript Documents*.

5.1.3 Other Debt Considerations

DEBT REFINANCING. Refunding obligations may be issued to retire all or a portion of an outstanding debt issue. Economic refundings may refinance high-coupon debt at lower interest rates to realize debt service savings. Alternatively, the District may conduct a refunding for reasons other than cost savings, such as to restructure debt service payments, to change the type of debt instruments, to release restricted revenues, to ease administrative requirements, or to remove undesirable covenants.

REIMBURSEMENT DECLARATION. The District’s Board of Commissioners authorized the District’s Chief Executive Officer to declare official intent on behalf of the District to reimburse the District’s cash reserves for capital expenditures with the proceeds from tax-advantaged obligations. This authorization was approved by Resolution No. 08-13, adopted on June 19, 2013. In addition to this reimbursement declaration, the District’s Board further declared its intent as part of the Ordinance.

5.2 Optimizing the Capital Financing Mix

The District’s CIP funding sources include accumulated reserves (fund balances), future revenues allocated towards capital expenditures (cash financing, also known as “pay-as-you-go”), and debt financing which will lead to debt service repayments (sometimes referred to as “pay-as-you-use” financing). All of these funding sources must be integrated into the capital financing plan.

Optimizing the capital financing plan is a complex and iterative process that involves several key steps. These steps are:

1. Determine the CIP funding mix of cash and debt financing for each Forecast year.
2. Determine the types and estimate the amounts of debt financing that will be used.
3. Calculate amortization schedules for the forecasted debt issuances.

The steps and process are discussed in greater detail in the following subsections.

5.2.1 Target Cash and Debt Financing Profile

Like any business, the District must determine the best mix of resources (cash and debt financing) to fund both its operations and its capital program. The cash/debt profile aims to maintain some cash investment into both existing facilities (renewal and replacement) and new system assets, while minimizing impacts on customers and achieving intergenerational equity among customers.

Figure 5-1 (next page) illustrates the mix of cash and debt planned to finance the CIP over the 10-year presentation period. Note that the ratio of cash-to-debt is projected to vary each year. Ultimately, the mix will vary from the projections shown, depending on actual water sales revenue, future market conditions and input from the District’s financial consultants.

Figure 5-1: CIP Funding Sources by Fiscal Year

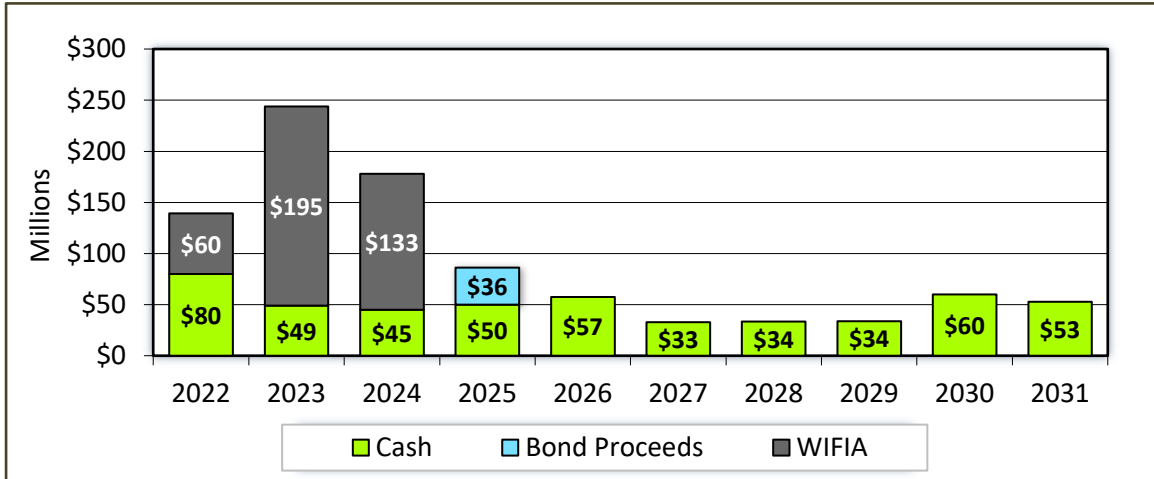
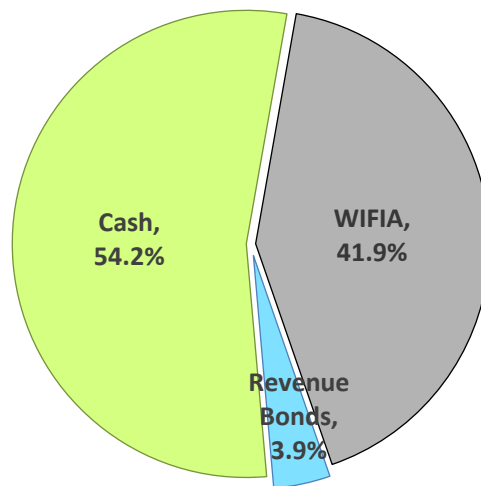


Figure 5-2 illustrates the proportional amounts of CIP funding through the end of FY2031.

Figure 5-2: Ten-Year CIP Funding Ratios by Source



5.2.2 Debt Structure and Principal Amortization

Ultimately, the structuring of the District’s future debt obligations and repayments will depend on market factors and input from professional advisers (municipal advisers, underwriters, etc.) at the time of each issuance. For the purposes of the Forecast model and this Financial Plan, the District used what it considers to be standard, and slightly conservative, assumptions to calculate future debt service requirements. These assumptions are outlined in Section 5.3 below.

5.3 Significant Debt Program Assumptions

As mentioned in the *Introduction* (Section 1), the District will fund a significant portion of its WWSS expenditures with financing from the Water Infrastructure Finance and Innovation Act (WIFIA), with revenue bonds augmenting the remaining WWSS costs and providing outside funding at times when future debt financing will be required.

5.3.1 WIFIA Debt Assumptions

TERM. The total WIFIA loan amount will be repaid in 34 years, beginning after “substantial completion” of the project (i.e., the WWSS). As specified in the re-executed loan agreement, WIFIA repayments will begin in FY2028 and end in FY2061.

INTEREST RATE. The re-executed loan agreement allowed the District to reset its WIFIA interest rate from 2.39% to 1.35%. This new, lower rate is incorporated into related WIFIA financing and capitalized interest calculations in the Forecast.

ISSUANCE COSTS. WIFIA issuance costs were approximately \$500,000. These costs will be reimbursed from WIFIA loan proceeds.

CAPITALIZED INTEREST. Using the 1.35% WIFIA interest rate and guidance from the WIFIA program, the District calculates compounding interest on each of its projected WIFIA draws from the year each draw is taken to FY2028 (when the total WIFIA loan is sized), at which point the total accumulated amounts would be rolled into the total WIFIA debt outstanding. Table 5-1 presents a summary of the capitalized interest calculation and resulting WIFIA loan amount amortized.

Table 5-1: WIFIA Capitalized Interest and Total Financing

	WIFIA Proceeds [1]	Yrs until 1st pmt.	Compound Rate [2]	Total Cap-i	Total Financed
FY2022	\$60.0	7	8.8%	\$5.3	\$65.3
FY2023	195.0	6	7.3%	14.3	209.3
FY2024	132.7	5	5.9%	7.8	140.6
Totals	\$387.7			\$27.4	\$415.1

[1] FY2022 includes \$500,000 for issuance costs.

[2] Annual int. rate: 1.35%

PRINCIPAL AMORTIZATION. Per the repayment schedule included in the WIFIA loan agreement, the principal amount of \$415.1 million was amortized over 34 years using levelized annual debt service.

DEBT SERVICE RESERVE. The WIFIA loan agreement does not include a debt reserve requirement.

5.3.2 Revenue Bond Debt Assumptions

TERM. The District assumes all revenue bonds will be issued with a 30-year term.

INTEREST RATE. In the Forecast, interest rates vary by year of issuance. The assumed interest rate is 3.5% for revenue bonds issued through FY2026. The District assumed that rates would increase by 0.5% each year thereafter, until leveling off at 5.5% in FY2030 and beyond.

ISSUANCE COSTS. Revenue bond issuance costs are estimated at 0.75% of the par amount for each issuance through FY2025 and 1.50% of the par amount for each issuance thereafter, with the costs included in the total issuance amount.

PRINCIPAL AMORTIZATION. For planning purposes, revenue bonds were amortized over 30 years using levelized annual debt service. For revenue bonds issued through FY2026 (i.e., WWSP completion), the District assumed that amortization would be structured with provision for interest-only payments until FY2027. This assumption was incorporated with input from the District’s municipal adviser.

DEBT SERVICE RESERVE. Revenue bond reserve requirements were calculated based on the maximum annual debt service (MADS) of each issuance.

5.4 Schedule of Future Debt Issuance

Projected debt issuances are presented in Table 5-2 below. For WIFIA and each revenue bond issuance, Table 5-2 includes the proceeds available for capital expenditures, estimated issuance costs, capitalized interest (WIFIA loan only), reserve requirements (revenue bonds only), and total issue amounts during the 10-year and 30-year projection periods.

Table 5-2: Projected WIFIA Funding and Revenue Bond Issuances (\$ Millions)

	Proceeds for CIP	Issuance Costs [1][2]	Reserve Req. [3]	Capitalized Interest	Total Financed
Debt Issuances through FY2030					
WIFIA	\$387.2	\$0.5	\$0.0	\$27.4	\$415.1
FY2025 Revenue Bonds	36.2	0.3	2.2	0.0	38.6
10-year Totals	\$423.4	\$0.8	\$2.2	\$27.4	\$453.7
Future Debt Issuances					
FY2035 Revenue Bonds	\$20.3	\$0.3	\$1.5	\$0.0	\$22.2
FY2036 Revenue Bonds	52.8	0.9	3.9	0.0	57.6
FY2039 Revenue Bonds	10.2	0.2	0.8	0.0	11.1
FY2040 Revenue Bonds	42.0	0.7	3.1	0.0	45.9
FY2045 Revenue Bonds	12.6	0.2	0.9	0.0	13.7
FY2046 Revenue Bonds	81.9	1.3	6.1	0.0	89.3
FY2047 Revenue Bonds	60.9	1.0	4.5	0.0	66.4
FY2048 Revenue Bonds	60.9	1.0	4.5	0.0	66.4
FY2049 Revenue Bonds	60.9	1.0	4.5	0.0	66.4
Future Totals	\$402.5	\$6.6	\$30.1	\$0.0	\$439.1
30-year Totals	\$825.9	\$7.4	\$32.2	\$27.4	\$892.8

[1] WIFIA issuance costs assumed at \$500,000.

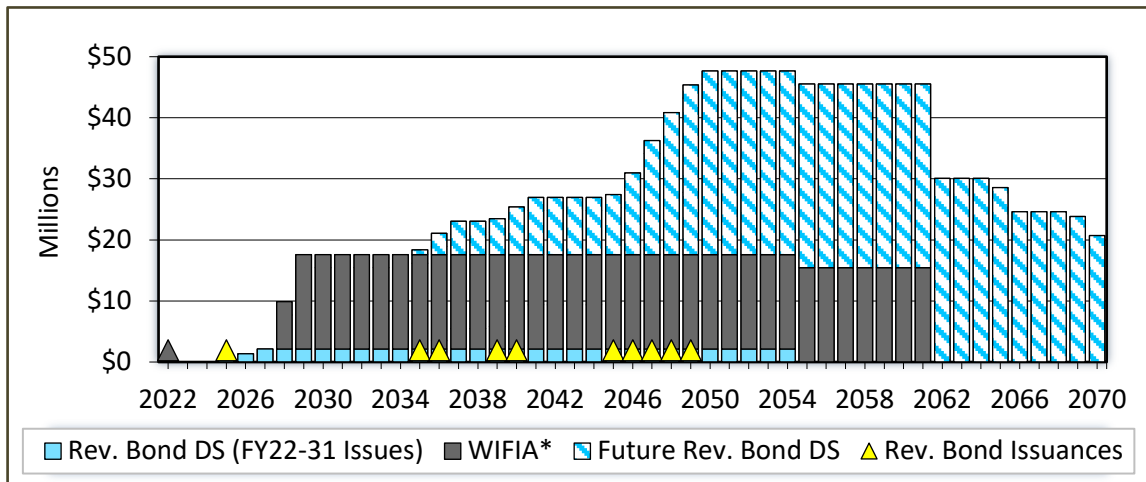
[2] Revenue bond issuance costs assumed at 0.75% for the FY2025 issuance, 1.50% thereafter.

[3] Revenue bond reserve requirement assumed at maximum annual debt service (MADS) per issuance.

It should be noted that Table 5-2 is not intended as an outline or planned schedule for future revenue bond issuances, as the District will not likely issue revenue bonds annually over 2- and 3-year periods. Rather, the schedule above is meant to demonstrate the approximate size and timing of needed debt financing. In future years when debt funding is needed, the District may execute a single bond issuance to fund capital needs for multiple successive years. Conversely, short-term debt instruments may be employed to cover interim capital costs in one or more periods, with revenue bonds then issued to close-out the interim financing and provide additional funding for then-current and/or future capital expenditures.

Figure 5-3 shows the resulting debt service based on the projected borrowings in Table 5-2 above and the debt service assumptions described in Section 5.3.

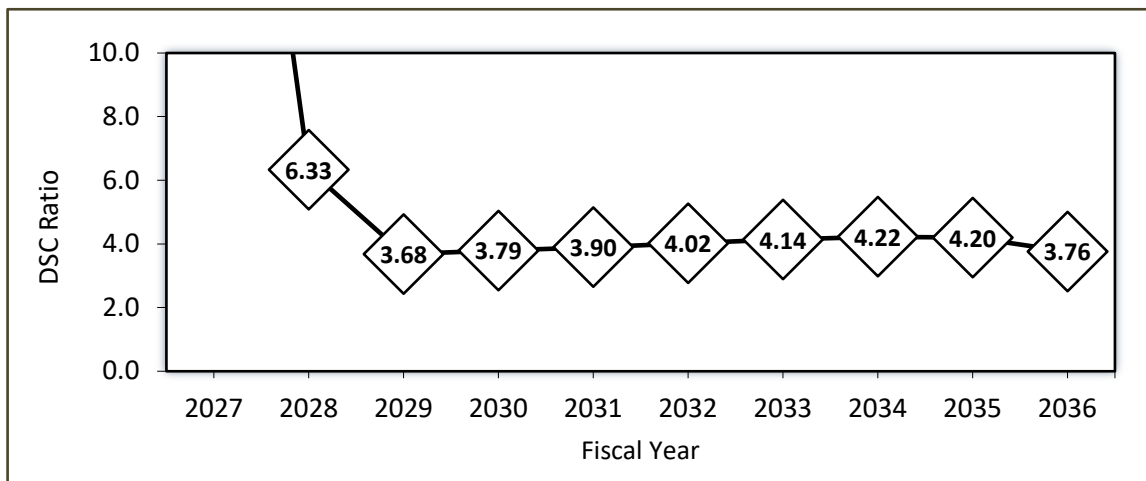
Figure 5-3: Projected Annual Debt Service



* WIFIA debt repayments based on program funding plus capitalized interest in FY2022 through FY2027.

As shown in Figure 5-4, the District expects to meet or exceed its target minimum debt service coverage ratio of 2.0 times total annual debt service (WIFIA and revenue bonds).

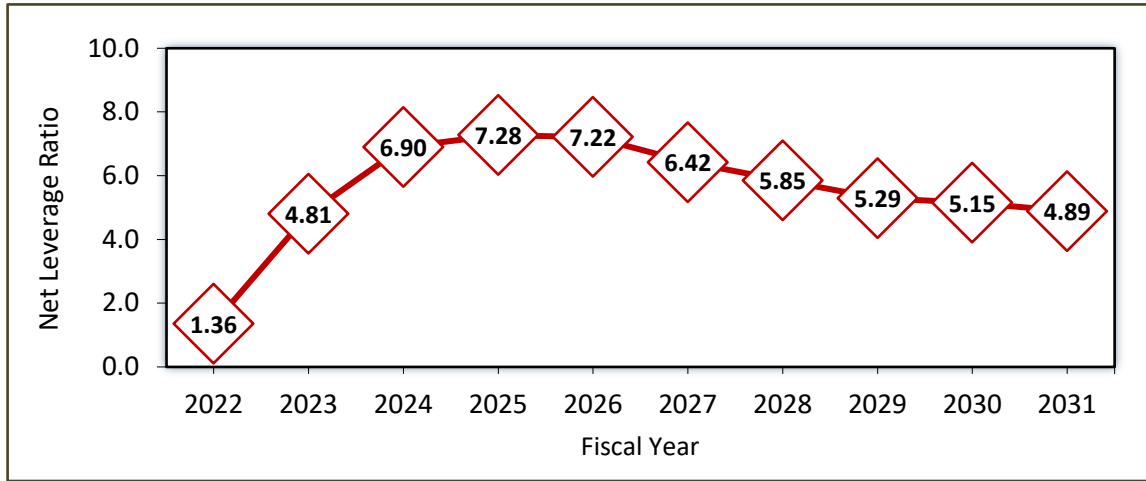
Figure 5-4: Projected Debt Service Coverage



Note that Figure 5-4 presents ten years of results beginning with FY2027 instead of FY2022. This is to show projected DSC for a period after which the bulk of the District’s near-term debt service requirements will be in place.

As shown in Figure 5-5, the District estimates that its net leverage ratio will peak below the District’s target maximum of 8.0x in FY2025 and decline annually in future years.²³

Figure 5-5: Projected Net Leverage Ratio



²³ For background information on the Net Leverage ratio, see Section 2.2.1.1 in this report.

6 Financial Forecast

This section provides a brief description of the District's rates and charges, forecast financial projections, and a summary of the District's projected sources and uses of funds over the presentation period. The forecast represents the District's current projections, which are based on current data and assumptions. It is important to note that these projections are subject to change and should be viewed as estimates.

6.1 District Rates and Charges

The District collects revenues from a variety of sources. Some sources are fixed (i.e., not dependent on water sales or the economy), while others are variable being based on the amount of water sold or the local/regional economy (e.g., system development charges). Brief descriptions for each of the District's rates and charges categories are provided below.

FIXED CHARGE. Water rates include two types: fixed and volumetric. The *fixed charge* is assessed to customers monthly or bimonthly and varies by meter size.

VOLUMETRIC WATER RATE. The *volumetric rate* is based on the amount of water consumed. TVWD assesses this rate to each unit of water sold (i.e., \$/CCF).

OTHER RATES AND CHARGES (NON-RATE REVENUE). For planning purposes, *non-rate revenue* includes meter and service revenue, dispatch fees, backflow program reimbursements, contract reimbursements, miscellaneous income, and some other small dollar items. The District's projections include non-rate revenue of \$3-4 million annually.

SYSTEM DEVELOPMENT CHARGES. Sometimes referred to as improvement fees, impact fees, capacity reserve charges, or infrastructure investment fees, SDCs are contributions of capital that reimburse existing customers for the available capacity in the existing system and help finance growth-related capacity improvements. For FY2021, the District is projecting approximately \$5.0 million from SDCs.

6.2 Projected Rates and Charges

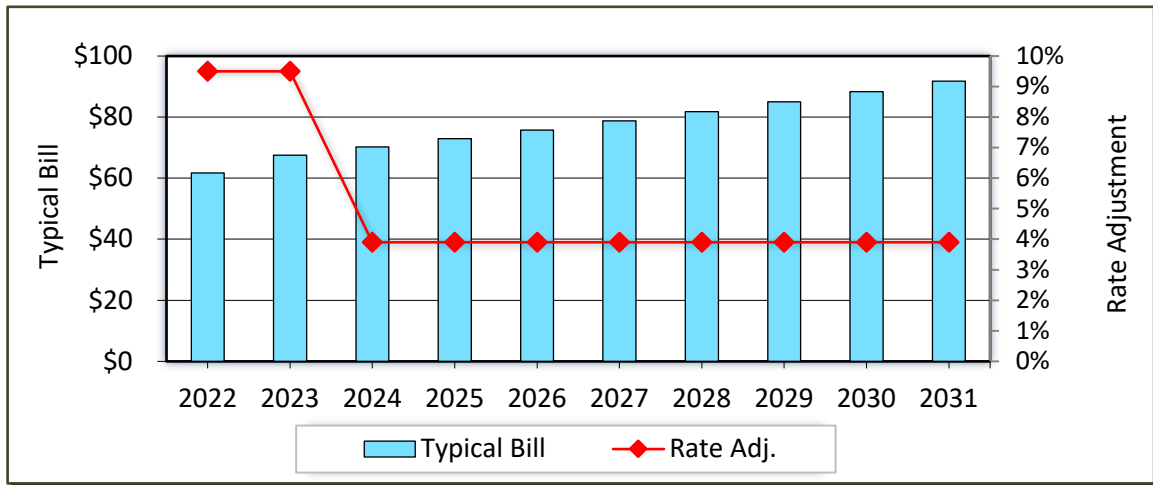
The District developed its financial projections based on its financial objectives and policies (presented in Section 2), water sales projections (Section 3), and projections of future revenue requirements which are based on the following:

- CIP (Section 4)
- Capital financing plans (Section 5)
- Operating cost forecast – discussed later in this section (Section 6)

Using all these inputs and assumptions, District staff uses its Forecast model to determine the level of rate revenue needed to meet the District's requirements in each year of the model's forecast period.

Figure 6-1 presents the Forecast customer impacts over the presentation period, including typical monthly bills and annual rate revenue adjustments of 9.5% in FY2022 and FY2023, and 3.9% per year thereafter.

Figure 6-1: Projected Rate Adjustments and Typical Bills by Fiscal Year



6.3 Projected Sources of Funds

Figure 6-2 presents a summary of the District’s projected sources of funds over the presentation period. On the next page, Table 6-1 presents the same information in tabular detail with descriptions included below it.

Figure 6-2: Projected Sources of Funds by Fiscal Year

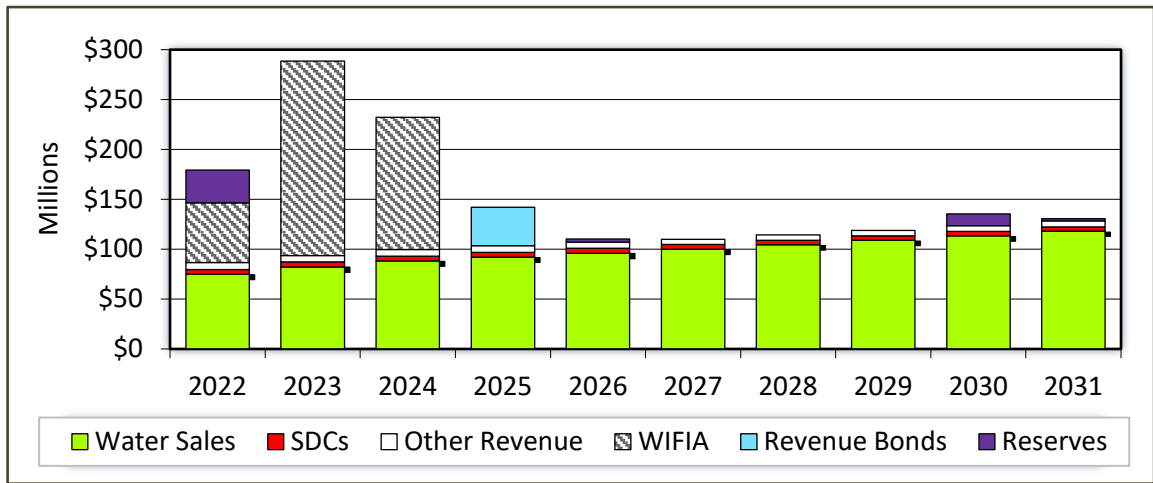


Table 6-1: Revenues and Other Funding Sources by Fiscal Year

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Totals
Water Sales	\$74.8	\$82.3	\$88.2	\$92.0	\$96.0	\$100.1	\$104.4	\$108.9	\$113.5	\$118.2	\$978.6
SDCs	4.8	4.8	4.8	4.8	4.8	4.7	4.6	4.4	4.3	4.1	46.1
Other Revenue	7.0	6.5	6.6	6.6	6.3	5.0	5.3	5.6	5.8	6.0	60.8
WIFIA	60.0	195.0	132.7	-	-	-	-	-	-	-	387.7
Revenue Bonds	-	-	-	38.6	-	-	-	-	-	-	38.6
Reserves	32.6	-	-	-	3.1	-	-	-	11.7	2.4	49.8
Totals	\$179.2	\$288.7	\$232.3	\$142.1	\$110.3	\$109.8	\$114.3	\$118.9	\$135.3	\$130.7	\$1561.6

RATE REVENUE (WATER SALES). Water rate revenue projections include revenue from both fixed and volumetric charges, as discussed in *Section 6.1 – District Rates and Charges*. Over the presentation period, increasing rate revenue is due to the projected rate revenue adjustments shown in Figure 6-1 and minor annual increases in customers and water sales following recent net losses due to withdrawals by the City of Beaverton, which were discussed in *Section 3.2 – Water Demand Forecast*.

SYSTEM DEVELOPMENT CHARGES (SDCs). In FY2022, the District projects that it will receive approximately \$4.8 million from water SDCs. For the first 5 years of the forecast, the District assumed that SDC collections would remain steady at approximately \$4.8 million annually, then declining slowly over time in the future. These assumptions are important as the overreliance on growth-related fees for rate setting purposes may result in the need for additional rate adjustments to fund capital improvements should growth not occur at the projected levels.

NON-RATE REVENUE (OTHER REVENUE). As mentioned in Section 6.1 above, non-rate revenue includes meter and service revenue, dispatch fees, backflow program reimbursements, contract reimbursements, miscellaneous income, and some other small dollar items. The District’s proposed 2021-2023 budget has these items totaling approximately \$2.67 million in FY2022 and \$2.75 million in FY2023. From FY2024 forward, non-rate revenue line items were projected to increase at a rate of 3.0% annually.

PAYMENTS FROM PARTNERS (OTHER REVENUE). For capital budgeting purposes, District personnel costs directly associated with the development of capital projects are included in the CIP cost projections and ultimately capitalized with the projects. For the WWSP and other partner projects, the District receives payments from its partners for their share of project costs (including District overhead).

Although the Forecast model includes only the District’s share of partner project costs like the WWSP, it recognizes the partners’ share of capitalized overhead as a resource (non-rate revenue) since that portion of the District’s operational costs is included in its budget and Forecast O&M expenses but will be paid by partners. In other words, the Forecast includes the District’s total operational expenses, but offsets a portion of those expenses with the amounts the District will receive from its partners for capitalized overhead.

From FY2022 to FY2026, the Forecast includes between \$1.3 and \$1.6 million per year from partner reimbursements for capitalized overhead related to WWSP projects. This resource is eliminated after FY2026 as the WWSP will be complete, resulting in the FY2027 decline in *Other Revenue* in Table 6-1.

WHEELING REVENUE (OTHER REVENUE). As discussed in *Section 3.2 – Water Demand Forecast*, the service area agreement with Beaverton affected a portion of the District’s service area subject to withdrawal. Although withdrawn from the District, the District continued to serve these customers until

Beaverton executed certain “transfer activities” governed by the agreement. Beaverton then transferred customers to a wheeling status in which Beaverton provides water for the District to convey to Beaverton’s customers. The agreement provides a basis for compensation to the District for providing wheeling services to Beaverton.

Beaverton can also serve withdrawn customers directly with its own infrastructure and has done so with select portions of the withdrawal areas. As Beaverton moves its customers from the “wheeling” status to the “separated” status, the District ceases to provide wheeling services to Beaverton. The District assumes that Beaverton will continue to fully separate the withdrawn customers in the coming years and estimates annual wheeling revenue declining from approximately \$1.0 million in FY2022 to approximately \$213,000 in FY2027. The District also assumes that a small portion of withdrawn customers will receive wheeled water on a permanent basis and increased projected wheeling revenue in FY2028 and beyond at a rate of 3.0% annually.

INTEREST INCOME (OTHER REVENUE). Interest earnings on the District’s reserve funds were calculated based on assumed interest rates of 1.40% in FY2022, 0.60% in FY2023, 0.45% in FY2024, and then increasing by approximately 0.05% per year until leveling off at 0.70% annually thereafter. Given the substantial level of reserves currently held by the District, the Forecast includes almost \$665 thousand of interest earnings in FY2022. As the District uses cash reserves for capital expenditures over the next two years, interest earnings are projected to decline to \$195 thousand in FY2023 and \$170 thousand in FY2024. In FY2025 and beyond, interest earnings are projected to rebound as interest rates begin to rise and the District’s reserve fund balance grows to keep pace with increasing O&M costs.

WIFIA. The WIFIA program is described in detail in Section 5 of this Financial Plan.

REVENUE BONDS. Along with the WIFIA program, revenue bond issuances are described in detail as part of *Section 5 – Capital Financing Plan.*

RESERVES (NET FUND WITHDRAWALS). Cash fund withdrawals will provide an important source of funds for the District as the WWSP moves into full swing. For the last 5-10 years, the District has proactively planned for these future capital investments, which will require sizable capital expenditures. When combined with projected debt proceeds, the reserves that the District has accumulated will play an important role in keeping future rate revenue adjustments steady and low.

6.4 Projected Uses of Funds

The following graph and table show the projected uses of funds over the presentation period. The major categories of uses include:

- Operations and Maintenance (O&M) Costs (including debt issuance costs)
- Purchased Water Program (including pumping power costs)
- Capital Expenditures
- Net Increases in Reserves
- Debt Service

As shown in Figure 6-3, the largest variability in the projected uses of funds is driven by the District’s planned capital expenditures. Table 6-2 presents a tabular detail of the projected uses of funds, with descriptions below and on following pages.

Figure 6-3: Projected Uses of Funds by Fiscal Year

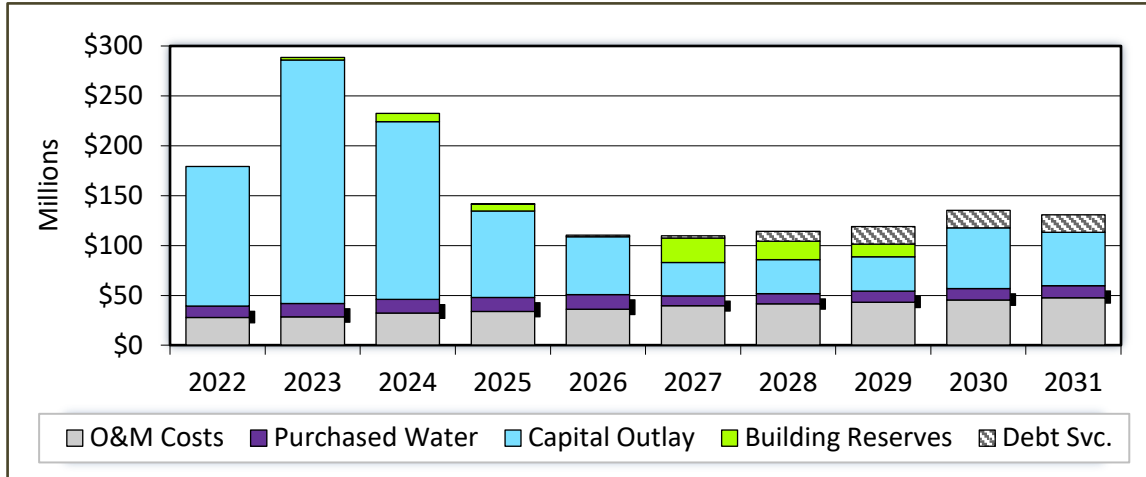


Table 6-2: Annual Expenditures and Increases in Reserves by Fiscal Year

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Totals
O&M Costs [1]	\$27.9	\$28.7	\$32.2	\$33.8	\$36.2	\$39.7	\$41.5	\$43.3	\$45.5	\$47.8	\$376.6
Purchased Water [2]	11.3	13.1	13.7	14.1	14.7	9.9	10.4	10.9	11.4	11.9	121.4
Capital Outlay	139.9	244.2	178.4	86.8	58.0	33.6	34.2	34.5	60.8	53.4	923.8
Building Reserves	-	2.6	8.0	6.7	-	24.5	18.5	12.6	-	-	73.0
Debt Service	-	-	-	0.7	1.4	2.2	9.9	17.6	17.6	17.6	66.8
Totals	\$179.2	\$288.7	\$232.3	\$142.1	\$110.3	\$109.8	\$114.3	\$118.9	\$135.3	\$130.7	\$1561.6

[1] O&M costs shown include debt issuance costs.

[2] Consistent with past reporting, *Purchased Water* includes pumping power costs.

O&M COSTS. Operations and maintenance costs account for most of the day-to-day expenditures for operating a water utility. O&M costs include labor, benefits, and M&S (i.e., materials and services), among other items. Management’s requested 2021-2023 budget served as a starting point for the O&M forecast included in this Financial Plan. Most O&M costs were projected to escalate from FY2023 data at 4.5% annually. Also included in the *O&M Costs* row in Table 6-2 are debt issuance costs which were discussed in *Section 5.3 – Significant Debt Program Assumptions*.

PERS PENSION COSTS (O&M COSTS). Employees of the District are provided pensions through the Oregon Public Employees Retirement System (OPERS). OPERS provides a variety of pension plans for public employees based on when an employee first enters public service. These pension plans are commonly referred to as OPERS Tier 1 and Tier 2, and Oregon Public Service Retirement Plan (OPSRP). These plans vary in benefits but include both a defined benefits component and a defined contribution component.

Like many pension plans, the OPERS plans currently have an unfunded actuarial liability (UAL). The OPERS UAL is allocated to employers of the plan. Based on its latest valuation report, the District estimates its current share of OPERS UAL is approximately \$10.5 million. In addition, District management believes the assumed discount rate currently used by OPERS to value the UAL may be reduced in the future. A reduction in the assumed discount rate, everything else being equal, increases the OPERS UAL and the UAL allocated to the District. Based on analysis conducted by OPERS consultants and actuaries, a change in the assumed discount rate by 1% could add another \$10 million to the District’s UAL.

The District’s share of the OPERS UAL is the result of many factors including changes in actuarial assumptions, earnings on the OPERS investments, and other OPERS policies (e.g., rate collaring). The District’s share of OPERS UAL is a liability of the District and is reported in the District’s financial statements consistent with the requirements of the various Government Accounting Standards Board (GASB) statements on pension reporting.

In the 2019-21 biennium, the District’s management requested \$20 million to fund an OPERS side account with two deposits of \$10 million each. The deposits were to be separated in time to mitigate market risks since the OPERS investments of side accounts has greater market risk than the District’s investment portfolio. Ultimately, only the first \$10 million deposit was made which almost cut the District’s UAL in half to its current level of approximately \$10.5 million.²⁴ Nonetheless, funding the side account resulted in lower OPERS rates and payments by the District, and allows the District’s assets to be invested in a manner more consistent with long-term retirement needs.²⁵ Currently, there is no additional side account funding included in the District’s requested 2021-2023 budget or this Financial Plan.

PURCHASED WATER. Following the 2021-2023 requested budget numbers, water purchases are projected to escalate from FY2022 to FY2026 as follows in Table 6-3, listed by source:

Table 6-3: Source Water Rates and Costs (FY2022–FY2026)

	2022	2023	2024	2025	2026
Portland					
Rate (\$/CCF) [1]	\$1.250	\$1.461	\$1.642	\$1.691	\$1.751
Purchase (MGD) [2]	13.16	13.16	13.16	13.16	13.16
Annual Cost (\$ million)	\$8.0	\$9.4	\$10.5	\$10.9	\$11.2
<i>% Change</i>		16.9%	12.4%	3.0%	3.5%
JWC					
Rate (\$/CCF) [3]	\$0.631	\$0.659	\$0.689	\$0.720	\$0.752
Purchase (MGD) [4]	7.45	7.52	7.60	7.68	7.76
Annual Cost (\$ million)	\$2.3	\$2.4	\$2.6	\$2.7	\$2.8
<i>% Change</i>		5.6%	5.6%	5.6%	5.6%
Total Annual Cost	\$10.3	\$11.8	\$13.1	\$13.6	\$14.1
<i>% Change</i>		14.4%	11.0%	3.5%	3.9%

[1] Portland rate forecast provided by Portland thru FY2026.

[2] Contract minimum (as annual avg.); min. purchase assumed for financial planning.

[3] JWC rates escalated from current rate by 4.5% per year.

[4] Annual avg. required to meet Forecast water demands after Portland purchases.

²⁴ For details on the District’s PERS valuation and a system-wide analysis of OPERS, see *Appendix G – PERS Valuation Report*.

²⁵ The District’s investment policies restrict investments to have a maturity of no more than five years whereas OPERS-funded side accounts are invested consistent with long-term retirement funds.

In FY2027, the melded cost of the District’s water will drop due to the change in source water supplies. As presented in Figure 3-3, the Forecast assumes that the District will purchase more JWC water after switching its other source from Portland to the WWSS. By doing so, overall source water costs decline by more than \$5.6 million (40%) in FY2027.

PUMPING POWER COSTS (PURCHASED WATER). As noted previously, pumping power costs are also included in the Purchased Water category in Table 6-2. Currently, the District incurs these costs for moving water from its 385, 426, and 435 pressure zones to higher elevations in its service area.

Pumping power costs are projected to escalate from the FY2023 requested budget at an annual rate of 4.5% until FY2026. However, when the District switches its gravity-fed water supply (Portland) to a pumped source (WWSS), pumping power costs will increase by approximately \$800 thousand, from \$547 thousand in FY2026 to \$1.34 million in FY2027.

When the WWSS pumping costs are added to in-District pumping and combined with the FY2027 reduction in source water costs, the net decrease in *Purchased Water* shown in Table 6-2 is approximately \$4.8 million, or 33% lower than FY2026. After FY2027, *Purchased Water* costs are projected to escalate at approximately 5.0% in FY2028, then slow gradually to 4.5% annual increases in FY2036 and beyond.

CAPITAL EXPENDITURES (CAPITAL OUTLAY). The District’s CIP is described in Section 4 of this Financial Plan, while a detailed project list and cost estimates are included in *Appendix B – Six-Year Capital Improvement Plan Summary*.

Capital outlays from O&M are also included as *Capital Outlay* in Table 6-2. These outlays are minor in comparison to the CIP, with approximately \$700 thousand in the District’s 2021-2023 requested budget, \$500 thousand in FY2024, and escalating 4.5% annually thereafter.

NET INCREASES IN RESERVES (BUILDING RESERVES). In years when the District will use WIFIA and revenue bond funding for portions of its capital expenditures, revenue from rates and other sources may be available to increase reserve balances, thereby making it available for use in future years.

DEBT SERVICE. Projected debt service is driven by the capital financing mix discussed in Section 5.2.1 – *Target Cash and Debt Financing Profile* and the debt program assumptions detailed in Section 5.3.

6.5 Detailed Financial Projections

Appendix H – Forecast Model Summary Results includes a copy of detailed projections from the summary version of the District’s Forecast model.

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7 Funds and Reserves

Reserves are critical to the prudent financial management of any utility. Adequate reserve levels can provide the necessary funding in low sales years or offset emergency capital projects, both minimizing the impacts to rates in the short-term. This section presents the summary reserves that the District uses in the Forecast model. The projections in this section demonstrate that the District will have sufficient liquidity to meet both its operating and capital investment commitments.

Before presenting the summary reserves and results from the Forecast model, however, it may help to understand the District's budgetary fund structure and how the District combines some funds (and ignores others) for financial planning purposes. The District's budget and accounting systems are structured around the following funds (fund titles italicized):

- On a day-to-day basis, all administration, operations, and maintenance activities are accounted for in the *General Fund*.
- Construction and capital improvement activities are accounted for in the *Capital Improvement Fund*.
- The *Capital Reserve Fund* is used to hold resources available for current and future capital investments for the District.
- Historically, the *Revenue Bond Debt Service Fund* accounted for the District's debt service obligations.
- The District is a member of, and provides management services for, the *Willamette River Water Coalition (WRWC)*, and accounts for these activities in a separate fund.
- The *Customer Emergency Assistance (CEA) Fund* accounts for the resources and requirements used to provide limited emergency assistance to qualified District customers.
- The *Willamette Intake Facilities Fund* accounts for the activities of the WIF Commission; an intergovernmental agreement among TVWD and six neighboring cities.
- The *Willamette Water Supply System Fund* accounts for the activities of the WWSS Commission; an intergovernmental agreement among TVWD and the cities of Hillsboro and Beaverton.

Each of these funds is described below.

7.1 Description of District Funds

GENERAL FUND (FUND 01). All six of the District's operating departments and District staff are accounted for in the General Fund. Additionally, the Purchased Water budget is in the General Fund as a non-departmental expenditure. Purchased Water represents the District's single largest Materials and Services (M&S) expenditure.

CAPITAL IMPROVEMENT FUND (FUND 11). The Capital Improvement Fund does not maintain a fund balance. All reserves for capital investments are held in the Capital Reserve Fund and transferred to the Capital Improvement Fund as needed. The sole resource for the Capital Improvement Fund is to receive transfers from the Capital Reserve Fund and account for capital expenditures.

CAPITAL RESERVE FUND (FUND 18). The Capital Reserve Fund is used to hold resources available for current and future capital investments for the District. The use of the Capital Reserve Fund allows the flow of funds for current and future uses to be managed in a transparent manner consistent with

budgeting best practices. In anticipation of the significant costs associated with WWSP, the District has increased its reserves deliberately. These reserves are easily monitored in a single fund.

DEBT PROCEEDS FUND (FUND 22). The Debt Proceeds Fund is used to hold resources from debt issuances that are available to fund capital expenditures of the District. The use of the Debt Proceeds Fund allows the flow of funds for current and future uses to be managed in a transparent manner consistent with budgeting best practices.

REVENUE BOND DEBT SERVICE FUND (FUND 31). The Revenue Bond Debt Service Fund accounts for the District's obligations for principal and interest payments on its outstanding revenue bonds. The District fully redeemed its last outstanding revenue bonds in June of 2015; however, the fund is maintained for future use.

WILLAMETTE RIVER WATER COALITION (FUND 41). This partnership fund is used to account for the Willamette River Water Coalition (WRWC), a coalition of four local governments of which the District is a member. The organization's purpose is to preserve access to the Willamette River as a municipal and industrial water source. The budget is set by the WRWC governing body and administered by the District. Resources for the WRWC Fund come from member agency dues based on a formula agreed to in an intergovernmental agreement.

CUSTOMER EMERGENCY ASSISTANCE FUND (FUND 43). The purpose of the Customer Emergency Assistance (CEA) Fund is to account for the resources and requirements used to provide limited emergency assistance to qualified District customers. The resources for the CEA Fund are transferred in from the General Fund and come from voluntary contributions from customers, District staff, and the Board. A third-party administrator reviews and qualifies requests from customers facing temporary financial hardships. Any unspent funds remaining at the end of each budgetary period remain in the CEA Fund to meet future customer assistance needs.

WILLAMETTE INTAKE FACILITIES (FUND 44). The WIF Fund accounts for the activities of the WIF Commission; an intergovernmental agreement whose members include the cities of Beaverton, Hillsboro, Sherwood, Tigard, Wilsonville, and TVWD. The WIF owns, operates, and maintains the intake facilities at the Willamette River Water Treatment Plant in Wilsonville for the benefit of its members. As the Managing Agency, TVWD incorporates the budget adopted by the WIF Board of Commissioners into the District's biennial budget. Resources for the fund include member dues and contributions for capital outlay. The WIF is audited separately, and the fund is not included as part of TVWD's audited financial statements.

WILLAMETTE WATER SUPPLY SYSTEM (FUND 45). The WWSS Fund accounts for the activities of the WWSS Commission; an intergovernmental agreement among TVWD and the cities of Beaverton and Hillsboro. The WWSS Commission was established to design and construct the Willamette Water Supply System by 2026, and will own, operate, and maintain the assets that make up the system for the benefit of the partners. As the Managing Agency, TVWD incorporates the budget adopted by the WWSS Board of Commissioners into the District's biennial budget. Resources for the fund include member dues and contributions for capital outlay. The WWSS is audited separately, and the fund is not included as part of TVWD's audited financial statements.

7.2 Projected Reserve Balances

The Forecast is a cash flow model designed for financial planning around the District's future cash requirements. As such, the District uses it to forecast *reserves* rather than *funds*. In doing so, some of the *Funds* described in Section 7.1 above are either combined into a *cash reserve*, while most are excluded from the Forecast altogether.

For example, some of the *Funds* listed above were established only for managing partnerships. Funds 41, 44, and 45 exist to account for the activities of various partnerships, where the costs and partner contributions are tracked for budgeting, accounting, and reporting purposes.

In contrast, the Forecast is only concerned with the *District's* revenue requirements and how those requirements will be met with available cash (including liquid investments) and future debt. Therefore, partner costs shares are not included, and the District's costs are tracked as uses of cash reserves and debt proceeds (from debt issued to the District only). For this reason, it is unnecessary to forecast the District's *Funds*. Rather, the following *Reserves* are tracked for financial planning purposes:

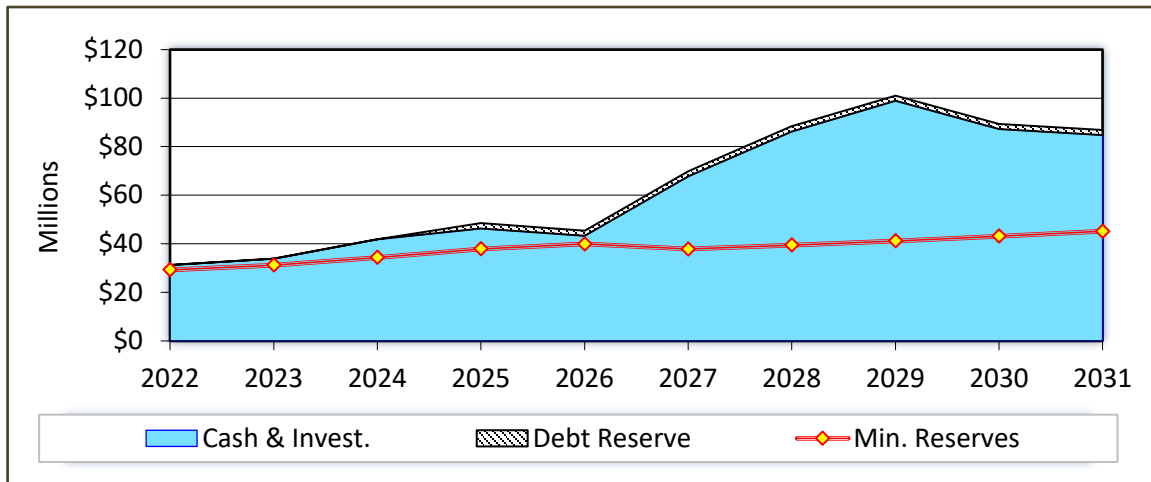
- **Cash & Investments**
 - Includes the estimated combined balance of the General Fund (Fund 01) and Capital Reserves Fund (Fund 18).
 - Sources of Funds include all *Rate Revenue* and *Other Revenue* described in Section 6.3.
 - Uses of Funds include:
 - All *O&M Costs* and *Purchased Water* described in Section 6.4.
 - *Capital Outlays from O&M Budget* which is mentioned under *Capital Expenditures (Capital Outlay)* in Section 6.4.
 - Transfers to other Reserves for capital expenditures and debt service.
- **Bond Proceeds Reserve**
 - Sources of Funds are future revenue bond issuances, as outlined in Section 5 – *Capital Financing Plan*.
 - Uses of Funds include splitting each revenue bond issuance into:
 - Issuance costs,
 - Debt reserve requirement, and
 - Proceeds for capital expenditures.
 - The Forecast assumes that 100% of each revenue bond issuance will be spent or transferred to another Reserve for one of these purposes in the year it is issued. Therefore, this Reserve does not carry a balance.
- **Revenue Bond Debt Service Reserve**
 - Sources of Funds include transfers for debt service and bond reserve requirements.
 - Interest earnings on reserve balances also accumulate in this Reserve.
 - Revenue bond debt service is the only Use of Funds from this Reserve.
- **Reimbursement Fee SDC Account**
 - The reimbursement fee portion of SDC receipts is tracked as the Source of Funds in this Reserve.
 - In each Forecast year, all SDC receipts are used to fund a portion of capital expenditures.
 - This Reserve carries no balance.

- **Improvement Fee SDC Account**
 - The improvement fee portion of SDC receipts is tracked as the Source of Funds in this Reserve.
 - In each Forecast year, all SDC receipts are used to fund a portion of capital expenditures.
 - This Reserve carries no balance.

- **WIFIA Reserve**
 - Sources of Funds include:
 - WIFIA proceeds, as outlined in Section 5 – *Capital Financing Plan*, and
 - Transfers for WIFIA loan repayments.
 - Uses of Funds include:
 - Issuance costs,
 - Proceeds for capital expenditures (i.e., eligible project costs as defined in the District’s WIFIA Loan Agreement), and
 - WIFIA loan repayments.
 - The Forecast assumes that 100% of each WIFIA draw will be spent in the year it is issued²⁶, and future WIFIA loan repayments will be transferred in annually from Cash & Investments. Therefore, this Reserve does not carry a balance.

Figure 7-1 presents the District’s projected cash reserve balances over the 10-year presentation period.

Figure 7-1: Projected Year-End Cash Balances by Fiscal Year



As shown in Figure 7-2 and Figure 7-3 on the next page, the District is projecting that its Cash & Investments Reserves and Debt Service Reserve will meet their balance targets (250 days of O&M and MADS, respectively) throughout the presentation period.

²⁶ WIFIA funds may be used to reimburse the District for prior WIFIA-eligible expenditures.

Figure 7-2: Cash and Investments Year-end Balances and Annual Targets by Fiscal Year

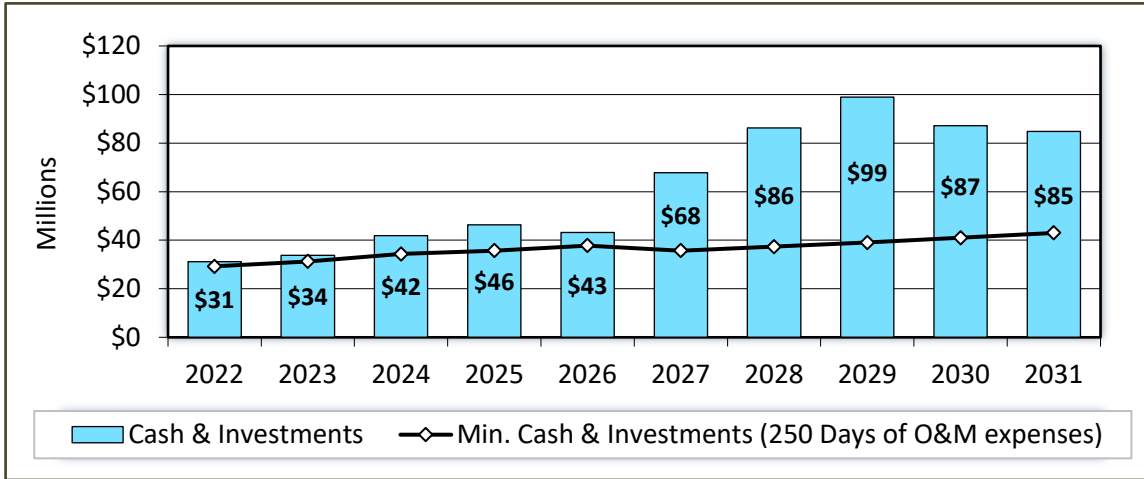
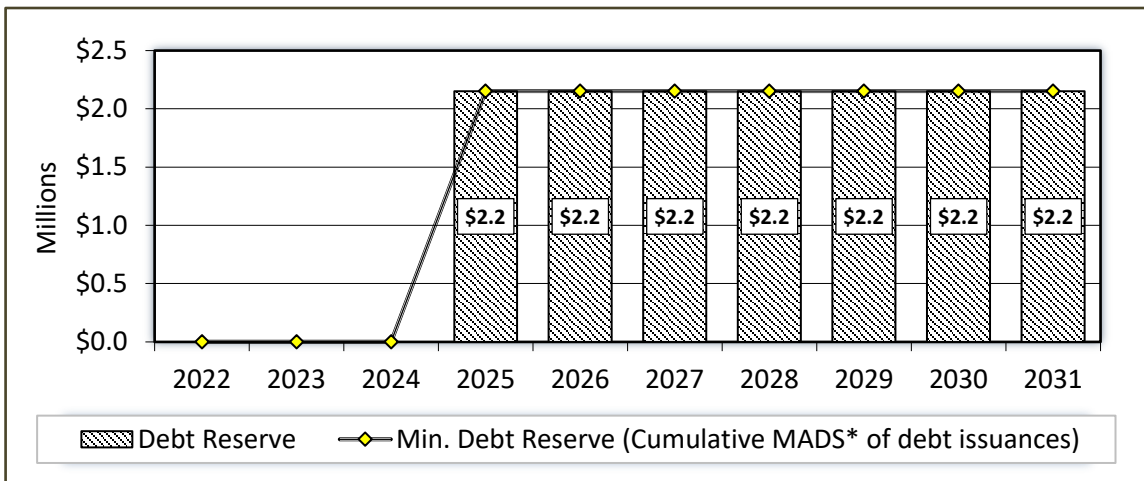


Figure 7-3: Debt Service Reserve Balance Requirements by Fiscal Year



* Maximum annual debt service.

7.3 Conclusion

As stated in Section 1.3, many assumptions were employed in the financial planning analysis underlying this document. For this reason, the projected results presented are not concrete in nature and should be considered as planning estimates.

In the future, the actual rate adjustments required to fund the District’s revenue requirements may vary from the estimates presented in Section 6, and the resulting reserve balances will vary from the projections shown above. As time passes and projections become reality, future capital requirements, O&M costs, customer demands, and other assumptions will influence the accuracy of these estimates. Therefore, the District will continue to take great care to mitigate risk by following prudent management practices, including reviewing rates and revenues annually (at a minimum) to see if additional adjustments are necessary.

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Appendices

The following subsections contain supporting documents and other related materials including:

A – Proposed Financial Plan Assumptions for the Financial Management Policies

B – Six-Year Capital Improvement Plan Summary

C – Ordinance 01-19 – Authorizing the Issuance of Debt

D – Master Revenue Bond Declaration

E – First Supplement to Master Revenue Bond Declaration

F – Parity Certificate and Transcript Documents

G – PERS Valuation Report

H – Forecast Model Summary Results

I – Map – Tualatin Valley Water District (Washington County, Oregon)

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A. Proposed Financial Plan Assumptions for the Financial Management Policies

Tualatin Valley Water District Financial Management Policies

APPENDIX A

Proposed Financial Plan Assumptions

DEBT CAPACITY

The 2021-2023 Financial Plan includes the assumption that the District will issue approximately \$453.7 million in total debt by FY2025, with \$423.4 million in net debt proceeds available for funding the District's capital expenditures. The planned debt issuances are less than the \$600 million limit imposed by District Ordinance 01-19, which authorizes the issuance of water revenue bonds.

ISSUANCE COSTS

Issuance costs for revenue bonds shall be estimated for each issuance based on the following:

- 0.75% of the par amount for each issuance through FY2025, and
- 1.50% of the par amount of all issuances thereafter.

TERM

The term assumed for future revenue bond issues shall be 30 years. The term for federal or state loan programs shall be the maximum allowed within the program unless a shorter duration is in the financial interest of the District.

INTEREST RATES

Presented below are the assumed interest rates to be included in the financial plan:

Description	FY2022	FY2023	FY2024	FY2025	FY2026
Revenue Bond Issues	3.50%	3.50%	3.50%	3.50%	3.50%
Earnings	1.40%	0.60%	0.45%	0.50%	0.50%

Description	FY2027	FY2028	FY2029	FY2030	FY2031
Revenue Bond Issues	4.00%	4.50%	5.00%	5.50%	5.50%
Earnings	0.55%	0.60%	0.65%	0.70%	0.70%

DEBT SERVICE RESERVE FUND

Depending on market conditions, a debt service reserve may not be required. However, the Financial Plan shall assume a debt service reserve as the minimum of:

1. The maximum annual debt service for a future revenue bond
2. 125% of the average annual debt service for a future revenue bond issue
3. 10% of the par amount of a future revenue bond issue.

Tualatin Valley Water District Financial Management Policies

DEBT SERVICE COVERAGE RATIOS

The target minimum for the debt service coverage ratios used in the Financial Plan shall be:

1. 2.0x by including SDCs in gross revenues.
2. 1.5x by excluding SDCs from gross revenues.

ADDITIONAL BONDS TEST

The Financial Plan shall exceed the following additional bonds test ratios:

1. 1.3x by including SDCs in gross revenues.
2. 1.15x by excluding SDCs from gross revenues.

NET LEVERAGE RATIO

The maximum net leverage ratio in the Financial Plan shall be 8.0x. The projected net leverage ratio in the Financial Plan shall not exceed the target maximum in any forecast period and shall not exceed a net leverage ratio of 7.0x for more than three consecutive years.

MINIMUM CASH BALANCES

The Financial Plan shall include 250 days of forecast annual operations and maintenance expense as the minimum cash balance. This minimum is in addition to any balances required in a debt service reserve account.

B. Six-Year Capital Improvement Plan Summary

Tualatin Valley Water District Six-Year CIP Planned Expenditures (FY2022-27)

Category / Project Description	2021-2023 Biennial Budget 6-Year CIP						Six-Year FY2022-27
	FY2022 Requested	FY2023 Requested	FY2024 Projected	FY2025 Projected	FY2026 Projected	FY2027 Projected	
SOURCE							
Metzger Supply Improvements for WWSS	\$ -	\$ 53,600	\$ 499,000	\$ -	\$ -	\$ -	\$ 552,600
Center St Facility Seismic Roof & Piping Improvements	1,035,000	-	-	-	-	-	1,035,000
Cornelius Pass Pipeline Rehabilitation	103,500	-	-	-	-	-	103,500
Water Quality Integration Projects	227,500	235,500	-	-	-	-	463,000
Center St Backup Generator	-	-	-	-	297,000	-	297,000
Booster Chlorination	-	-	-	229,500	1,190,000	-	1,419,500
Farrington Fluoride & Flow Control Facility	6,130,000	-	-	-	-	-	6,130,000
TOTAL SOURCE	\$ 7,496,000	\$ 289,100	\$ 499,000	\$ 229,500	\$ 1,487,000	\$ -	\$ 10,000,600
STORAGE							
ST-3 Goyak Reservoir Upgrades	\$ -	\$ 439,000	\$ 454,500	\$ -	\$ -	\$ -	\$ 893,500
Taylor's Ferry Reservoir Replacements	1,185,000	5,690,000	5,580,000	59,700	-	-	12,514,700
North Road Reservoir Mixing	82,800	-	-	-	-	-	82,800
ST-1 Rosander 2 Reservoir	-	-	-	-	-	1,420,000	1,420,000
Florence Lane Reservoir Coatings & Cathodic Improvements	714,000	-	-	-	-	-	714,000
Steel Reservoir Gutters and Downspouts	-	-	22,200	-	-	-	22,200
Somerset Reservoir Modifications	301,500	-	-	-	-	-	301,500
189th & Schell Roof Membrane Replacements	-	-	-	401,500	-	-	401,500
TOTAL STORAGE	\$ 2,283,300	\$ 6,129,000	\$ 6,056,700	\$ 461,200	\$ -	\$ 1,420,000	\$ 16,350,200
PUMP STATIONS							
Barnes Road Pump Station	\$ 290,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 290,000
BP-1 Cooper Mountain Booster Pump Station Expansion	-	-	356,000	2,960,000	-	-	3,316,000
Sunset Pump Station MCC Replacement	259,000	-	-	-	-	-	259,000
Inglewood Pump Station Repairs	-	-	388,000	-	-	-	388,000
Goyak Pump Station Upgrades	-	32,100	-	-	297,000	1,845,000	2,174,100
BP-6 Rosander Booster Pump Station	-	-	-	-	-	1,260,000	1,260,000
Taylor's Ferry Booster Pump Station	62,100	214,000	781,500	-	-	-	1,057,600
SCADA / PLC / Shaleart Upgrades	305,500	535,500	1,110,000	-	-	-	1,951,000
189th Pump Station Upgrades	-	32,100	277,000	1,720,000	-	-	2,029,100
Pump Replacement Program	133,000	137,500	142,500	147,500	152,500	158,000	871,000
TOTAL PUMP STATIONS	\$ 1,049,600	\$ 951,200	\$ 3,055,000	\$ 4,827,500	\$ 449,500	\$ 3,263,000	\$ 13,595,800

6-year Summary

CIP 2021-23 Proposed

Tualatin Valley Water District Six-Year CIP Planned Expenditures (FY2022-27)

Category / Project Description	2021-2023 Biennial Budget 6-Year CIP						Six-Year FY2022-27
	FY2022 Requested	FY2023 Requested	FY2024 Projected	FY2025 Projected	FY2026 Projected	FY2027 Projected	
PIPELINE							
Mains Replacement Program - Unidentified Projects	\$ 1,760,000	\$ 1,820,000	\$ 1,885,000	\$ 1,950,000	\$ 2,020,000	\$ 2,090,000	\$ 11,525,000
SW Barcelona Way Main Replacement	-	-	-	-	822,500	-	822,500
SW Cascade Ave / Greenburg / Moore Furniture	-	-	-	2,480,000	-	-	2,480,000
NW Oak Hills Dr - Bonneville Lp to 145th	-	329,000	-	-	-	-	329,000
Alfred St Main Replacement and Upgrade	430,500	-	-	-	-	-	430,500
Multnomah Blvd 12-inch Connection	-	-	658,500	-	-	-	658,500
Williams - Rita - Mains replacement	-	-	-	3,800,000	-	-	3,800,000
Tremont & Huntington - Mains replacement	-	-	1,665,000	1,720,000	2,375,000	4,915,000	10,675,000
SW Tualatin Valley Hwy - 185th to Elliott Pl	-	-	-	-	-	1,215,000	1,215,000
Todd St & Linda Ln - Mainline Replacement & Upgrade	-	1,510,000	-	-	-	-	1,510,000
Murray Blvd Main Replacement - Downing to Mill Creek	-	-	-	-	1,495,000	-	1,495,000
Ridgewood View - Inglewood to Melnoire Main Improvement	-	-	-	-	-	452,500	452,500
Pipeline Upgrades and Renewals - Agency Driven							
Unidentified Agency-Driven Pipeline Upgrade & Renewal Projects	155,500	535,500	1,275,000	1,320,000	1,365,000	1,415,000	6,066,000
Walker Rd 12" Replacement - 185th to 174th	673,000	-	-	-	-	-	673,000
Murray & Walker 42-inch Relocation	1,555,000	1,930,000	-	-	-	-	3,485,000
Cornell 102nd to 114th Main Relocation	828,000	-	-	-	-	-	828,000
TV Hwy at 209th Main Relocation	621,000	455,500	-	-	-	-	1,076,500
Hall Blvd over Hwy 217	248,500	-	-	-	-	-	248,500
Unidentified Water Quality Upgrades & Renewals	103,500	107,000	111,000	115,000	119,000	123,000	678,500
Development Opportunity & Reimbursement Projects							
Unidentified Development Opportunity & Reimbursement Projects	277,000	287,000	297,000	307,500	318,000	329,000	1,815,500

CIP 2021-23 Proposed

6-year Summary

Tualatin Valley Water District Six-Year CIP Planned Expenditures (FY2022-27)

Category / Project Description	2021-2023 Biennial Budget 6-Year CIP						Six-Year FY2022-27
	FY2022 Requested	FY2023 Requested	FY2024 Projected	FY2025 Projected	FY2026 Projected	FY2027 Projected	
PIPELINE (continued)							
Fire Flow Improvements							
P-80 - Viewmont Dr south of Barnes	\$ 298,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 298,000
P-99 - Polsky Rd / Hawthorne Ln / to Scenic Dr	-	-	-	-	382,000	3,105,000	3,487,000
Fire Flow P-125 (Hart Dr - 182nd to 179th)	-	-	-	-	89,100	213,500	302,600
P-21 185th Crossing Hwy 26	-	-	-	-	241,500	584,500	826,000
NW Westlawn Ter. Waterline & PRV	-	428,500	-	-	-	-	428,500
Future Fire Flow Improvements							
Other Pipeline							
Thompson 575 connection	-	-	-	-	57,000	-	57,000
Barnes & Viewmont Piping Improvements	596,000	-	-	-	-	-	596,000
Minor System Improvements	111,000	115,000	119,000	123,000	119,000	123,000	710,000
Mietzger Pipeline East	32,314,037	46,444,409	22,678,208	4,257,788	-	-	105,694,443
Mietzger Pipeline East Real Estate	869,980	-	-	-	-	-	869,980
Mietzger Pipeline East System-wide Costs	1,606,441	1,512,994	1,453,265	1,536,426	1,675,302	714,099	8,498,527
Hydrant Replacements	155,500	160,500	166,500	172,000	178,000	184,500	1,017,000
Kemmer Rd 24-inch Connection to Beaverton	1,500,000	-	-	-	-	-	1,500,000
PRV / Vault Replacements & Upgrades: Unidentified Projects	310,500	535,500	554,500	172,000	272,000	369,000	2,213,500
Transmission Mains CARV Rehabilitation	110,500	114,500	118,500	123,000	127,000	131,500	725,000
Walker and Meadow PRV & Vault Replacement	776,500	-	-	-	-	-	776,500
Goyak PRV - 800 to 550 PZ	-	160,500	-	-	-	-	160,500
TOTAL PIPELINE	\$ 45,300,458	\$ 56,445,903	\$ 30,981,473	\$ 18,076,714	\$ 11,655,402	\$ 15,964,599	\$ 178,424,549

6-year Summary

CIP 2021-23 Proposed

Tualatin Valley Water District Six-Year CIP Planned Expenditures (FY2022-27)

Category / Project Description	2021-2023 Biennial Budget 6-Year CIP						Six-Year FY2022-27
	FY2022 Requested	FY2023 Requested	FY2024 Projected	FY2025 Projected	FY2026 Projected	FY2027 Projected	
FACILITIES							
Seismic Upgrades District Headquarters	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Replace Garage Doors/Install Snow Guards (Fleet Shop)	36,200	51,400	-	-	-	-	87,600
Headquarters Yard Modifications	247,000	268,000	-	-	-	-	515,000
Safety and Security Improvements	310,500	321,500	-	-	-	-	632,000
Board Room/Conference Room Audio Visual Improvements	207,000	53,600	-	-	-	-	260,600
District Wide Signage Replacement	51,800	53,600	-	-	-	-	105,400
Vault - Dewatering Facility	-	21,400	-	-	-	-	21,400
Goyak and Cooper Mtn. Driveway Replacement	51,800	53,600	-	-	-	-	105,400
Fuel Dispenser Replacement	-	68,000	-	-	-	-	68,000
TOTAL FACILITIES	\$ 904,300	\$ 891,100	\$ -	\$ -	\$ -	\$ -	\$ 1,795,400
FLEET							
Fleet Replacements (per schedule)	\$ 689,000	\$ 780,000	\$ 665,000	\$ 688,500	\$ 712,500	\$ 737,500	\$ 4,272,500
TOTAL FLEET	\$ 689,000	\$ 780,000	\$ 665,000	\$ 688,500	\$ 712,500	\$ 737,500	\$ 4,272,500
INFORMATION TECHNOLOGY							
Customer Information System	\$ 6,640,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,640,000
TOTAL INFORMATION TECHNOLOGY	\$ 6,640,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,640,000
TOTAL METERS AND SERVICES	\$ 1,787,000	\$ 1,850,500	\$ 1,914,500	\$ 1,983,500	\$ 2,053,500	\$ 2,123,000	\$ 11,712,000
JOINT VENTURES							
Joint Venture: WJF	\$ 2,158,754	\$ 972,865	\$ -	\$ -	\$ -	\$ -	\$ 3,131,620
Joint Venture: WWSS	71,227,035	170,696,854	130,472,179	56,812,648	35,704,561	3,557,506	468,470,783
JWC Plans, Assessments, and Safety Upgrades	134,500	-	-	29,100	27,400	101,500	292,500
JWC Misc. Repairs/Replacements, & Minor/Non-CIP	119,500	65,300	128,000	208,000	137,000	263,500	921,300
JWC Other Capital Repairs	-	-	-	-	-	121,500	121,500
JWC Water Line Cathodic Protection	25,600	26,500	27,400	28,400	29,400	30,400	167,700
JWC Spring Hill Pumping Plant Mitigation Project	95,500	10,600	-	-	-	-	106,100
JWC Disinfection Facility (Gaseous Chlorine Replacement)	-	-	59,400	39,400	408,000	-	861,400
JWC Land Purchase	136,500	-	-	-	-	-	136,500
BRIOC Capital & Improvements	42,000	43,500	45,000	46,600	48,200	49,900	275,200
JWC Equipment Replacement	341,200	-	341,200	-	341,200	-	1,023,600
TOTAL JOINT VENTURES	\$ 74,280,589	\$ 171,815,619	\$ 131,073,179	\$ 57,518,748	\$ 36,695,761	\$ 4,124,306	\$ 475,508,203
TOTAL CIP	\$ 140,430,248	\$ 239,152,422	\$ 174,244,852	\$ 83,785,662	\$ 53,053,663	\$ 27,632,405	\$ 718,299,252
TOTAL CIP less JOINT VENTURES	\$ 66,149,658	\$ 67,336,803	\$ 43,171,673	\$ 26,266,914	\$ 16,357,902	\$ 23,508,099	\$ 242,791,049

CIP 2021-23 Proposed

6-year Summary

C. Ordinance 01-19 – Authorizing the Issuance of Debt



ORDINANCE NO. 01-19

AN ORDINANCE OF THE TUALATIN VALLEY WATER DISTRICT, OREGON, AUTHORIZING THE ISSUANCE OF WATER REVENUE BONDS.

WHEREAS, the District is authorized to issue revenue bonds for a public purpose under ORS 287A.150 and related statutes (the "Act"). Revenue bonds issued under the Act may be payable from all or any portion of the water system revenues of the District; and

WHEREAS, the District may authorize revenue bonds under the Act by nonemergency ordinance. The District may not sell the revenue bonds under the Act until the period for referral of the nonemergency ordinance authorizing the revenue bonds has expired. If a nonemergency ordinance authorizing the revenue bonds is referred, the District may not sell the revenue bonds unless the voters approve the revenue bonds; and

WHEREAS, the District now finds it financially feasible and in the best interests of the District to authorize the issuance of revenue bonds under the Act in order to finance capital assets of the water system, including but not limited to the District's portion of the Willamette Water Supply System including pumps, pipelines, the water treatment plant and the reservoir (collectively, the "System Improvements"); and

WHEREAS, it may be desirable to issue revenue bonds to finance the System Improvements under one or more financing structures, including as water revenue bonds with a senior lien on net revenues of the District's water system, as water revenue bonds with a subordinate lien on net revenues of the District's water system, as short term water revenue bonds or refunding bonds; and

WHEREAS, prior to the issuance of the water revenue bonds, the District desires to incur certain capital expenditures with respect to the System Improvements from available moneys of the District and wishes to declare its official intent to reimburse itself for any such expenditures from the proceeds of borrowings authorized by this ordinance.

NOW THEREFORE, IT IS HEREBY ORDAINED BY THE BOARD OF COMMISSIONERS OF THE TUALATIN VALLEY WATER DISTRICT:

Section 1. Issuance of Bonds for System Improvements.

- a. The District hereby authorizes the issuance of revenue bonds pursuant to ORS 287A.150 in an amount that is sufficient to provide net proceeds of up to \$600 million to pay for costs of System Improvements, plus additional amounts that are required to pay capitalized interest, fund bond reserves for bonds authorized by Section 1.a and Section 2 of this ordinance and to pay costs related to the financings. The District estimates that the total principal amount of revenue bonds required for this purpose will not exceed \$680 million. The bonds shall be issued and sold in accordance with the Act.

- b. The bonds authorized by this ordinance shall be special obligations of the District that are payable solely from water system revenues and related amounts that the District pledges to pay the bonds. The District may issue the bonds authorized by this ordinance with a first lien on net revenues of the water system or with a subordinate lien on the net revenues of the water system.
- c. No bonds authorized by Section 1.a of this ordinance may be sold and no purchase agreement for any of those bonds may be executed until the period for referral of this nonemergency ordinance has expired. If this ordinance is referred, the District may not sell the bonds authorized by Section 1.a of this ordinance unless the voters approve those bonds.

Section 2. Issuance of Refunding Bonds. The District hereby authorizes the issuance of refunding bonds pursuant to applicable Oregon statutes to refinance any water revenue bonds that are issued pursuant to Section 1.a of this ordinance to provide interim financing. The refunding bonds authorized by this Section 2 may be issued in an aggregate principal amount sufficient to refund any water revenue bonds selected by the District Official pursuant to Section 3.k of this ordinance, plus amounts required to pay costs related to the refunding bonds.

Section 3. Delegation. When and if this ordinance takes effect, the Chief Financial Officer, the Chief Executive Officer or the employees of the District designated by the District's Chief Executive Officer or Board of Commissioners to act on behalf of the District under this ordinance (each of whom is referred to herein as a "District Official") are each hereby authorized, on behalf of the District and without further action by the Board of Commissioners, to:

- a. Issue the revenue bonds authorized by this ordinance (the "Water Bonds") in one or more series, which may be sold at different times, and issue any series of Water Bonds as First Lien Bonds, as defined below, or with a subordinate lien on water system revenues.
- b. Issue the Water Bonds as short or intermediate term bonds to provide interim financing for System Improvements and enter into lines of credit or similar documents which permit the District to draw Water Bond proceeds over time.
- c. Participate in the preparation of, authorize the distribution of and deem final the preliminary and final official statements and any other disclosure documents for each series of the Water Bonds, as applicable.
- d. Subject to the limits of this ordinance, establish the final principal amounts, lien status, maturity schedules, interest rates, redemption terms and other terms for each series of Water Bonds.
- e. Either publish a notice of sale, receive bids and award the sale of that series to the bidder complying with the notice and offering the most favorable terms to the District or select one or more underwriters or lenders and negotiate the sale of that series with those underwriters or lenders and execute and deliver a bond purchase agreement or other document in connection with such sale.
- f. Prepare, execute and deliver one or more documents that will specify the terms under which the Water Bonds are issued and the administrative provisions that apply to the Water Bonds.
- g. Enter into covenants with owners or credit enhancement providers that are designed to obtain more favorable terms for the District, including covenants required by the Water Infrastructure Finance and Innovation Act, if the District borrows under that program, or by the State, if the District borrows under State lending programs.

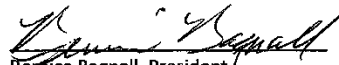
- h. Prepare and finalize the terms of a master water system declaration which pledges the revenues of the District's water system to the Water Bonds issued with a first lien on the water system revenues ("First Lien Bonds"), contains covenants regarding the levels of fees and charges that the District must impose and describes the terms under which the District may issue obligations in the future that are secured by the revenues of the District's water system.
- i. If all or any portion of the Water Bonds is secured by a subordinate lien on water system revenues, establish a master second lien water revenue bond declaration or similar document to memorialize the terms under which that series and future series of subordinate lien bonds may be issued.
- j. Make contributions to bond reserve accounts that the District Official determines are desirable and determine the reserve requirement, if any, for each series of the Water Bonds.
- k. Select water revenue bonds to be refunded, refund any Water Bonds that are issued to provide interim financing with other short, intermediate or long-term term bonds.
- l. Undertake to provide continuing disclosure for any series of Water Bonds in accordance with Rule 15c2-12 of the United States Securities and Exchange Commission or lender requirements, as applicable.
- m. Apply for and purchase municipal bond insurance, reserve sureties or other forms of credit enhancements for any series of Water Bonds and enter into related agreements.
- n. Appoint and enter into agreements with paying agents and other professionals and service providers for the Water Bonds.
- o. Issue any qualifying series of Water Bonds as "tax-exempt bonds" bearing interest that is excludable from gross income under the Internal Revenue Code of 1986, as amended, (the "Code") and enter into covenants for the benefit of the owners of those series to maintain the excludability of interest on those series from gross income under the Code.
- p. If the federal government approves subsidy payments or tax credits for municipal bonds and those subsidies or tax credits are estimated to reduce the net debt service payments for the Water Bonds, issue any series of Water Bonds as eligible for those federal subsidies or tax credits, and enter into related covenants to maintain the eligibility of such series of Water Bonds for those subsidies or tax credits.
- q. Issue any series of Water Bonds as "taxable bonds" bearing interest that is includable in gross income under the Code.
- r. Designate any series of Water Bonds as "green bonds" if applicable.
- s. Execute any documents and take any other action in connection with the Water Bonds which the District Official finds will be advantageous to the District.


Section 4. Unless referred, this ordinance shall take effect on the 30th day after it is enacted.

Section 5. Declaration of Intent to Reimburse. The District hereby declares its official intent to reimburse itself with the proceeds of the Water Bonds for any expenditures on the System Improvements paid prior to the Issuance of the Water Bonds. This declaration is adopted as an official action of the District in order to comply with United States Treasury Regulation 1.150-2.

Section 6. Pursuant to Oregon Revised Statute Chapter 198, the ordinance was read at two regular meetings of the District Board of Commissioners on two different days, at least six days apart, prior to the adoption thereof, to wit: the 20th day of March 2019, and the 17th day of April 2019.

Section 7. This ordinance was adopted following a second reading by the affirmative vote of at least a majority of the members of the District Board of Commissioners at its regular meeting on the 17th day of April 2019, and was signed by the presiding officer and attested to by the secretary.


Bernice Bagnall, President


Todd Sanders, Secretary

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**MASTER WATER SYSTEM REVENUE
BOND DECLARATION**

Tualatin Valley Water District, Oregon

Water Revenue Bond

Series 2019

Executed by the District Official of the Tualatin Valley Water District, Oregon

As of the 2nd day of August, 2019

3193363.11 041297 RSIND

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MASTER WATER SYSTEM REVENUE BOND DECLARATION

THIS MASTER WATER SYSTEM REVENUE BOND DECLARATION is executed as of August 2, 2019, by an authorized District Official of the Tualatin Valley Water District, Oregon pursuant to the authority granted to the District Official by the Ordinance to establish the terms under which the District's Water Revenue Bond, Series 2019 and future Parity Bonds may be issued.

Section 1. Findings.

The District finds that it enacted the Ordinance pursuant to Oregon Revised Statutes ("ORS") Section 287A.150 and related provisions of ORS Chapter 287A. The Ordinance authorizes the District to issue water revenue bonds in an amount that is sufficient to provide net proceeds of up to \$600 million to pay for projects described in the Ordinance, plus additional amounts that are required to pay capitalized interest, fund bond reserves, if any, and pay costs related to the financing, and to enter into this Master Declaration. This Master Declaration establishes the terms under which the District's Water Revenue Bond, Series 2019 is issued and the terms under which future obligations may be issued on a parity with the Series 2019 Bond.

Section 2. Definitions.

Unless the context clearly requires otherwise, capitalized terms that are used in this Master Declaration shall have the meanings defined for those terms in this Section 2.

"Adjusted Coverage Revenues" means the Coverage Revenues, adjusted for purposes of Section 7.1.C(ii) as provided in Section 7.3.

"Adjusted Net Revenues" means the Net Revenues, adjusted for purposes of Section 7.1.C(ii) as provided in Section 7.3.

"Annual Bond Debt Service" means in any Fiscal Year the amount of principal and interest required to be paid in that Fiscal Year on all Outstanding Bonds, adjusted as follows:

- (a) Interest which is to be paid from Bond Proceeds shall be subtracted;
- (b) Bonds which are subject to scheduled, noncontingent redemption/prepayment or tender shall be deemed to mature on the dates and in the amounts which are subject to mandatory redemption/prepayment or tender, and only the amount scheduled to be Outstanding on the final maturity date shall be treated as maturing on that date;
- (c) Interest subsidies shall be subtracted from the interest due on Interest Subsidy Bonds as provided in Section 6.5;
- (d) Bonds which are subject to contingent redemption/prepayment or tender shall be treated as maturing on their stated maturity dates; and,
- (e) Each Balloon Payment shall be assumed to be paid according to its Balloon Debt Service Requirement.

“Auditor” means a person authorized by the State Board of Accountancy to conduct municipal audits pursuant to ORS 297.670.

“Balloon Debt Service Requirement” means the Committed Debt Service Requirement for a Balloon Payment or, if the District has not entered into a firm commitment to sell Bonds or other obligations to refund that Balloon Payment, the Estimated Debt Service Requirement for that Balloon Payment.

“Balloon Payment” means any principal payment for a Series of Bonds which comprises more than twenty-five percent of the original principal amount of that Series, but only if that principal payment is designated as a Balloon Payment in the closing documents for the Series.

“Base Period” means the alternative selected by the District from the following two options: (a) any twelve consecutive months selected by the District or Qualified Consultant out of the most recent eighteen months preceding the delivery of a Series of Parity Bonds; or (b) the most recently completed fiscal year for which audited financial statements are available.

“BEO” means “book-entry-only” and refers to a system for clearance and settlement of securities transactions through electronic book-entry changes, which eliminates the need for physical movement of securities.

“Bond” or “Bonds” means the Series 2019 Bond and any Parity Bonds.

“Bond Counsel” means a law firm selected by the District and having knowledge and expertise in the field of municipal law and whose opinions are generally accepted by purchasers of municipal bonds.

“Bond Reserve Account” means the Bond Reserve Account in the Water Fund described in Section 5.3 of this Master Declaration.

“Business Day” means any day except a Saturday, a Sunday, a legal holiday, a day on which the offices of banks in Oregon or New York are authorized or required by law or executive order to remain closed, or a day on which the New York Stock Exchange is closed.

“Closing” means the date on which a Series of Bonds is delivered in exchange for payment.

“Code” means the Internal Revenue Code of 1986, as amended, including the rules and regulations promulgated thereunder.

“Committed Debt Service Requirement” means the schedule of principal and interest payments for a Series of Bonds or other obligations which refund a Balloon Payment, as shown in the documents evidencing the District’s firm commitment to sell that Series. A “firm commitment to sell” means a bond purchase agreement or similar document which obligates the District to sell, and obligates a purchaser to purchase, the Series of refunding Bonds or other obligations, subject only to the conditions which customarily are included in such documents.

“Coverage Revenues” means the Net Revenues less System Development Charges.

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“Credit Facility” means a letter of credit, a municipal bond insurance policy, standby bond purchase agreement or other credit enhancement device which is obtained by the District to secure payment in full of Bonds, and which is issued or provided by a Credit Provider.

“Credit Provider” means the person or entity that is: (i) obligated to make or guarantee payments under a Credit Facility or Reserve Credit Facility; and (ii) whose long-term debt obligations or claims-paying ability (as appropriate) are rated, at the time the Credit Facility or Reserve Credit Facility is issued, in one of the two highest rating categories by a Rating Agency that has issued a rating on Outstanding Bonds. Under rating systems in effect on the date of this Master Declaration, a rating in one of the two highest rating categories by a Rating Agency would be a rating of “AA-/Aa3” or better.

“Debt Service Account” means the Debt Service Account described in Section 5.2 of this Master Declaration.

“District” means the Tualatin Valley Water District in Washington County, Oregon, a municipal corporation of the State of Oregon.

“District Board” means the Board of Commissioners of the District.

“District Official” means the Chief Financial Official of the District, or then-comparable position at the District, or the employees of the District designated by the District’s Executive Officer or Board of Directors to act on behalf of the District under this Master Declaration.

“DTC” means The Depository Trust Company or any other qualified securities depository designated by the District as its successor.

“Estimated Debt Service Requirement” means the schedule of principal and interest payments for a hypothetical Series of Bonds that refunds a Balloon Payment, that is prepared by the District Official and that meets the requirements of Section 6.4.

“Event of Default” means any event specified in 11.2 of this Master Declaration.

“Fiscal Year” means the period beginning on July 1 of each year and ending on the next succeeding June 30, or as otherwise defined by State law.

“Fitch” means Fitch Investors Service, Inc., its successors and assigns.

“Fund” or “Account” refers to any fund, account, or other accounting concept that permits the District to account accurately for amounts that are credited to it under this Master Declaration. A “Fund” in this Master Declaration does not need to appear as a “fund” in the District’s budget and an “Account” in this Master Declaration does not need to appear as an “account” in the District’s budget.

“Government Obligations” means (a) direct, noncallable obligations of the United States of America (including obligations issued or held in book-entry form on the books of the Department of the Treasury and principal-only and interest-only strips that are issued by the U.S. Treasury);

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or (b) noncallable obligations the principal of and interest on which are secured by the full faith and credit of the United States of America or are unconditionally guaranteed by the United States of America.

“Gross Revenues” means all fees and charges and other revenues that are properly accrued under generally accepted accounting principles as revenues of the Water System, including System Development Charges, revenues from product sales, wholesale water delivery, and fees for other services provided, and interest earnings on Gross Revenues in the Water Fund. Gross Revenues shall be increased by any withdrawals from the Rate Stabilization Account as provided in Section 5.5.B, and shall be reduced by any deposits to the Rate Stabilization Account as provided in Section 5.5.A. However, the term “Gross Revenues” shall not include:

- (a) The interest income or other earnings derived from the investment of any escrow fund established for the defeasance or refunding of outstanding indebtedness of the District;
- (b) Any gifts, grants, donations or other amounts received by the District from any State or Federal Agency or other person if such amounts are restricted by law or the grantor to uses inconsistent with the payment of Bonds;
- (c) The proceeds of any borrowing;
- (d) The proceeds of any liability or other insurance (excluding business interruption insurance or other insurance of like nature insuring against the loss of revenues);
- (e) The proceeds of any casualty insurance which the District intends to utilize for repair or replacement of the Water System;
- (f) The proceeds derived from the sales of assets pursuant to Section 10.9 of this Master Declaration;
- (g) Any ad valorem or other taxes imposed by the District (except charges or payments for Water System services which become “taxes” within the meaning of Article XI, Section 11b of the Oregon Constitution only because they are imposed on property or property owners);
- (h) Any income, fees, charges, receipts, profits or other amounts derived by the District from its ownership or operation of any Separate Utility System;
- (i) Installment payments of District line and branch charges, connection fees, or local improvement district assessments that have been pledged as security for a borrowing other than a Bond;
- (j) The proceeds of any fees or charges the District collects on behalf of a third party, including the fees currently collected by the District on behalf of the cities of Beaverton, Tigard and Hillsboro; or
- (k) Any federal interest subsidies the District receives for Interest Subsidy Bonds.

“Interest Payment Date” means any date on which Bond interest is scheduled to be paid, and any date on which Bonds are called for redemption/prepayment.

“Interest Subsidy Bonds” means Bonds for which the District is eligible to receive federal interest rate subsidies that are similar to the interest subsidies that were available for Build America Bonds.

“Master Declaration” means this Master Water System Revenue Bond Declaration, including any amendments made pursuant to Section 12.

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“Maximum Annual Bond Debt Service” means the greatest amount of Annual Bond Debt Service that is due in any Fiscal Year, beginning with the Fiscal Year for which the calculation is made, and ending with the last Fiscal Year in which Outstanding Bonds are scheduled to be paid.

“Moody’s” means Moody’s Investors Service, a corporation organized and existing under the laws of the State of Delaware, its successors and their assigns.

“Net Revenues” means the Gross Revenues less the Operating Expenses.

“Operating Expenses” means all costs which are properly treated as expenses of operating and maintaining the Water System under generally accepted accounting principles. However, Operating Expenses do not include:

- (a) Any rebates or penalties paid from Gross Revenues under Section 148 of the Code;
- (b) Payments of judgments against the District and payments for the settlement of litigation;
- (c) Depreciation and amortization of property values or losses, and other non-cash expenses, including non-cash expenses related to pensions and postemployment benefits,;
- (d) All amounts eligible to be treated for accounting purposes as payments for capital expenditures;
- (e) Interest and other debt service payments, paying agent fees, broker-dealer fees and similar charges for the maintenance of borrowings;
- (f) The expenses of owning, operating or maintaining any Separate Utility System;
- (g) Expenditures made from any liability insurance proceeds;
- (h) Expenditures made from any casualty insurance proceeds used to pay for costs of repairing or replacing portions of the Water System;
- (i) Expenditures made from grant funds, regardless of whether such grant funds are dedicated to a specific purpose or available for the general operation, maintenance and repair or replacement of the Water System;
- (j) Extraordinary, non-recurring expenses of the Water System;
- (k) Payments to third parties from the proceeds of any fees or charges the District collects on behalf of such third parties, including the fees currently collected by the District on behalf of the cities of Beaverton, Tigard and Hillsboro; or
- (l) Expenditures allocable to any other funding source which does not constitute Gross Revenues of the Water System.

“Ordinance” means Ordinance No. 01-19 enacted by the District Board on April 17, 2019.

“ORS” means the Oregon Revised Statutes.

“Outstanding” refers to all Bonds except Bonds that have been defeased pursuant to Section 13 of this Master Declaration, paid in full in cash or canceled, and Bonds which have matured and not been presented for payment (provided that sufficient funds to pay those Bonds have been transferred to the Paying Agent).

“Owner” means a registered owner of a Bond.

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“Parity Bond” means the Series 2019 Bond and any obligation that is secured by the Net Revenues on an equal basis with the Bonds and is issued in accordance with Section 7.

“Paying Agent” means the paying agent for the Bonds. The Paying Agent will be appointed when the District enters into publicly offered Bonds.

“Payment Date” means a Principal Payment Date or an Interest Payment Date.

“Permitted Investments” means any investments which the District is permitted to make under the laws of the State.

“Principal Payment Date” means any date on which any Bonds are scheduled to be retired, whether by virtue of their maturity or by mandatory sinking fund redemption/prepayment prior to maturity, and the redemption/prepayment date of any Bonds which have been called for redemption/prepayment.

“Qualified Consultant” means an independent engineer, an independent auditor, an independent financial advisor, or similar independent professional consultant of recognized standing and having experience and expertise in the area for which such person or firm is retained by the District for purposes of performing activities specified in this Master Declaration or any Supplemental Declaration.

“Rate Stabilization Account” means the Rate Stabilization Account established in the Water Fund pursuant to Section 5.5.

“Rating Agency” means Fitch, Moody’s, S&P, or any other nationally recognized financial rating Agency which has rated Outstanding Bonds or a Credit Facility at the request of the District.

“Record Date” means for a series of publicly offered Bonds the date that is established in the proceedings related to that series.

“Reserve Credit Facility” means any arrangement in which the District pays a fee in exchange for an agreement of a Credit Provider to advance money to the District in the future that the District will use in lieu of using cash or Permitted Investments credited to a subaccount in the Bond Reserve Account. “Reserve Credit Facility” does not include guaranteed investment contracts, master repurchase agreements and similar Permitted Investments.

“Reserve Credit Facility Rating” means a long-term debt, financial strength or claims-paying ability rating assigned by a Rating Agency to: (a) a provider of a Reserve Credit Facility, or (b) to any reinsurer of the obligations of a provider of a Reserve Credit Facility.

“Reserve Requirement” means a set of rules for funding a subaccount in the Bond Reserve Account. Each Reserve Requirement shall indicate the amount that is required to be credited to the subaccount, the dates by which that amount must be credited to the subaccount, and the requirements for restoring amounts to the subaccount if amounts are withdrawn to pay Bonds that are secured by the subaccount. The Series 2019 Bond is not secured by the Bond Reserve Account or any subaccount therein.

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“S&P” means S&P Global Ratings, a corporation organized and existing under the laws of the State of New York, its successors and their assigns.

“Separate Utility System” means any utility property which is declared by the District to constitute a system which is distinct from the Water System in accordance with Section 9.

“Series” refers to all Bonds authorized by a single ordinance or declaration and delivered in exchange for payment on the same date, regardless of variations in maturity, interest rate or other provisions, unless the closing documents for the Series provide otherwise.

“Series 2019 Bond” means the District’s Water Revenue Bond, Series 2019 issued pursuant to Section 17 of this Master Declaration.

“State” means the State of Oregon.

“Subordinate Obligations” means obligations having a lien on the Net Revenues which is subordinate to the lien of the Bonds. Restrictions on Subordinate Obligations are described in Section 8. On the date of this Master Declaration, the District has no borrowings outstanding with a subordinate lien on the Net Revenues.

“Subordinate Obligations Account” means the Subordinate Obligations Account of the Water Fund which is described in Section 5.4.

“Supplemental Declaration” means any declaration, resolution or other document which supplements or amends this Master Declaration, entered into by the District in compliance with Section 12.

“System Development Charges” means the fees on development imposed by the District pursuant to ORS Chapter 223 or subsequent statutes and which are legally permitted to be used to pay the Bonds.

“Tax Maximum” means, for any Series of Bonds, the least of: the greatest amount of principal, interest and premium, if any, required to be paid in any Fiscal Year on such Series; 125% of average amount of principal, interest and premium, if any, required to be paid on such Series during all Fiscal Years in which such Series will be Outstanding, calculated as of the date of issuance of such Series; or, ten percent of the proceeds of such Series, as “proceeds” is defined for purposes of Section 148(d) of the Code.

“Valuation Date” means the date or dates on which a subaccount of the Bond Reserve Account shall be valued as prescribed in the Supplemental Declaration authorizing the establishment of such subaccount.

“Water Fund” means the collection of funds and accounts used by the District to hold the Gross Revenues and the proceeds of Bonds.

“Water System” means all utility property now or hereafter used by the District to supply water within or without the corporate limits of the District, except property described in the following

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sentence. The Water System does not include any Separate Utility System or the Willamette Water Supply System, the Willamette Intake Facilities Commission, the Willamette River Water Coalition and other joint ventures which the District may enter into after the date of this Master Declaration unless the District Official declares in writing in a publicly available document that such joint venture is included in the definition of the Water System.

Section 3. Rules of Construction.

In determining the meaning of the provisions of this Master Declaration, the following rules shall apply unless the context clearly requires application of a different meaning:

- A. References to section numbers shall be construed as references to sections of this Master Declaration.
- B. References to one gender shall include all genders.
- C. References to the singular include the plural, and references to the plural include the singular.

Section 4. Deposit, Pledge and Use of Gross Revenues.

- 4.1. All Gross Revenues shall be deposited to and maintained in the Water Fund, and shall be used only as described in this Section as long as any Bonds remain Outstanding. The District shall apply Gross Revenues in the Water Fund on or before the following dates for the following purposes in the following order of priority:
 - A. At any time to pay Operating Expenses which are then due;
 - B. At least one Business Day prior to each Payment Date, to transfer Net Revenues to the Debt Service Account in an amount sufficient (with amounts available in the Debt Service Account) to pay in full all Bond principal, interest and premium, if any, which is due to be paid on that Payment Date;
 - C. On the Closing date for a Series of Bonds and on the first day of the month following a Valuation Date for any subaccount in the Bond Reserve Account, if the balance in any subaccount of the Bond Reserve Account is determined to be less than the applicable Reserve Requirement, to transfer Net Revenues to the Bond Reserve Account in the amounts required by the provisions creating the subaccounts in the Bond Reserve Account until the balances in all subaccounts of the Bond Reserve Account are equal to their Reserve Requirement;
 - D. On the day on which any rebates or penalties for Bonds are due to be paid to the United States pursuant to Section 148 of the Code, an amount of Net Revenues that is sufficient, with other available funds, to pay the amounts due to the United States;

- E. On the dates specified in any proceedings authorizing Subordinate Obligations, the District shall transfer to the Subordinate Obligations Account the Net Revenues required by those proceedings; and,
 - F. On any date, the District may transfer Gross Revenues to the Rate Stabilization Account or spend Net Revenues for any other lawful purpose relating to the Water System or to providing water, but only if all deposits and payments that are required to be made on or before that date and that have a higher priority under this Section have been made.
- 4.2. The District hereby pledges the Net Revenues and federal interest subsidies the District receives for Interest Subsidy Bonds to the payment of principal of, premium, if any, and interest on all Bonds. Pursuant to ORS 287A.310, these pledges made by the District shall be valid and binding from the Closing of the Series 2019 Bond. The Net Revenues and federal interest subsidies so pledged and hereafter received by the District shall immediately be subject to the lien of such pledges without any physical delivery or further act. The lien of these pledges shall be superior to all other claims and liens except liens and claims for the payment of Operating Expenses. The District covenants and agrees to take such action as is necessary from time to time to perfect or otherwise preserve the priority of the pledges.
- 4.3. If a Reserve Credit Facility is permitted to fund a subaccount in the Bond Reserve Account, the District may pledge the Net Revenues available for transfer to that subaccount of the Bond Reserve Account to pay amounts due under any Reserve Credit Facility securing that subaccount.

Section 5. Bond Funds and Accounts.

- 5.1. So long as Bonds are Outstanding, the District shall maintain the Debt Service Account as a discrete account in the Water Fund.
- 5.2. **Debt Service Account.** The District shall hold the Debt Service Account. Until all Bonds are paid or defeased, amounts in the Debt Service Account shall be used only to pay Bonds.
 - A. After the transfer described in Section 4.1.B, if the balance in the Debt Service Account is less than the amount of Bond principal, premium, if any, and interest that is due on that Payment Date, the District shall credit to the Debt Service Account an amount equal to the deficiency from any Net Revenues in the Subordinate Obligations Account.
 - B. If, after the credit described in Section 5.2.A, the amounts available to pay Debt Service Account is not sufficient to pay all amounts due on the Payment Date, the District shall allocate the available amounts:
 - (i) First, to pay Bond interest, and pro rata based on the amount due on Bonds if the available amount is not sufficient to pay all Bond interest that is due on that Payment Date; and,

(ii) Second, to pay Bond principal and premium that is due on that Payment Date, and pro rata based on the amount of principal and premium due on each Bond if the available amount is not sufficient to pay all Bond principal and premium that is due on that Payment Date.

- C. If, after the allocation described in Section 5.2.B, there is not enough to pay all principal, interest and premium allocated to pay Bonds that are secured by a subaccount in the Bond Reserve Account, the District shall apply any amounts available in the subaccounts in the Bond Reserve Account, but only to pay the principal, interest and premium on the Bonds that are secured by those subaccounts.
- D. The District shall transfer sufficient amounts from the Debt Service Account in time to permit payment of all Bond principal, interest and premium, if any, when due in accordance with the Bonds.
- E. Amounts in the Debt Service Account shall be invested only in Permitted Investments. Earnings on the Debt Service Account shall be credited to the Water Fund.

5.3. **Bond Reserve Account.**

- A. If the District determines to secure Bonds with the Bond Reserve Account and so long as those Bonds are Outstanding, the District shall maintain the Bond Reserve Account as a discrete account in the Water Fund held by the District. The District may create one or more subaccounts in the Bond Reserve Account to secure Series of Bonds and covenant to make deposits into any subaccounts it creates; however, the District is not obligated to create any subaccounts in the Bond Reserve Account, and is not obligated to secure any Series of Bonds with a subaccount in the Bond Reserve Account.
- B. When a subaccount in the Bond Reserve Account is created, the District shall determine whether the subaccount will secure one or more Series of Bonds. If the District creates a subaccount in the Bond Reserve Account, the District shall, when it issues the first Series of Bonds that is secured by that subaccount: a) establish the Reserve Requirement for that subaccount; b) pledge amounts credited to that subaccount to pay the Bonds that are secured by that subaccount; and c) determine if the Reserve Requirement for that subaccount may be funded with Reserve Credit Facilities and the requirements for those Reserve Credit Facilities, and the valuation and replenishment provisions that apply to that subaccount.
- C. The District shall not create any subaccounts in the Bond Reserve Account for any purpose except securing Bonds in accordance with this Master Declaration.
- D. The Series 2019 Bond is not secured by the Bond Reserve Account or any subaccount therein.

- 5.4. **Subordinate Obligations Account.** The District shall create and maintain the Subordinate Obligations Account in the Water Fund as long as Subordinate Obligations are Outstanding. The Subordinate Obligations Account may be divided into subaccounts,

and the District may establish priorities for funding the subaccounts in the Subordinate Obligations Subaccount. Net Revenues shall be deposited into the Subordinate Obligations Account only as permitted by Section 4.1.E. Earnings on the Subordinate Obligations Account shall be credited as provided in the proceedings authorizing the Subordinate Obligations.

- 5.5. **Rate Stabilization Account.** The District may create a Rate Stabilization Account in the Water Fund and if created will maintain that account as long as Bonds are Outstanding. Net Revenues may be transferred to the Rate Stabilization Account at the option of the District as permitted by Section 4.1.F. Money in the Rate Stabilization Account may be withdrawn at any time and used for any purpose for which the Gross Revenues may be used.
- A. Deposits to the Rate Stabilization Account decrease Gross Revenues in the Fiscal Year for which the deposit is made.
 - B. Withdrawals from the Rate Stabilization Account increase Gross Revenues in the Fiscal Year for which the withdrawal is made.
 - C. The District may adjust deposits to and withdrawals from the Rate Stabilization Account for a Fiscal Year up until 180 days after the end of that Fiscal Year.
 - D. Earnings on the Rate Stabilization Account shall be credited to the Water Fund.

Section 6. Rate Covenant; Calculations Relating to Balloon Payments and Interest Subsidy Bonds.

- 6.1. The District covenants for the benefit of the Owners that it will establish and maintain rates and charges in connection with the operation of the Water System which are sufficient to permit the District to pay all Operating Expenses and all lawful charges against the Net Revenues, and to make all transfers required by this Master Declaration to the Debt Service Account, the Bond Reserve Account and the Subordinate Obligations Account.
- 6.2. The District covenants for the benefit of the Owners of all Bonds that it shall charge rates and fees in connection with the operation of the Water System which, when combined with other Gross Revenues are adequate to generate:
 - A. Coverage Revenues each Fiscal Year at least equal to one hundred fifteen percent (115%) of Annual Bond Debt Service due in that Fiscal Year; and,
 - B. Net Revenues each Fiscal Year at least equal to one hundred twenty-five percent (125%) of Annual Bond Debt Service due in that Fiscal Year.
- 6.3. Not later than six months after the end of each Fiscal Year, the District shall prepare a report that demonstrates whether the District has complied with Section 6.2 during that Fiscal Year and shall file that report in the District records. If the report demonstrates

that the District has not complied with Section 6.2 during that Fiscal Year, it shall not constitute a default under this Master Declaration if, within thirty (30) days after the report is filed, the District files a certificate of a District Official that specifies the actions that the District has taken and will take within the next ninety (90) days to permit the District to comply with Section 6.2 for the remainder of the Fiscal Year in which the report is filed, and for the succeeding Fiscal Year, and the District takes the actions specified by the District Official, or actions having a comparable effect.

- 6.4. The Estimated Debt Service Requirement for Balloon Payments shall be calculated in accordance with this Section 6.4.
- A. For the Rate Covenants: For each Balloon Payment that is Outstanding on May 1 of any Fiscal Year, the District Official shall prepare a schedule of principal and interest payments for a hypothetical Series of Bonds that refunds that Balloon Payment in accordance with Section 6.4.D. The District Official shall prepare that schedule as of that first day of May, and that schedule shall be used to determine compliance with the rate covenant in Section 6.2 for the following Fiscal Year.
- B. For Parity Bonds: Whenever a Balloon Payment will be Outstanding on the date a Series of Parity Bonds is issued, the District Official shall prepare a schedule of principal and interest payments for a hypothetical Series of Bonds that refunds each Outstanding Balloon Payment in accordance with Section 6.4.D. The District Official shall prepare that schedule as of the date the Parity Bonds are sold, and that schedule shall be used to determine compliance with the tests for Parity Bonds in Section 7.1.
- C. For the Reserve Requirement: Whenever a Series of Bonds that contains a Balloon Payment is issued, the District Official shall prepare a schedule of principal and interest payments for a hypothetical Series of Bonds that refunds each Balloon Payment in that Series in accordance with Section 6.4.D. The District Official shall prepare that schedule as of the date the Series is sold, and that schedule shall be combined with the schedule for payment of any debt service on Bonds that are secured by the same subaccount, and that combined schedule shall be used to determine the Reserve Requirement as long as that Series is Outstanding.
- D. Each hypothetical Series of refunding Bonds shall be assumed to be paid in equal annual installments of principal and interest that are sufficient to amortize the principal amount of the Balloon Payment over the term selected by the District Official; however, the District Official shall not select a term that exceeds the lesser of: 30 years from the date the Balloon Payment is originally scheduled to be paid; or, the District's estimate of the remaining weighted average useful life (expressed in years and rounded to the next highest integer) of the assets which are financed with the Balloon Payment. The annual installments shall be assumed to be due on the anniversaries of the date the Balloon Payment is originally scheduled to be paid, with the first installment due on the first anniversary of the date the Balloon Payment is scheduled to be paid. Each installment shall be assumed to bear interest at a rate that is estimated by the District from the Bond Buyer Revenue Bond Index (or if the Bond Buyer Revenue Bond Index is not available, a

reasonably comparable index selected by the District) for a revenue bond with a term that is equal to the term of the installment. When the District prepares a schedule described in Section 6.4.A, Section 6.4.B or Section 6.4.C, the District shall use the index that is available to the District on the date the District is required to prepare that schedule.

- 6.5. Interest Subsidy Bonds. The amounts assumed to be paid on Interest Subsidy Bonds shall be calculated as follows:
- A. When calculating Annual Bond Debt Service for the rate covenant in Section 6.2, the District shall subtract from interest to be paid on Interest Subsidy Bonds the federal interest subsidies on Interest Subsidy Bonds that the District reasonably expects, at the beginning of the Fiscal Year, to receive during that Fiscal Year.
 - B. When calculating Annual Bond Debt Service and Maximum Annual Bond Debt Service for the tests for issuing Parity Bonds in Section 7, the District shall subtract from the scheduled payments of interest on Interest Subsidy Bonds the amount of federal interest subsidies that the District reasonably expects, at the time the Parity Bonds are issued, to receive.
 - C. When calculating the greatest amount of principal, interest and premium, if any, required to be paid in any Fiscal Year on a Series of Interest Subsidy Bonds to determine the Tax Maximum for Interest Subsidy Bonds that are secured by a subaccount in the Bond Reserve Account, the District shall subtract from the scheduled payments of interest on Interest Subsidy Bonds the federal interest subsidies that the District reasonably expects, at the time the Series of Interest Subsidy Bonds is issued, to be paid to the District for the Series of Interest Subsidy Bonds. The District shall not be required to increase the amount the District is required to hold in a subaccount in the Bond Reserve Account if federal interest subsidies are not paid when or in the amounts expected. However, if the District reduces the amount it holds in a subaccount of the Bond Reserve Account because Bonds secured by that subaccount have been paid, the District must take into account its reasonable expectations of the amount of federal interest subsidies it expects to receive at the time of reduction in determining the amount that the District must retain in a subaccount of the Bond Reserve Account.

Section 7. Parity Bonds.

- 7.1. The District may issue Parity Bonds to provide funds for any purpose relating to the Water System or to providing water, but only if:
- A. No Event of Default under this Master Declaration or any Supplemental Declaration has occurred and is continuing;
 - B. At the time of the issuance of the Parity Bonds there is no deficiency in the Debt Service Account and all required deposits to all subaccounts in the Bond Reserve Account have been made;
 - C. There shall have been filed with the District either:

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- (i) A certificate of the District Official stating that both:
 - (a) Coverage Revenues (adjusted as provided in Section 7.2) for the Base Period were not less than one hundred fifteen percent (115%) of Maximum Annual Bond Debt Service on all then Outstanding Bonds, calculated as of the date the Parity Bonds are issued and with the proposed Parity Bonds treated as Outstanding; and
 - (b) Net Revenues (adjusted as provided in Section 7.2) for the Base Period were not less than one hundred twenty five percent (125%) of Maximum Annual Bond Debt Service on all then Outstanding Bonds, calculated as of the date the Parity Bonds are issued and with the proposed Parity Bonds treated as Outstanding; or
- (ii) A certificate or opinion of a Qualified Consultant:
 - (a) Stating the amount of the Adjusted Coverage Revenues and the Adjusted Net Revenues for each of the five Fiscal Years after the last Fiscal Year for which interest on the Parity Bonds is, or is expected to be, capitalized, or, if interest will not be capitalized, for each of the five Fiscal Years after the proposed Parity Bonds are issued; and
 - (b) Concluding that the respective amounts of Adjusted Coverage Revenues in each of the first four Fiscal Years described in Section 7.1.C(ii)(a) are at least equal to one hundred fifteen percent (115%) of the Annual Bond Debt Service for each of those respective Fiscal Years on all Outstanding Bonds, with the proposed Parity Bonds treated as Outstanding; and,
 - (c) Concluding that the respective amounts of Adjusted Net Revenues in each of the first four Fiscal Years described in Section 7.1.C(ii)(a) are at least equal to one hundred twenty-five percent(125%) of the Annual Bond Debt Service for each of those respective Fiscal Years on all Outstanding Bonds, with the proposed Parity Bonds treated as Outstanding; and,
 - (d) Concluding that the amount of Adjusted Coverage Revenues in the fifth Fiscal Year described in Section 7.1.C(ii)(a) is at least equal to one hundred fifteen percent (115%) of the Maximum Annual Bond Debt Service, calculated for the period beginning with that fifth Fiscal Year on all then Outstanding Bonds, with the proposed Parity Bonds treated as Outstanding; and,
 - (e) Concluding that the amount of Adjusted Net Revenues in the fifth Fiscal Year described in Section 7.1.C(ii)(a) is at least equal to one hundred twenty-five percent (125%) of the Maximum Annual Bond Debt Service, calculated for the period beginning with that fifth Fiscal Year on all then

Outstanding Bonds, with the proposed Parity Bonds treated as Outstanding.

- 7.2. The District may adjust Coverage Revenues and Net Revenues for purposes of Section 7.1.C(i) by adding any Coverage Revenues or Net Revenues the District Official calculates the District would have had during the Base Period because of increases in Water System rates, fees and charges which have been adopted by the District and are in effect on or before the date the Parity Bonds are issued. The District shall adjust Coverage Revenues and Net Revenues for the Base Period by eliminating the effect of any withdrawals from or deposits to the Rate Stabilization Account.
- 7.3. The Qualified Consultant shall calculate Adjusted Net Revenues and Adjusted Coverage Revenues for purposes of Section 7.1.C(ii) as provided in this Section 7.3:
- A. The District shall provide the Qualified Consultant with the following information:
- (i) The Base Period, the Coverage Revenues and Net Revenues for the Base Period and the amounts of any withdrawals from or deposits to the Rate Stabilization Account for Fiscal Years that are included in the Base Period;
 - (ii) Information regarding any Water System utility properties that are being acquired with Parity Bonds and that have an earnings record;
 - (iii) Any changes in rates and charges which have been adopted by the District since the beginning of the Base Period and the dates on which they are scheduled to take effect;
 - (iv) Any changes in customers since the beginning of the Base Period; and,
 - (v) A description of any extensions or additions to the Water System that were in the process of construction at the beginning of the Base Period or commenced construction after the beginning of the Base Period, the expected date of completion of those extensions or additions, the estimated operating and capital costs of those extensions or additions, and any other changes to the Gross Revenues or Operating Expenses that the District reasonably expects to result from the completion and operation of those extensions or additions.
- B. Using the information provided by the District pursuant to Section 7.3.A and any additional information the Qualified Consultant determines is necessary, the Qualified Consultant shall adjust the Coverage Revenues and Net Revenues for the Base Period to eliminate the effect of any withdrawals from or deposits to the Rate Stabilization Account in the manner described in Section 7.2 and may adjust the Coverage Revenues and Net Revenues for the Base Period:
- (i) To reflect any changes that the Qualified Consultant projects will result from the acquisition of Water System utility properties that are being financed with the Parity Bonds and that have an earnings record;

- (ii) To reflect any changes in rates and charges which have been adopted by the District and which are scheduled to take effect during the period described in Section 7.1.C(ii)(a), or which increase rates and charges for inflation at a level which the Qualified Consultant determines is reasonable;
 - (iii) To reflect any changes in customers of the Water System that occurred after the beginning of the Base Period and prior to the date of the Qualified Consultant's certificate; and
 - (iv) To reflect any changes to Coverage Revenues or Net Revenues not included in the preceding paragraphs that are projected to result from the completion and operation of additions and extensions to the Water System that were under construction at the beginning of the Base Period, or commenced construction after the beginning of the Base Period.
- 7.4. The District may issue Parity Bonds to refund Outstanding Bonds without complying with Section 7.1 if the refunded Bonds are legally or economically defeased on the date of delivery of the refunding Parity Bonds and if the Annual Bond Debt Service on the refunding Parity Bonds does not exceed the Annual Bond Debt Service on the refunded Bonds in any Fiscal Year by more than \$5,000.
- 7.5. Bonds shall be treated as "legally defeased" for purposes of Section 7.4 if they are defeased as provided in Section 13. Bonds shall be treated as "economically defeased" for purposes of Section 7.4 if they have been irrevocably called for redemption/prepayment within one year after the date on which the refunding Bonds are issued, and the District has irrevocably deposited money or Government Obligations with the paying agent or Owner for the refunded Bonds, as applicable, or in escrow with an independent trustee or escrow agent, and the money and any amounts to be received from the Government Obligations have been calculated to be sufficient, without reinvestment, to pay the Bonds that are economically defeased.
- 7.6. All Parity Bonds issued in accordance with this Section 7 shall have a lien on the Net Revenues which is equal to the lien of all other Outstanding Bonds.

Section 8. Subordinate Obligations.

The District may issue Subordinate Obligations only if:

- 8.1. The Subordinate Obligations are payable solely from amounts permitted to be deposited in the Subordinate Obligations Account pursuant to Section 4.1.E;
- 8.2. The Subordinate Obligations state clearly that they are secured by a lien on or pledge of the Net Revenues which is subordinate to the lien on, and pledge of, the Net Revenues for the Bonds.

Section 9. Separate Utility System.

The District may declare property which the District owns and is part of the Water System (but has a value of less than five percent of the Water System at the time of the declaration), and property which the District has not yet acquired but would otherwise become part of the Water System, to be part of a Separate Utility System. The District may pay costs of acquiring, operating and maintaining Separate Utility Systems from Net Revenues, but only if there is no deficit in the Debt Service Account or the Bond Reserve Account. The District may issue obligations which are secured by the revenues produced by the Separate Utility System, and may pledge the Separate Utility System revenues to pay those obligations. In addition, the District may issue Subordinate Obligations to pay for costs of a Separate Utility System, and may pledge the revenues of the Separate Utility System to pay the Subordinate Obligations.

Section 10. General Covenants.

The District hereby covenants and agrees with the Owners of all Outstanding Bonds as follows:

- 10.1. The District shall promptly cause the principal, premium, if any, and interest on the Bonds to be paid as they become due in accordance with the provisions of this Master Declaration and any Supplemental Declaration.
- 10.2. The District shall maintain complete books and records relating to the operation of the Water System and all District funds and accounts in accordance with generally accepted accounting principles, shall cause such books and records to be audited annually at the end of each Fiscal Year, and shall have an audit report prepared by the Auditor and made available for the inspection of Owners.
- 10.3. The District shall not issue obligations which have a lien on the Net Revenues that is superior to the lien of the Bonds except for obligations to pay Operating Expenses.
- 10.4. The District shall promptly deposit the Gross Revenues and other amounts described in this Master Declaration into the funds and accounts specified in this Master Declaration.
- 10.5. The District shall work in good faith to cause the Water System to be operated at all times in a safe, sound, efficient and economic manner in compliance with all health, safety and environmental laws, regulatory body rules, regulatory body orders and court orders applicable to the District's operation and ownership of the Water System.
- 10.6. The District shall maintain the Water System in good repair, working order and condition.
- 10.7. The District shall not enter into any new agreements or arrangements or make any new offers to provide Water System products or services at a discount from published rate schedules or provide free Water System products or services except: a) for District-owned facilities, b) in case of emergencies, c) where the District exchanges services with other water systems, or d) where in the reasonable judgment of the District such action does not materially reduce the Gross Revenues received by the District.

- 10.8. The District shall at all times maintain with responsible insurers all such insurance on the Water System as is customarily maintained with respect to works and properties of like character against accident to, loss of or damage to such works or properties.
- A. The net proceeds of insurance against material accident to or material destruction of the Water System shall be used to repair or rebuild the damaged or destroyed Water System, and to the extent not so applied, will be applied to the payment or redemption/prepayment of the Bonds.
- B. The insurance described in Section 10.8 shall be in the form of policies or contracts for insurance with insurers of good standing and shall be payable to the District, or in the form of self-insurance by the District. The District shall establish such fund or funds or reserves which it deems are necessary to provide for its share of any such self-insurance.
- 10.9. The District shall not voluntarily, nor shall it permit others to, sell, mortgage or otherwise permanently dispose of all or any portion of the Water System except:
- A. The District may dispose of all or substantially all of the Water System, only if the District pays all Bonds or defeases them pursuant to Section 13.
- B. Except as provided in Section 10.9.C or 10.9.D, the District will not voluntarily dispose of any part of the Water System in excess of 10% of the value of the Water System in service unless prior to such disposition either:
- (i) There has been filed with the District a certificate of a Qualified Consultant or District Official stating that such disposition will not impair the ability of the District to comply with the rate covenants contained in Sections 6.1 and 6.2 of this Master Declaration; or
- (ii) Provision is made for the payment, redemption/prepayment or other defeasance of a principal amount of Bonds equal to the greater of the following amounts:
- (a) An amount which will be in the same proportion to the net principal amount of Bonds then Outstanding (defined as the total principal amount of Bonds then Outstanding less the amount of cash and investments in the Debt Service Account, the Bond Reserve Account, and the Subordinate Obligations Account) that the Gross Revenues attributable to the part of the Water System sold or disposed of for the 12 preceding months bears to the total Gross Revenues for such period; or
- (b) An amount which will be in the same proportion to the net principal amount of Bonds then Outstanding that the book value of the part of the Water System sold or disposed of bears to the book value of the Water System immediately prior to such sale or disposition.

- C. The District may dispose of any portion of the Water System that has become unserviceable, inadequate, obsolete, or unfit to be used or no longer necessary for use in the operation of the Water System.
- D. If the ownership of all or part of the Water System is transferred from the District through the operation of law, the District shall to the extent authorized by law, reconstruct or replace such transferred portion using any proceeds of the transfer unless the District reasonably determines that such reconstruction or replacement is not in the best interest of the District and the Owners, in which case any proceeds shall be used for the payment, redemption/prepayment or defeasance of the Bonds.

Section 11. Events of Default and Remedies.

- 11.1. **Continuous Operation Essential.** District Official hereby finds and determines that the continuous operation of the Water System and the collection, deposit and disbursement of the Net Revenues in the manner provided in this Master Declaration and in any Supplemental Declaration are essential to the payment and security of the Bonds, and the failure or refusal of the District to perform the covenants and obligations contained in this Master Declaration or any such Supplemental Declaration will endanger the necessary continuous operation of the Water System and the application of the Net Revenues to the operation of the Water System and the payment of the Bonds.
- 11.2. **Events of Default.** The following shall constitute “Events of Default” so long as they are occurring and have not been cured in accordance with the terms of this Master Declaration:
 - A. If the District shall fail to pay any Bond principal or interest when due.
 - B. Except as provided in Section 11.3, if the District shall default in the observance and performance of any other of its covenants, conditions and agreements in this Master Declaration and the default continues for ninety (90) days after the District receives a written notice, specifying the Event of Default and demanding the cure of such default, from a Credit Provider or from the Owners of not less than 25% in aggregate principal amount of the Bonds Outstanding.
 - C. If the District shall sell, mortgage or otherwise permanently dispose of all or any portion of the Water System in violation of Section 10.9.
 - D. If an order, judgment or decree shall be entered by any court of competent jurisdiction:
 - (i) Appointing a receiver, trustee or liquidator for the District or the whole or any part of the Water System;
 - (ii) Approving a petition filed against the District seeking the bankruptcy, arrangement or reorganization of the District under any applicable law of the United States or the State; or

- (iii) Assuming custody or control of the District or of the whole or any part of the Water System under the provisions of any other law for the relief or aid of debtors and such order, judgment or decree shall not be vacated or set aside or stayed (or, in case custody or control is assumed by said order, such custody or control shall not be otherwise terminated) within sixty (60) days from the date of the entry of such order, judgment or decree.

E. If the District shall:

- (i) Admit in writing its inability to pay its debts generally as they become due;
- (ii) File a petition in bankruptcy or seeking a composition of indebtedness under any state or federal bankruptcy or insolvency law;
- (iii) Consent to the appointment of a receiver of the whole or any part of the Water System; or
- (iv) Consent to the assumption by any court of competent jurisdiction under the provisions of any other law for the relief or aid of debtors of custody or control of the District or of the whole or any part of the Water System.

11.3. **Exception.** It shall not constitute an Event of Default under 11.2.B if the default cannot practicably be remedied within ninety (90) days after the District receives notice of the default, so long as the District promptly commences reasonable action to remedy the default after the notice is received, and continues reasonable action to remedy the default until the default is remedied.

11.4. **Remedies.** If an Event of Default occurs, any Owner may exercise any remedy available at law or in equity including mandamus where applicable. However, the Bonds shall not be subject to acceleration.

A. Books of District Open to Inspection.

- (i) The District covenants that if an Event of Default shall have happened and shall not have been remedied, the books of record and account of the District and all other records relating to the Water System shall at all reasonable times be subject to the inspection and use of any persons holding at least twenty percent (20%) of the principal amount of Outstanding Bonds and their respective agents and attorneys.
- (ii) The District covenants that if the Event of Default shall happen and shall not have been remedied, the District will continue to account, as a trustee of an express trust, for all Net Revenues and other amounts, securities and funds pledged under this Master Declaration.

B. Appointment of Trustee. Whenever any Event of Default exists, Owners representing 51 percent or more of the Outstanding Bonds may appoint a commercial bank or other

financial institution with a reported capital and surplus in excess of \$50 million as trustee (the "Trustee") to represent the interests of the Owners.

11.5. Trustee Duties Upon Default.

- A. Upon the occurrence of an Event of Default the Trustee may pursue any other available remedy at law or in equity to enforce the payment of the principal of, premium, if any, and interest on the outstanding Bonds, and to enforce any rights of the Trustee under or with respect to the Master Declaration.
- B. In addition, upon the occurrence of an Event of Default, and upon the filing of a suit or other commencement of judicial proceedings to enforce the rights of the Trustee and of the Owners under the Master Declaration, the Trustee will be entitled, as a matter of right to the fullest extent permitted by Oregon law, to the appointment of a receiver or receivers of the Net Revenues and other amounts pledged under the Master Declaration, pending such proceedings, with such powers as the court making such appointment may confer.
- C. If an Event of Default has occurred and is continuing and if requested so to do by the Owners of at least 25% in aggregate principal amount of Outstanding Bonds and indemnified as provided in the Master Declaration, the Trustee will be obligated to exercise any of the rights and powers conferred by this Master Declaration, as the Trustee, being advised by counsel, deems most expedient in the interest of the Owners.
- D. If a Trustee has been appointed pursuant to 11.4.B, no Owner of any Bond shall have the right to institute any suit, action or proceeding at law or in equity, for any remedy under the Master Declaration, unless:
 - (i) such Owner has previously given to the Trustee written notice of the occurrence of an Event of Default;
 - (ii) the Owners of a majority in aggregate principal amount of all the Bonds then Outstanding have requested the Trustee in writing to exercise its powers under the Master Declaration;
 - (iii) said Owners have tendered to the Trustee indemnity reasonably acceptable to the Trustee against the costs, expenses and liabilities to be incurred in compliance with such request; and
 - (iv) the Trustee has refused or failed to comply with such request for a period of 60 days after such written request has been received by the Trustee and said tender of indemnity is made to the Trustee.
- E. If the Trustee takes any judicial or other action in an Event of Default the Trustee has full power in its direction with respect to any continuance, discontinuance, withdrawal, compromise, settlement or other disposition of such action, unless opposed by the written request of the Owners of a majority in aggregate principal amount of the Outstanding

Bonds. The Trustee is appointed attorney-in-fact of the Owners for the purpose of bringing any suit action or proceedings in an Event of Default.

F. Waivers of Event of Default.

- (i) No delay or omission of any Owner or of the Trustee to exercise any right or power arising upon the happening of an Event of Default shall impair any right or power or shall be construed to be a waiver of any such Event of Default or to be an acquiescence therein; and every power and remedy given by this Section 11 to the Owners and to the Trustee may be exercised from time to time and as often as may be deemed expedient by the Owners and/or the Trustee as applicable.
- (ii) The owners of not less than fifty percent (50%) in principal amount of the affected Bonds that are at the time Outstanding, or their attorneys-in-fact duly authorized, or the Trustee may, on behalf of the Owners of all of affected Bonds, waive any past default under this Master Declaration with respect to such Bonds and its consequences, except a default in the payment of the principal of, premium, if any, or interest on any of the Bonds. No such waiver shall extend to any subsequent or other default or impair any right consequent thereon.
- (iii) If a default occurs under Section 6 and that default has not become an Event of Default, that default shall be deemed waived at the end of the first Fiscal Year following that default in which the District has complied with Section 6.

11.6. Remedies Granted in Master Declaration Not Exclusive.

No remedy by the terms of this Master Declaration conferred upon or reserved to the Owners is intended to be exclusive of any other remedy, but each and every such remedy shall be cumulative and shall be in addition to every other remedy given under this Master Declaration or existing at law or in equity or by statute on or after the date of adoption of this Master Declaration. However, the Bonds shall not be subject to acceleration.

Section 12. Amendment of Master Declaration.

- 12.1. This Master Declaration may be amended by Supplemental Declaration without the consent of any Owners for any one or more of the following purposes:
 - A. To cure any ambiguity or formal defect or omission in this Master Declaration;
 - B. To add to the covenants and agreements of the District in this Master Declaration, other covenants and agreements to be observed by the District which are not contrary to or inconsistent with this Master Declaration as theretofore in effect;
 - C. To authorize issuance of Bonds or Subordinate Obligations as permitted by this Master Declaration;

- D. To modify, amend or supplement this Master Declaration or any Supplemental Declaration to qualify this Master Declaration under the Trust Indenture Act of 1939, as amended, or any similar federal statute hereafter in effect or to permit the qualification of any Bonds for sale under the securities laws of any of the states of the United States of America;
 - E. To confirm, as further assurance, any security interest or pledge created under this Master Declaration or any Supplemental Declaration;
 - F. To make any change which, in the reasonable judgment of the District, does not materially and adversely affect the rights of the owners of any Outstanding Bonds;
 - G. So long as a Credit Facility (other than a Reserve Credit Facility) is in full force and effect with respect to the Bonds affected by such Supplemental Declaration, to make any other change which is consented to in writing by the issuer of such Credit Facility other than any change which:
 - (i) Would result in a downgrading or withdrawal of the rating then assigned to the affected Bonds by the Rating Agencies;
 - (ii) Changes the maturity (except as permitted herein), the Interest Payment Dates, interest rates, redemption/prepayment and purchase provisions, and provisions regarding notices of redemption/prepayment and purchase applicable to the affected Bonds or diminishes the security afforded by such Credit Facility;
 - (iii) Materially and adversely affects the rights and security afforded to the Owners of any Outstanding Bonds not secured by such Credit Facility; or
 - H. To modify any of the provisions of this Master Declaration or any Supplemental Declaration in any other respect whatever, as long as the modification shall take effect only after all affected Outstanding Bonds cease to be Outstanding.
- 12.2. This Master Declaration may be amended for any other purpose only upon consent of Owners of not less than fifty-one percent (51%) in aggregate principal amount of the Bonds Outstanding; provided, however, that no amendment shall be valid without the consent of Owners of 100 percent (100%) of the aggregate principal amount of the Bonds Outstanding which:
- A. Extends the maturity of any Bond, reduces the rate of interest upon any Bond, extends the time of payment of interest on any Bond, reduces the amount of principal payable on any Bond, or reduces any premium payable on any Bond, without the consent of the affected Owner; or
 - B. Reduces the percent of Owners required to approve Supplemental Declarations.

- 12.3. For purposes of Section 12.2, and subject to Section 12.4, the initial purchaser of a series of Bonds may be treated as the Owner of that Series at the time that series of Bonds is delivered in exchange for payment.
- 12.4. Except as otherwise expressly provided in Section 12.5, Section 12.6 or a Supplemental Declaration, as long as a Credit Facility securing all or a portion of any Outstanding Bonds is in effect, the issuer of such Credit Facility shall be deemed to be the Owner of the Bonds secured by such Credit Facility for the purpose of the execution and delivery of a Supplemental Declaration of any amendment, change or modification of this Master Declaration or the initiation by Owners of any action which under this Master Declaration requires the written approval or consent of or can be initiated by the Owners of at least a majority in principal amount of the affected Bonds at the time Outstanding, or following an Event of Default for all other purposes.
- 12.5. The issuer of a Credit Facility shall not be deemed to be an Owner for purposes of any amendment, change or modification of this Master Declaration which:
- A. Would result in a downgrading or withdrawal of the rating then assigned to the affected Bonds by the Rating Agencies; or
 - B. Changes the maturity (except as expressly permitted herein), the Interest Payment Dates, interest rates, redemption/prepayment and purchase provisions, and provisions regarding notices of redemption/prepayment and purchase applicable to the affected Bonds or diminishes the security afforded by such Credit Facility; or
 - C. Reduces the percentage or otherwise affects the classes of affected Bonds, the consent of the Owners of which is required to effect any such modification or amendment.
- 12.6. No issuer of a Credit Facility shall be entitled to act as an Owner during any period in which:
- A. The issuer's Credit Facility is not in full force and effect;
 - B. The issuer of a Credit Facility shall have filed a petition or otherwise sought relief under any federal or state bankruptcy or similar law;
 - C. The issuer of the Credit Facility shall, for any reason, have failed or refused to honor a proper demand for payment under such Credit Facility; or
 - D. An order or decree shall have been entered, with the consent or acquiescence of the issuer of a Credit Facility, appointing a receiver or receivers or the assets of the issuer of a Credit Facility, or if such order or decree having been entered without the consent or acquiescence of the issuer of a Credit Facility, shall not have been vacated or discharged or stayed within ninety (90) days after the entry thereof.
- 12.7. For purposes of determining the percentage of Owners consenting to, waiving or otherwise acting with respect to any matter that may arise under this Master Declaration,

the Owners of Bonds which pay interest only at maturity, and mature more than one year after they are issued shall be treated as Owners of Bonds in an aggregate principal amount equal to the accreted value of such Bonds as of the date the notice is sent requesting consent, waiver or other action as provided herein.

Section 13. Defeasance.

- 13.1. The District shall be obligated to pay Bonds which are defeased pursuant to this Section solely from the money and Government Obligations deposited with the escrow agent or trustee, and the District shall have no further obligation to pay the defeased Bonds from any source except the amounts deposited in the escrow. Bonds shall be deemed defeased if the District:
- A. Irrevocably deposits money or Government Obligations in escrow with an independent trustee or escrow agent which are calculated to be sufficient without reinvestment for the payment of Bonds which are to be defeased;
 - B. Files with the escrow agent or trustee a certificate from an independent, certified public accountant to the effect that the money and the principal and interest to be received from the Government Obligations are calculated to be sufficient, without further reinvestment, to pay the defeased Bonds when due; and
 - C. Files with the escrow agent or trustee an opinion of nationally recognized bond counsel that the proposed defeasance will not cause interest on the defeased Bonds to be includable in gross income under the Code.

Section 14. BEO System.

- 14.1. Unless otherwise provided by a Supplemental Declaration, all Bonds shall be subject to the BEO System pursuant to the provisions of this Section 14.1.
- 14.2. The Bonds shall be initially issued as a BEO security issue with no Bonds being made available to the Owners upon the execution and delivery of the letter of representations among the Paying Agent, DTC and the District. Ownership of the Bonds shall be recorded through entries on the books of banks and broker-dealer participants and correspondents that are related to entries on the DTC BEO system. The Bonds shall be initially issued in the form of separate single fully registered typewritten Bonds for each maturity of the Bonds (the "Global Bonds"). Each Global Bond shall be registered in the name of CEDE & CO. as nominee (the "Nominee") of DTC (DTC and any other qualified securities depository designated by the District as a successor to DTC, collectively the "Depository") as the "Registered Owner", and such Global Bonds shall be lodged with the Depository until early redemption or maturity of the Bond issue. The Paying Agent shall remit payment for the maturing principal and interest on the Bonds to the Owner for distribution by the Nominee for the benefit of the owners (the "Beneficial Owner" or "Record Owner") by recorded entry on the books of the Depository

participants and correspondents. While the Bonds are in BEO form, the Bonds will be available in denominations of \$5,000 or any integral multiple thereof within a maturity.

- 14.3. In the event the Depository determines not to continue to act as securities depository for the Bonds, or the District determines that the Depository shall no longer so act, then the District will discontinue the BEO system with the Depository. If the District fails to designate another qualified securities depository to replace the Depository or elects to discontinue use of a BEO system, the Bonds shall no longer be a BEO issue but shall be registered in the registration books maintained by the Paying Agent in the name of the Owner as appearing on the Bond register and thereafter in the name or names of the Owners of the Bonds transferring or exchanging Bonds.
- 14.4. While the Bonds are in BEO form, the District and the Paying Agent shall have no responsibility or obligation to any participant or correspondent of the Depository or to any Registered Owner on behalf of which such participants or correspondents act as agent for the Owner with respect to:
 - A. The accuracy of the records of the Depository, the Nominee or any participant or correspondent with respect to any ownership interest in the Bonds;
 - B. The delivery to any participant or correspondent or any other person, other than an Owner as shown in the registration books maintained by the Paying Agent, of any notice with respect to the Bonds, including any notice of redemption/prepayment;
 - C. The selection by the Depository of the beneficial interest in Bonds to be redeemed prior to maturity; or
 - D. The payment to any participant, correspondent, or any other person other than the owner of the Bonds as shown in the registration books maintained by the Paying Agent, of any amount with respect to principal of or interest on the Bonds.
- 14.5. Notwithstanding the BEO system, the District may treat and consider the Owner in whose name each Bond is registered in the registration books maintained by the Paying Agent as the Owner and absolute owner of such Bond for the purpose of payment of principal and interest with respect to such Bond, or for the purpose of giving notices of redemption and other matters with respect to such Bond, or for the purpose of registering transfers with respect to such Bond, or for all other purposes whatsoever. The District shall pay or cause to be paid all principal and interest on the Bonds only to or upon the order of the Registered Owner, as shown in the registration books maintained by the Paying Agent, or their respective attorneys duly authorized in writing, and all such payments shall be valid and effective to fully satisfy and discharge the District's obligation with respect to payment thereof to the extent of the sum or sums so paid.
- 14.6. Upon delivery by the Depository to the District and to the Owner of written notice to the effect that the Depository has determined to substitute a new nominee in place of the Nominee, then the word "Nominee" in this Master Declaration shall refer to such new

nominee of the Depository, and upon receipt of such notice, the District shall promptly deliver a copy thereof to the Paying Agent. The Depository shall tender the Bonds it holds to the Paying Agent for re-registration.

Section 15. Redemption of Bonds.

- 15.1. Unless otherwise provided by a Supplemental Declaration, all Bonds shall be subject to the redemption terms of this Section 15.
- 15.2. The District reserves the right to purchase Bonds in the open market.
- 15.3. If Bonds are subject to mandatory redemption the Paying Agent shall, without further action by the District, select the particular Bonds to be redeemed in accordance with the mandatory redemption schedule, by lot within each maturity, call the selected Bonds, and give notice of their redemption in accordance with this Section 15.
- 15.4. If certain maturities of Bonds are subject to both optional and mandatory redemption, the District may elect to apply the Bonds which it has previously optionally redeemed to any mandatory redemption maturity. In addition, if the District purchases Bonds which are subject to mandatory redemption, the District may elect to apply against the mandatory redemption requirement any such Bonds which it has previously purchased. If the District makes such an election, it shall notify the Paying Agent not less than sixty days prior to the mandatory redemption date to which the election applies.
- 15.5. So long as the BEO System remains in effect with respect to the Bonds, and unless DTC consents to a shorter period, the Paying Agent shall provide not less than 20 days nor more than 60 days' notice of redemption, and shall provide such information in connection therewith as required by the letter of representations submitted to DTC in connection with the issuance of the Bonds.
- 15.6. During any period in which the BEO System is not in effect with respect to the Bonds, unless waived by any Owner of the Bonds to be redeemed, official notice of any redemption of Bonds shall be given by the Paying Agent on behalf of the District by mailing a copy of an official redemption notice by first class mail postage prepaid at least 20 days and not more than 60 days prior to the date fixed for redemption to the Owner of the Bonds to be redeemed, at the address shown on the Bond Register or at such other address as is furnished in writing by such owner to the Paying Agent. All such official notices of redemption shall be dated and shall state:
 - A. The redemption date;
 - B. The redemption price;
 - C. If less than all Outstanding Bonds are to be redeemed, the identification (and, in the case of partial redemption, the respective principal amounts) of the Bonds to be redeemed;

- D. That on the redemption date the redemption price will become due and payable upon each such Bond or portion thereof called for redemption, and that interest thereon shall cease to accrue from and after said date; and
- E. The place where such Bonds are to be surrendered for payment of the redemption price, which place of payment shall be the principal office of the Paying Agent.
- 15.7. The District shall deposit with the Paying Agent, on or before the redemption date, an amount of money sufficient to pay the redemption price of all the Bonds or portions of Bonds which are to be redeemed on that date.
- 15.8. Official notice of redemption having been given as aforesaid, the Bonds or portions of Bonds to be redeemed shall, on the redemption date, become due and payable at the Redemption Price therein specified, and from and after such date (unless the District shall default in the payment of the redemption price or unless the notice was conditional as described in Section 15.9) such Bonds or portions of Bonds shall cease to bear interest. Upon surrender of such Bonds for redemption in accordance with said notice, such Bonds shall be paid by the Paying Agent at the Redemption Price. Installments of interest due on or prior to the redemption date shall be payable as herein provided for payment of interest. Upon surrender for any partial redemption of any Bond, there shall be prepared for the registered owner a new Bond of the same maturity in the amount of the unpaid principal. All Bonds which have been redeemed shall be canceled and destroyed by the Paying Agent and shall not be reissued. Notwithstanding that any Bonds called for redemption shall not have been surrendered, no further interest shall accrue on any such Bonds. From and after such notice having been given and such deposit having been made, the Bonds to be redeemed shall not be deemed to be Outstanding hereunder, and the District shall be under no further liability in respect thereof.
- 15.9. Any notice of optional redemption given for the Bonds pursuant to this Section 15 may state that the optional redemption is conditional upon receipt by the Paying Agent of amounts sufficient to pay the redemption price of such Bonds or upon the satisfaction of any other condition, and/or that such notice may be rescinded upon the occurrence of any other event, and any conditional notice so given may be rescinded at any time before payment of such redemption price if any such condition so specified is not satisfied or if any such other event occurs. Notice of such rescission or of the failure of any such condition shall be given by the Paying Agent to affected owners of the Bonds as promptly as practicable.

Section 16. Authentication, Registration and Transfer.

- 16.1. The provisions of this Section 16 apply only if the Bonds cease to be a BEO issue, and unless otherwise specified in a Supplemental Declaration or Section 17 herein.
- 16.2. No Bond shall be entitled to any right or benefit under this Master Declaration unless it shall have been authenticated by an authorized officer of the Paying Agent. The Paying Agent shall authenticate all Bonds to be delivered at Closing, and shall additionally

authenticate all Bonds properly surrendered for exchange or transfer pursuant to this Master Declaration.


- 16.3. All Bonds shall be in registered form. The Paying Agent will be appointed when the District issues publicly offered Bonds. A successor Paying Agent may be appointed for the Bonds by ordinance or resolution of the District. The Paying Agent shall provide notice to Owners of any change in the Paying Agent not later than the Bond payment date following the change in Paying Agent.
- 16.4. The ownership of all Bonds shall be entered in the Bond register maintained by the Paying Agent and the District and Paying Agent may treat the person listed as owner in the Bond register as the owner of the Bond for all purposes.
- 16.5. The Paying Agent shall mail each interest payment on the Interest Payment Date (or the next Business Day if the Interest Payment Date is not a Business Day) to the name and address of the Owner, as that name and address appear on the Bond register as of the Record Date. If payment is so mailed, neither the District nor the Paying Agent shall have any further liability to any party for such payment.
- 16.6. Bonds may be exchanged for an equal principal amount of Bonds of the same Series and maturity which are in different authorized denominations, and Bonds may be transferred to other owners if the Owner submits the following to the Paying Agent:
 - A. Written instructions for exchange or transfer satisfactory to the Paying Agent, signed by the Owner or his attorney in fact and guaranteed or witnessed in a manner satisfactory to the Paying Agent; and
 - B. The Bonds to be exchanged or transferred.
- 16.7. The Paying Agent shall not be required to exchange or transfer any Bonds submitted to it during any period beginning with a Record Date and ending on the next following payment date; however, such Bonds shall be exchanged or transferred promptly following the payment date.
- 16.8. The Paying Agent shall not be required to exchange or transfer any Bonds which have been designated for redemption if such Bonds are submitted to it during the fifteen-day period preceding the designated redemption date.
- 16.9. For purposes of this Section, Bonds shall be considered submitted to the Paying Agent on the date the Paying Agent actually receives the materials described in Section 16.6.
- 16.10. The District may alter these provisions regarding registration and transfer by mailing notification of the altered provisions to all Owners. The altered provisions shall take effect on the date stated in the notice, which shall not be earlier than 45 days after notice is mailed.

Section 17. The Series 2019 Bond.

- 17.1. Pursuant to the authority of the Ordinance and this Master Declaration, the District has entered into its Series 2019 Bond, a draw-down borrowing, under the WIFIA Loan Agreement for the Willamette Water Project (WIFIA – N18167OR) with the United States Environmental Protection Agency in a maximum principal amount up to \$387,748,990.00, dated as of August 2, 2019 (the “WIFIA Loan Agreement”). The amounts disbursed under the Series 2019 Bond shall be a “Bond” and “Parity Bond” as defined in this Master Declaration. The Series 2019 Bond shall bear interest, shall mature and shall have such other terms as outlined in the WIFIA Loan Agreement.
- 17.2. The amounts disbursed under the Series 2019 Bond shall be special obligations of the District, and shall be payable solely from the Net Revenues and amounts required to be deposited in the Debt Service Account as required and as provided by this Master Declaration. The amounts disbursed under the Series 2019 Bond are not general obligations of the District and are payable solely from the amounts described in the previous sentence. The Series 2019 Bond is not secured by the Bond Reserve Account or any subaccount therein.
- 17.3. The Series 2019 Bond shall be in substantially the form attached to the WIFIA Loan Agreement and shall be signed with the facsimile or manual signature of an authorized District Official.
- 17.4. The Series 2019 Bond proceeds shall be used to finance the projects described in the Ordinance and to pay costs incurred in connection with the issuance of the Series 2019 Bond.
- 17.5. The Series 2019 Bond is placed directly with the United States Environmental Protection Agency and not publicly issued. Because of this, the provisions related to book entry bonds in this Master Declaration do not apply to the Series 2019 Bond.

EXECUTED ON BEHALF OF THE TUALATIN VALLEY WATER DISTRICT BY AN
AUTHORIZED DISTRICT OFFICIAL AS OF THE 2ND DAY OF AUGUST, 2019.

Tualatin Valley Water District, Oregon

By: 
Paul L. Matthews, Chief Financial Officer

Signature Page – Master Water System Revenue Bond Declaration

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**FIRST SUPPLEMENT TO MASTER WATER
SYSTEM REVENUE BOND DECLARATION**

Tualatin Valley Water District, Oregon

**\$387,748,990 (Maximum)
WIFIA Loan Agreement
and related Water Revenue Bond, Series 2020
(Re-execution of Series 2019 Bond)**

Executed on behalf of the Tualatin Valley Water District, Oregon

As of September 15, 2020

3507809.3 044488 RSIND

T A B L E O F C O N T E N T S

SECTION 1. CANCELLATION OF THE SERIES 2019 BOND..... 1

SECTION 2. THE SERIES 2020 BOND..... 1

3507809.3 044488 RSIND

**FIRST SUPPLEMENT TO MASTER WATER SYSTEM
REVENUE BOND DECLARATION**

THIS FIRST SUPPLEMENT TO MASTER WATER SYSTEM REVENUE BOND DECLARATION (“First Supplement”) is executed as of September 15, 2020, by the District Official of the Tualatin Valley Water District, Oregon (the “District”) pursuant to the authority granted to the District Official by the Ordinance. This First Supplement supplements the Master Water System Revenue Bond Declaration of the Borrower dated as of August 2, 2019 (as supplemented and amended from time to time in accordance with the terms thereof, the “Master Declaration”), and provides the terms under which the District’s Water Revenue Bond, Series 2020 (the “Series 2020 Bond”) is issued.

Unless the context clearly requires otherwise, capitalized terms that are used in this First Supplement but are not defined shall have the meanings defined for those terms in the Master Declaration.

Section 1. Cancellation of the Series 2019 Bond.

- 1.1. The District issued the Series 2019 Bond and entered into the related WIFIA Loan Agreement with the United States Environmental Protection Agency, acting by and through the Administrator of the Environmental Protection Agency (the “WIFIA Lender”) on August 2, 2019 (the “2019 Loan Agreement”).
- 1.2. The District and the WIFIA Lender have agreed to administrative revisions to the 2019 Loan Agreement and to re-execute the 2019 Loan Agreement as of the date hereof. The Series 2020 Bond, described in Section 2 below, and the WIFIA Loan Agreement (defined in Section 2.1 below) will replace the Series 2019 Bond and 2019 Loan Agreement.
- 1.3. As of the date hereof, the Series 2019 Bond and 2019 Loan Agreement are terminated and cancelled in full and no longer in full force and effect, all as described in Section 40 of the WIFIA Loan Agreement.

Section 2. The Series 2020 Bond.

- 2.1. Pursuant to the authority of the Ordinance and the Master Declaration, the District has entered into its Series 2020 Bond, a draw-down borrowing, under the WIFIA Loan Agreement for the Willamette Water Project (WIFIA – N18167OR) with the WIFIA Lender in a maximum principal amount up to \$387,748,990.00, dated as of September 15, 2020 (the “WIFIA Loan Agreement”). The amounts disbursed under the Series 2020 Bond shall be a “Bond” and “Parity Bond” as defined in the Master Declaration. The Series 2020 Bond shall bear interest, shall mature and shall have such other terms as outlined in the WIFIA Loan Agreement.

- 2.2. The amounts disbursed under the Series 2020 Bond shall be special obligations of the District, and shall be payable solely from the Net Revenues and amounts required to be deposited in the Debt Service Account as required and as provided by the Master Declaration. The amounts disbursed under the Series 2020 Bond are not general obligations of the District and are payable solely from the amounts described in the previous sentence. The Series 2020 Bond is not secured by the Bond Reserve Account or any subaccount therein.
- 2.3. The Series 2020 Bond shall be in substantially the form attached to the WIFIA Loan Agreement and shall be signed with the facsimile or manual signature of an authorized District Official.
- 2.4. The Series 2020 Bond proceeds shall be used to finance the projects described in the Ordinance and to pay costs incurred in connection with the issuance of the Series 2020 Bond.
- 2.5. The Series 2020 Bond is placed directly with the United States Environmental Protection Agency and not publicly issued. Because of this, the provisions related to book entry bonds in the Master Declaration do not apply to the Series 2020 Bond.

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EXECUTED ON BEHALF OF THE TUALATIN VALLEY WATER DISTRICT BY AN
AUTHORIZED DISTRICT OFFICIAL AS OF THE 15th DAY OF SEPTEMBER 2020.

Tualatin Valley Water District, Oregon

By: 
Paul L. Matthews, Chief Financial Officer

Signature Page - First Supplement to Master Water System Revenue Bond Declaration
3507809.3 044488 RSIND

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F. Parity Certificate and Transcript Documents

LEGAL CLOSING MEMORANDUM AND INDEX

Tualatin Valley Water District, Oregon
Up to \$250,000,000 of Disbursements between October 1, 2020 and September 30, 2023
under the WIFIA Loan Agreement and related Water Revenue Bond, Series 2019
dated August 2, 2019

Listed below are the documents related to the above-captioned disbursements.

Basic Documents

1. Transcript Certification.

Issuer's Documents

2. General Certificate.
3. Parity Certificate, with attached calculations.

Miscellaneous

4. Opinion of Bond Counsel, with attached reliance letter.

3450577.1 041297 CLD

TRANSCRIPT CERTIFICATE

**Tualatin Valley Water District, Oregon
Up to \$250,000,000 of Disbursements between October 1, 2020 and September 30, 2023
under the WIFIA Loan Agreement and related Water Revenue Bond, Series 2019
dated August 2, 2019**

On behalf of Tualatin Valley Water District, Oregon (the “District”), I hereby certify that the attached documents are true copies or duplicate originals of the District’s documents that were assembled related to the above-captioned disbursement of up to \$250,000,000 between October 1, 2020 and September 30, 2023 under the WIFIA Loan Agreement and the related Water Revenue Bond, Series 2019, through the offices of Hawkins Delafield & Wood LLP, in Portland, Oregon.

3450578.1 041297 CLD

Dated as of the 15th day of May, 2020.

Tualatin Valley Water District, Oregon

By: 
Paul L. Matthews, Chief Financial Officer

[Transcript Certificate]

3450578.1 041297 CLD

GENERAL CERTIFICATE

**Tualatin Valley Water District, Oregon
Up to \$250,000,000 of Disbursements between October 1, 2020 and September 30, 2023
Under the WIFIA Loan Agreement and related Water Revenue Bond, Series 2019
dated as of August 2, 2019**

On behalf of Tualatin Valley Water District, Oregon (the "District"), I hereby certify as follows regarding the disbursement of up to \$250,000,000 between October 1, 2020 and September 30, 2023 under the above-captioned WIFIA Loan Agreement (the "WIFIA Loan") between the District and the United States of America Environmental Protection Agency (the "Agency") and the related Water Revenue Bond, Series 2019 (the "Bond") each of which is dated as of August 2, 2019.

1. I, Paul L. Matthews, certify that I am the Chief Financial Officer of the District, and that I am the duly chosen and qualified officer authorized to execute all documents on behalf of the District pertaining to the WIFIA Loan and the Bond pursuant to Ordinance No. 01-19 (the "2019 Ordinance") enacted by the District Board of Commissioners (the "Board") on April 17, 2019, and Resolution No. 16-19 (the "2019 Resolution," and together with the 2019 Ordinance, the "Ordinance") adopted by the Board on May 15, 2019.

2. The 2019 Ordinance was duly enacted, remains in full force and effect, and has not been rescinded or modified.

3. The 2019 Resolution was duly enacted, remains in full force and effect, and has not been rescinded or modified.

4. The Bond is authorized by a Master Water System Revenue Bond Declaration dated as of August 2, 2019 (the "Declaration"), the WIFIA Loan, and the Ordinance. As of the date hereof and prior to the above-reference disbursements, no bonds have been issued under the Ordinance.

5. The proceeds from disbursements made under the WIFIA Loan and Bond will be used solely as provided in the Ordinance.


6. The proceeds from disbursements made under the WIFIA Loan and Bond will be used in a manner that is consistent with the District's acknowledged land use regulations and the statewide goals of the Land Conservation and Development Commission of the State of Oregon.

7. The District has complied and will comply with the applicable provisions of any budget law which are applicable to the disbursement of up to \$250,000,000 between October 1, 2020 and September 30, 2023 under the WIFIA Loan and the Bond.

3450578.1 041297 CLD

Dated as of the 15th day of May, 2020.

Tualatin Valley Water District, Oregon

By: 
Paul L. Matthews, Chief Financial Officer

[General Certificate]

3450578.1 041297 CLD

PARITY CERTIFICATE

**Tualatin Valley Water District, Oregon
Up to \$250 Million of Disbursements between June 1, 2020 and September 30, 2023
Under the WIFIA Loan Agreement
and related Water Revenue Bond, Series 2019
Dated as of August 2, 2019**

On behalf of Tualatin Valley Water District, Oregon (the “District”), I hereby certify as follows in connection with the above-captioned disbursement of up to \$250,000,000 between June 1, 2020 and September 30, 2023 under the WIFIA Loan Agreement (the “WIFIA Loan Agreement”) and the related Water Revenue Bond, Series 2019 (the “Bond”):

1. The District expects to request disbursements under the WIFIA Loan Agreement in an amount of \$250,000,000 over the course of June 1, 2020 through September 30, 2023. The capitalized interest on those disbursement will not exceed \$36,796,126.40, for a total borrowing amount of \$286,796,126.40. That total borrowing amount, to the extent of principal and regularly scheduled interest payments due on it, is referred to as “Disbursement No. 1” in this certificate.

2. The Bond, to the extent represented by Disbursement No. 1, is being issued as a Bond and a Parity Bond under the Master Water System Revenue Bond Declaration dated August 2, 2019 (the “Declaration”). Capitalized terms used but not defined in this certificate have the meanings defined for those terms in the Declaration.

3. No Event of Default under the Declaration has occurred and is continuing.

4. As of this date, there is no deficiency in the Debt Service Account and all required deposits to all subaccounts in the Bond Reserve Account have been made.

5. The Coverage Revenues (adjusted as provided in Section 7.2 of the Declaration) for the Base Period were not less than one hundred fifteen percent (115%) of Maximum Annual Bond Debt Service on all then Outstanding Bonds, calculated as of this date and with Disbursement No. 1 treated as Outstanding.


6. The Net Revenues (adjusted as provided in Section 7.2 of the Declaration) for the Base Period were not less than one hundred twenty five percent (125%) of Maximum Annual Bond Debt Service on all then Outstanding Bonds, calculated as of this date and with Disbursement No. 1 treated as Outstanding.

Supporting calculations are attached to this certificate.

3450578.1 041297 CLD

Dated as of the 15th day of May, 2020.

Tualatin Valley Water District, Oregon

By: 
Paul L. Matthews, Chief Financial Officer

[Parity Certificate]

3450578.1 041297 CLD

ATTACHMENT TO PARITY CERTIFICATE

Net Revenue Test	
Description	FY2019
Revenues	
Water Services	\$69,451,031
Administrative Services	3,633,228
Rental Income	81,979
System Development Charges	6,193,831
Interest Earnings	2,769,322
Gross Revenue	\$82,129,391
Operating Expenses	
Operating Expenses	\$44,814,711
Less Depreciation and Amortization	(6,896,192)
Less Capitalized Operating Items	(4,904,995)
Net Operating Expenses	\$33,013,524
Adjustment for Rate Increases ¹	\$2,500,237
Net Revenue	\$51,616,104
Maximum Annual Debt Service	\$12,489,237
Debt Service Coverage	4.13x

Coverage Revenue Test	
Description	FY2019
Revenues	
Water Services	\$69,451,031
Administrative Services	3,633,228
Rental Income	81,979
System Development Charges	6,193,831
Interest Earnings	2,769,322
Gross Revenue	\$82,129,391
Operating Expenses	
Operating Expenses	\$44,814,711
Less Depreciation and Amortization	(6,896,192)
Less Capitalized Operating Items	(4,904,995)
Net Operating Expenses	\$33,013,524
Adjustment for Rate Increases ¹	\$2,500,237
Net Revenue	\$51,616,104
Less System Development Charges	(6,193,831)
Coverage Revenue	\$45,422,273
Maximum Annual Debt Service	\$12,489,237
Debt Service Coverage	3.64x

¹Section of the Declaration allows adjustment of Net Revenue and Coverage Revenue for rate increases that have been adopted by the District and are in effect. On September 18, 2019, the District's Board of Commissioners adopted Resolution 24-19 increasing water rates by 3.6% effective November 1, 2019.

3450578.1 041297 CLD

Hawkins Delafield & Wood LLP

200 SW MARKET STREET, SUITE 350
PORTLAND, OR 97201
WWW.HAWKINS.COM

May 15, 2020

Tualatin Valley Water District
1850 SW 170th Avenue
Beaverton, Oregon 97003

Subject: Up to \$250,000,000 of Disbursements between October 1, 2020 and September 30, 2023
under the WIFIA Loan Agreement and Water Revenue Bond dated as of August 2, 2019

Ladies and Gentlemen:

We have acted as bond counsel in connection with the execution and delivery by the Tualatin Valley Water District, Oregon (the "District") of its WIFIA Loan Agreement dated as of August 2, 2019 (the "WIFIA Loan"), between the District and the United States Environmental Protection Agency, an agency of the United States of America, acting by and through the Administrator of the Environmental Protection Agency, and the related WIFIA Water Revenue Bond, Series 2019 (the "WIFIA Bond," and collectively with the WIFIA Loan, the "WIFIA Borrowing"). The WIFIA Borrowing is authorized by Oregon Revised Statutes Section 287A.150 and other relevant provisions of Oregon Revised Statutes Chapter 287A, Ordinance No. 01-19 enacted by the District Board on April 17, 2019 (the "Ordinance"), and the Master Water System Revenue Bond Declaration dated as of August 2, 2019 (the "Declaration"). Capitalized terms used but not defined in this opinion have the respective meanings assigned to such terms in the Declaration.

The District expects to request disbursements under the WIFIA Loan Agreement in an amount of \$250,000,000 between October 1, 2020 and September 23, 2023. The capitalized interest on those disbursements will not exceed \$37,317,928.45, for a total borrowing amount of \$287,317,928.45. That aggregate amount of all such disbursements, including the principal thereof and regularly scheduled interest payments due thereon, is referred to as "Disbursement No. 1" in this opinion.

We have examined the law, and such certified proceedings and other documents as we deem necessary to render this opinion.

We have not been engaged or undertaken to review the accuracy, completeness or sufficiency of any financial disclosure relating to the WIFIA Borrowing, and we express no opinion relating thereto.

Regarding questions of fact material to our opinion, we have relied on representations of the District in the Ordinance, the Declaration, and the WIFIA Borrowing and in the certified proceedings and on other certifications of public officials and others furnished to us without undertaking to verify the same by independent investigation.

Based on the foregoing, we are of the opinion that, under existing law:

1. The WIFIA Borrowing has been duly authorized, executed, and delivered by the District under and pursuant to the Constitution and Statutes of the State of Oregon, the Ordinance, and the Declaration. The WIFIA Borrowing, to the extent represented by Disbursement No. 1 or any portion thereof, constitutes a valid and legally binding special obligation of the District that is enforceable in accordance with its terms.
2. The WIFIA Bond, to the extent represented by Disbursement No. 1 or any portion thereof, is a "Bond" and a "Parity Bond" as defined in the Declaration.
3. Interest on Disbursement No. 1 is not excludable from gross income for federal income tax purposes pursuant to the Internal Revenue Code of 1986, as amended.
4. Interest on Disbursement No. 1 is exempt from Oregon personal income tax.

3450615.1 041297 OPN

Legal Opinion
May 15, 2020
Page 2

Except as stated in paragraphs 3 and 4 above, we express no opinion as to any other federal, state or local tax consequences arising with respect to the WIFIA Borrowing or Declaration or disbursements under the WIFIA Borrowing or the ownership or disposition thereof.

The WIFIA Borrowing provides for draw down borrowings. This opinion only covers Disbursement No. 1. The remaining amount of the WIFIA Borrowing may be disbursed in the future ("Subsequent Disbursements"). We express no opinion herein as to Subsequent Disbursements.

The portion of this opinion that is set forth in paragraph 1, above, is qualified only to the extent that enforceability of the WIFIA Borrowing may be limited by or rendered ineffective by (i) bankruptcy, insolvency, fraudulent conveyance, reorganization, moratorium and other laws affecting creditors' rights generally; (ii) the application of equitable principles and the exercise of judicial discretion in appropriate cases; (iii) common law and statutes affecting the enforceability of contractual obligations generally; and (iv) principles of public policy concerning, affecting or limiting the enforcement of rights or remedies against governmental entities such as the District.

This opinion is limited to matters of Oregon law and applicable federal law and we assume no responsibility as to the applicability of laws of other jurisdictions. This opinion is given as of the date hereof and is based on existing law, and we assume no obligation to update, revise, or supplement this opinion to reflect any action hereafter taken or not taken, or any facts or circumstances that may hereafter come to our attention or any changes in law or interpretations thereof that may hereafter arise or occur, or for any other reason.

This opinion is provided to you as a legal opinion only, and not as a guaranty or warranty of the matters discussed herein. No opinions may be inferred or implied beyond the matters expressly stated herein. No qualification, limitation or exception contained herein shall be construed in any way to limit the scope of the other qualifications, limitations and exceptions. For purposes of this opinion, the terms "law" and "laws" do not include unpublished judicial decisions, and we disclaim the effect of any such decision on this opinion.

We have served as bond counsel only to the District in connection with Disbursement No. 1 and have not represented and are not representing any other party in connection with the WIFIA Borrowing. This opinion is given solely for the benefit of the District in connection with Disbursement No. 1 and may not be relied on in any manner or for any purpose by any person or entity other than the District, and any person to whom we may send a formal reliance letter indicating that the recipient is entitled to rely on this opinion.

Very truly yours,



3450615.1 041297 OPN

Hawkins Delafield & Wood LLP

200 SW MARKET STREET, SUITE 350
PORTLAND, OR 97201
WWW.HAWKINS.COM

May 15, 2020

Environmental Protection Agency
WIFIA Director, WJC-W 6201A
1200 Pennsylvania Avenue NW
Washington, DC 20460

Subject: Up to \$250,000,000 of Disbursements between October 1, 2020 and September 30, 2023
under the WIFIA Loan Agreement and Water Revenue Bond dated as of August 2, 2019

Ladies and Gentlemen:

We have as of this date delivered our legal opinion, copy attached, with respect to the subject disbursements under the WIFIA Loan Agreement and Water Revenue Bond (collectively, the "WIFIA Borrowing"). You are entitled to rely upon such opinion as if it had been addressed to you originally. We have served only as bond counsel to the Tualatin Valley Water District, Oregon (the "District") in connection with the WIFIA Borrowing and have not and are not representing any other party in connection with the WIFIA Borrowing. Therefore, no attorney-client relationship shall arise by virtue of our addressing this opinion to persons other than the District.

Very truly yours,

Hawkins Delafield & Wood LLP

3450616.1 041297 OPN

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G. PERS Valuation Report



Milliman
1455 SW Broadway, Suite 1600
Portland, OR 97201-3412
503 227 0634

October 2020

Tualatin Valley Water District/2842
Oregon Public Employees Retirement System

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2019. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2021. Information to assist you in preparing your required financial reporting disclosures under Statement 68 and Statement 75 of the Governmental Accounting Standards Board (GASB) will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2019, including Senate Bill 1049 which was enacted in June 2019. The report also reflects the Tier 1/Tier 2 reamortization provisions of Senate Bill 1049. The full development of the valuation results for the Tier 1/Tier 2 State and Local Government Rate Pool (SLGRP), OPSRP, Retiree Health Insurance Account (RHIA), and Retiree Health Insurance Premium Account (RHIPA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact actuarial.services@pers.state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Employer-specific weighted average Tier 1/Tier 2 normal cost rates,
- Transition liability or surplus balances and rate calculation,
- Side account balances, transactions, and rate relief,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/Financials/Actuarial-Financial-Information.aspx.

This work product was prepared solely for Oregon Public Employees Retirement System for the purposes stated herein, and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.



October 2020
Tualatin Valley Water District/2842

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete, our results may be different and our calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations) and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in October 2019.

The actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2021 to June 2023 for System employers. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals, and with our understanding of the System benefit provisions described in the appendices of this report. Determinations for other purposes may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

This work product was prepared solely for Oregon Public Employees Retirement System for the purposes stated herein, and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.



October 2020
Tualatin Valley Water District/2842

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

No third party recipient of this report should rely upon Milliman's work contained herein. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the System. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the principles prescribed by the Actuarial Standards Board and the Code of Professional Conduct and Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States published by the American Academy of Actuaries. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein. Assumptions related to the healthcare trend (cost inflation) rates for the RHIPA program discussed in this report were determined by Milliman actuaries qualified in such matters.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppemau, FSA, EA, MAAA
Principal and Consulting Actuary

This work product was prepared solely for Oregon Public Employees Retirement System for the purposes stated herein, and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.



**ACTUARIAL VALUATION REPORT
DECEMBER 31, 2019**

**OREGON PUBLIC EMPLOYEES
RETIREMENT SYSTEM
STATE AND LOCAL GOVERNMENT RATE POOL**

Tualatin Valley Water District -- #2842

October 2020

This work product was prepared solely for Oregon Public Employees Retirement System for the purposes stated herein, and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

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Executive Summary

Milliman has prepared this report for Tualatin Valley Water District to:

- Provide summary December 31, 2019 valuation results for the Tier 1/Tier 2 State and Local Government Rate Pool (SLGRP), Oregon Public Service Retirement Plan (OPSRP), and the Retiree Health Insurance programs (RHIA and RHIPA),
- Provide employer-specific contribution rates effective effective July 1, 2021 through June 30, 2023, and
- Provide employer-specific information on side accounts and pre-SLGRP liabilities as of December 31, 2019.

This report summarizes the valuation results for the SLGRP, OPSRP, RHIA and RHIPA. The full development of these results can be found in the December 31, 2019 system-wide valuation report. This report develops employer-specific side account and pre-SLGRP rates and applies the results from the system-wide valuation to Tualatin Valley Water District.

Milliman

This work product was prepared solely for Oregon Public Employees Retirement System for the purposes stated herein, and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

1

Executive Summary

Employer Contribution Rates

SLGRP employers have the option to elect separate Tier 1/Tier 2 rates to be applied to general service and police and fire payroll or to have the default blended rate apply to all Tier 1/Tier 2 payroll.

The following table summarizes the employer contribution rates effective July 1, 2021 through June 30, 2023 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2021 for Tualatin Valley Water District

	Payroll				
	Tier 1/Tier 2			OPSRP	
	Default	Optional Separate Rates		General Service	Police & Fire
All T1/T2 Payroll	General Service	Police & Fire			
Pension					
Normal cost rate	13.75%	13.75%	20.28%	8.64%	13.00%
Tier 1/Tier 2 UAL rate ¹	12.60%	12.60%	12.60%	12.60%	12.60%
OPSRP UAL rate	1.69%	1.69%	1.69%	1.69%	1.69%
Pre-SLGRP pooled liability rate	0.00%	0.00%	0.00%	0.00%	0.00%
Transition liability/(surplus) rate ²	(2.77%)	(2.77%)	(2.77%)	(2.77%)	(2.77%)
Side account rate relief ²	(8.10%)	(8.10%)	(8.10%)	(8.10%)	(8.10%)
Member redirect offset ³	(2.45%)	(2.45%)	(2.45%)	(0.70%)	(0.70%)
Net employer pension contribution rate	14.72%	14.72%	21.25%	11.36%	15.72%
Retiree Healthcare					
Normal cost rate	0.05%	0.05%	0.05%	0.00%	0.00%
UAL rate	0.00%	0.00%	0.00%	0.00%	0.00%
Net retiree healthcare rate	0.05%	0.05%	0.05%	0.00%	0.00%
Total net employer contribution rate	14.77%	14.77%	21.30%	11.36%	15.72%

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members, and OPSRP police and fire members.

¹ Includes Multnomah Fire District #10 rate and any impact of rate collar developed on page 42 of the system-wide actuarial valuation report.

² The transition liability/(surplus) rate and side account rate relief shown may be reduced such that the net pension contribution rate does not go below 0.00%.

³ Redirected member contributions under Senate Bill 1049 (2.50% of payroll for Tier 1/Tier 2 and 0.75% of payroll for OPSRP) will offset employer contribution rates. Redirect does not apply to members with monthly pay below a threshold. The values shown in the table incorporate an estimate of the effect of this limitation.

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Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2023 to June 2025 Biennium

The rate collar limits changes in contribution rates for the rate pool, but does not limit changes in rates for individual employers related to pre-SLGRP liabilities or side accounts. In addition, changes in an individual employer's workforce between Tier 1 and Tier 2 or between general service and police and fire can impact that employer's normal cost rate in a way that is not limited by the collar. The table below shows the possible minimum and maximum rates for the SLGRP first effective as of July 1, 2023, which will depend on the funded status as of December 31, 2021. If the Pool's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the Pool's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. The rates shown are before any adjustment for side account rate offsets or pre-SLGRP liabilities.

For comparison, the Pool's funded status as of December 31, 2019 is 71%.

Funded Status as of December 31, 2021	70% to 130%	Under 60% or Over 140%
2021-2023 Tier 1/Tier 2 Normal Cost + Tier 1/Tier 2 UAL Rate	28.08%	28.08%
Minimum 2023-2025 Rate	22.46%	16.84%
Maximum 2023-2025 Rate	33.70%	39.32%

For individual employers in the SLGRP, these rates are adjusted to reflect the individual employer's normal cost rate, pre-SLGRP pooled liability rate, transition liability rate, and side account rate offsets.

Milliman This work product was prepared solely for Oregon Public Employees Retirement System for the purposes stated herein, and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product. 3

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68 (GASB 68), which replaced Statement No. 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Retiree Healthcare

In June 2015, the GASB issued Statement 75 (GASB 75), which replaced Statement No. 45 and governs employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Milliman

This work product was prepared solely for Oregon Public Employees Retirement System for the purposes stated herein, and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

4

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods, or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

Tualatin Valley Water District

	Actuarial Valuation as of	
	December 31, 2019	December 31, 2018
Allocated pooled SLGRP T1/T2 UAL	\$22,810,796	\$24,143,126
Allocated pre-SLGRP pooled liability/(surplus)	0	0
Transition liability/(surplus)	(2,308,885)	(2,532,114)
Allocated pooled OPSRP UAL	1,992,704	2,009,722
Side account	11,993,777	1,032,485
Net unfunded pension actuarial accrued liability	10,500,838	22,588,249
Combined valuation payroll	12,121,404	11,130,254
Net pension UAL as a percentage of payroll	87%	203%
Pre-SLGRP pooled rate	0.00%	0.00%
Transition rate	(2.77%)	(2.99%)
Side account rate relief	(8.10%)	(1.22%)
Allocated pooled RHIA UAL	(\$252,491)	(\$163,145)
Allocated pooled RHIPA UAL	\$0	\$0

In the above exhibit, UAL amounts for the various pools (SLGRP Tier 1/Tier 2 Pension, OPSRP, RHIA, and RHIPA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to the combined valuation payroll of the applicable pool. This allocation differs from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

RHIPA liabilities are allocated to State Agencies and the State Judiciary, the only employers participating in the RHIPA program.

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Executive Summary

Principal Valuation Results (continued)

SLGRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2019	December 31, 2018
Normal cost	\$336.6	\$362.9
Tier 1/Tier 2 valuation payroll	2,183.5	2,299.5
Normal cost rate	15.41%	15.78%
Actuarial accrued liability	\$44,122.1	\$43,149.3
Actuarial asset value	31,384.1	29,383.7
Unfunded actuarial accrued liability	12,738.0	13,765.6
Funded status	71%	68%
Combined valuation payroll	\$6,768.8	\$6,346.1
UAL as a percentage of payroll	188%	217%
UAL rate ¹	12.60%	14.50%
State and Community College Pre-SLGRP Pooled Liability	\$408.7	\$448.8
LGRP Pooled Liability	(174.9)	(191.8)
Total Transition Liability	(553.5)	(602.7)
Tier 1/Tier 2 Active Members		
▪ Count	25,581	28,056
▪ Average Age	54.2	53.8
▪ Average Service	21.9	21.2
▪ Average Valuation Salary (in dollars)	\$85,356	\$81,963
Tier 1/Tier 2 Dormant Members		
▪ Count	15,710	17,150
▪ Average Age	57.3	56.7
▪ Average Monthly Benefit (in dollars)	\$1,428	\$1,347
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	89,575	87,579
▪ Average Age	72.0	71.7
▪ Average Monthly Benefit (in dollars)	\$2,381	\$2,313

¹ The December 31, 2019 UAL rate shown for the SLGRP includes 0.14% for Multnomah Fire District #10 (0.14% at December 31, 2018). The City of Portland pays an additional 0.95% and the cities of Fairview, Gresham, Troutdale, and Wood Village pay an additional 0.14% (0.97% and 0.14% respectively at December 31, 2018).

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Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2019	December 31, 2018
General service normal cost	\$582.1	\$519.9
OPSRP general service valuation payroll	6,740.9	5,973.4
General service normal cost rate	8.64%	8.70%
Police and fire normal cost	\$119.5	\$104.9
OPSRP police and fire valuation payroll	919.0	802.5
Police and fire normal cost rate	13.00%	13.07%
Actuarial accrued liability	\$8,082.2	\$6,738.0
Actuarial asset value	6,190.4	4,783.0
Unfunded actuarial accrued liability	1,891.8	1,955.0
Funded status	77%	71%
Combined valuation payroll	\$11,533.7	\$10,852.0
UAL as a percentage of payroll	16%	18%
UAL rate	1.69%	1.76%

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Executive Summary

Principal Valuation Results (continued)

Retiree Healthcare

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2019	December 31, 2018
RHIA		
Normal cost	\$1.9	\$2.2
Tier 1 / Tier 2 valuation payroll	3,873.9	4,076.1
Normal cost rate	0.05%	0.05%
Actuarial accrued liability	\$403.9	\$411.7
Actuarial asset value	644.1	570.7
Unfunded actuarial accrued liability	(240.3)	(159.1)
Funded status	159%	139%
Combined valuation payroll	\$11,533.7	\$10,852.0
UAL as a percentage of payroll	(2%)	(1%)
UAL rate	0.00%	0.00%

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2019	December 31, 2018
RHIPA		
Normal cost	\$1.2	\$1.3
Tier 1 / Tier 2 valuation payroll	1,120.6	1,159.5
Normal cost rate	0.11%	0.11%
Actuarial accrued liability	\$59.3	\$62.7
Actuarial asset value	51.9	38.5
Unfunded actuarial accrued liability	7.4	24.3
Funded status	87%	61%
Combined valuation payroll	\$3,479.8	\$3,211.6
UAL as a percentage of payroll	0%	1%
UAL rate	0.17%	0.22%

RHIPA liabilities are allocated to State Agencies and the State Judiciary, the only employers participating in the RHIPA program.

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Weighted Average Tier 1/Tier 2 Normal Cost

Pension

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund the benefits.

Members of the State and Local Government Rate Pool pay a payroll-weighted average normal cost rate using the normal cost rates developed for the pool for each tier and member classification. The table below shows the calculation of the individual employer's Tier 1/Tier 2 normal cost rate by member classification and in aggregate. The employer can elect to pay the member classification rates or the aggregate rate. For purposes of this calculation, all Community Colleges are treated as a single employer.

Development of Total Weighted Average Tier 1/Tier 2 Normal Cost Rate

	December 31, 2019			December 31, 2018		
	SLGRP Normal Cost Rate	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost	SLGRP Normal Cost Rate	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost
Tier 1 General Service	16.64%	\$1,263,076	\$210,176	17.01%	\$1,920,961	\$326,755
Tier 2 General Service	12.67%	3,368,457	426,784	12.84%	3,305,157	424,382
Total General Service		4,631,533	636,960		5,226,118	751,137
Tier 1 Police & Fire	21.76%	0	0	22.20%	0	0
Tier 2 Police & Fire	19.69%	0	0	20.00%	0	0
Total Police & Fire		0	0		0	0
Total		\$4,631,533	\$636,960		\$5,226,118	\$751,137
Total normal cost rate						
General Service			13.75%			14.37%
Police & Fire			20.28%			20.71%
Aggregate (Default)			13.75%			14.37%

An SLGRP employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost rate of the SLGRP as calculated in the system-wide actuarial valuation report.

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Transition Liability Information

Outstanding Balance of Transition Liability/(Surplus)

Upon joining the SLGRP, a transition liability or surplus was calculated to ensure that each employer entered the pool on a comparable basis. The transition liability is maintained separately from the SLGRP, and is reduced by contributions and increased for interest charges at the assumed interest rate. The table below shows the reconciliation of the transition liability or surplus from the last valuation to the current valuation.

	Transition Liability
1. Transition liability/(surplus) as of December 31, 2018	(\$2,532,114)
2. January 1, 2019 through June 30, 2019	
A. Transition liability/(surplus) rate	(3.26%)
B. Actual employer payroll	5,775,061
C. Payment to transition liability/(surplus)	(188,267)
3. July 1, 2019 through December 31, 2019	
A. Transition liability/(surplus) rate	(3.19%)
B. Actual employer payroll	5,957,231
C. Payment to transition liability/(surplus)	(190,036)
4. Supplemental payment to transition liability	0
5. Interest	(155,074)
6. Adjustment due to merged, spun-off, or allocated employers	0
7. Transition liability/(surplus) as of December 31, 2019	
(1. - 2C. - 3C. - 4. + 5. + 6.)	(\$2,308,885)

¹ Transition liability or surplus rates shown are those paid on Tier 1/Tier 2 payroll for the indicated periods. For some surplus employers, this rate may differ from the rate paid on OPSRP general service or OPSRP police and fire payroll. In those cases, the payment to transition (surplus) shown below is the payment reflecting the rates on different payroll.

Development of Transition Liability or Surplus Rate

The rate adjustment attributable to a transition liability or surplus is determined by amortizing the liability or surplus on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For employers joining the SLGRP prior to December 31, 2009, the fixed period ends December 31, 2027. For all others, the fixed period ends 18 years after the date the employer joined the pool.

	December 31, 2019	December 31, 2018
1. Total transition liability/(surplus)	(2,308,885)	(2,532,114)
2. Combined valuation payroll	12,121,404	11,130,254
3. Regular amortization factor	6.875	7.606
4. Total transition liability/(surplus) rate	(2.77%)	(2.99%)

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Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2018	N/A	\$1,032,485	\$1,032,485
2. Deposits during 2019	10,860,589		10,860,589
3. Administrative expenses	(1,500)	(500)	(2,000)
4. Amount transferred to employer reserves during 2019	(286,087)	(162,477)	(448,564)
5. Side account earnings during 2019	419,610	131,657	551,267
6. Side account as of December 31, 2019 (1. + 2. + 3. + 4. + 5.)	\$10,992,612	\$1,001,165	\$11,993,777

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Side Account Information

Side Account Balances

	December 31, 2019	December 31, 2018
Side Account 1	\$1,001,165	\$1,032,485
Side Account 2	10,992,612	0
Side Account 3	0	0
Side Account 4	0	0
Side Account 5	0	0
Total	\$11,993,777	\$1,032,485

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the default fixed period ends 18 years after the first rate-setting valuation following its creation, though employers can select a shorter period under certain specified circumstances. For employers with more than one side account, the total side account rate is determined by calculating the rate on each side account separately and adding the rates together.

December 31, 2019			December 31, 2018			
	Combined valuation payroll	\$12,121,404		Combined valuation payroll	\$11,130,254	
	Side account balance	Amortization factor	Side account rate	Side account balance	Amortization factor	Side account rate
1.	\$1,001,165	6.875	(1.20%)	\$1,032,485	7.606	(1.22%)
2.	10,992,612	13.151	(6.90%)	0		0.00%
3.	0		0.00%	0		0.00%
4.	0		0.00%	0		0.00%
5.	0		0.00%	0		0.00%
Total	\$11,993,777		(8.10%)	\$1,032,485		(1.22%)

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Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2019 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

<i>Actuarial cost method</i>	Entry Age Normal.
<i>Amortization method</i>	<p>The UAL is amortized as a level percentage of combined payroll.</p> <p>The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period.</p> <p>The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period.</p> <p>All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period. Senate Bill 1049 was signed into law in June 2019 and requires a one-time re-amortization of Tier 1/Tier 2 UAL over a closed 22 year period at the December 31, 2019 rate-setting actuarial valuation, which will set actuarially determined contribution rates for the 2021-2023 biennium.</p>
<i>Asset valuation method</i>	Market value of assets, excluding reserves.
<i>Contribution rate stabilization method (rate collar)</i>	<p>The contribution rate stabilization method, also referred to as the rate collar, is applied separately to each Tier 1/Tier 2 experience sharing pool (State and Local Government Rate Pool, School Districts) and independent employer. The collar's centering point for Tier 1/Tier 2 calculations is the sum of the Tier 1/Tier 2 Normal Cost and Tier 1/Tier 2 UAL Rates currently in effect. In the subsequent biennium, the increase in the sum of those two rate components is limited by the collar to 20% of the current sum of those two rate components, or 3% of payroll, if greater. If the funded status excluding side accounts is less than 70%, the width of the collar widens on a graded scale, reaching 40% of the current sum of the two rate components or 6% of payroll, if greater, if funded status excluding side accounts is 60% or less. A separate but parallel rate collar calculation is performed for the sum of the OPSRP Normal Cost and OPSRP UAL rates based on the funded status of the OPSRP program.</p>

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

<i>Net investment return</i>	7.20% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.20% compounded annually on members' regular account balances.</p> <p>7.20% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 5.8% in 2020 to 4.1% in 2094.
<i>Administrative Expenses</i>	<p>\$8.0 million, added to OPSRP normal cost.</p> <p>\$32.5 million, added to Tier 1/Tier 2 normal cost.</p>

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Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2018 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2018 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2018 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

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Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions since the December 31, 2018 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

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Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement, rates of investment earnings, and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

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Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called "actuarial present value," the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A contribution rate setting methodology that defines the maximum biennium-to-biennium change in the sum of the normal cost rate and the associated UAL rate for a given experience-sharing pool. The width of the collar is determined by the pool's current normal cost rate, UAL rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer's accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions prior to GASB 75.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer's accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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H. Forecast Model Summary Results

TTWD Forecast Model Summary

Table 1
Tualatin Valley Water District
2021-2023 Financial Plan
45-year Categorical CIP Summary (Escalated)

Category	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029
WWSP	\$65,134,916	\$73,385,789	\$171,296,650	\$130,353,372	\$56,946,246	\$36,067,143	\$3,564,204	\$2,356,997	\$1,898,066
JWC	472,740	553,480	145,880	259,740	706,190	649,930	1,027,420	984,730	1,095,020
TTWD Source	555,000	7,496,000	289,100	499,000	229,500	1,487,000	0	0	0
Storage	286,090	2,283,300	6,129,000	6,056,700	461,200	0	1,420,000	2,274,900	77,600
Pumping	2,143,500	1,049,600	951,200	3,055,000	4,827,500	449,500	3,263,000	2,123,500	169,000
Pipelines	20,686,879	45,014,455	59,099,878	32,022,075	18,155,510	11,322,242	15,532,239	13,719,030	19,452,000
PRVs/Vaults	117,240	1,197,500	810,500	673,000	295,000	399,000	500,500	381,500	592,500
Facilities	45,380	904,300	891,100	0	0	0	340,700	1,807,650	365,000
Fleet	225,000	689,000	780,000	665,000	688,500	712,500	737,500	763,500	790,000
IT	1,540,500	3,320,000	0	0	0	0	0	0	0
Meters/Svcs	946,460	1,787,000	1,850,500	1,914,500	1,983,500	2,053,500	2,123,000	2,239,000	2,316,000
Other/Undefined	1,108,500	1,721,500	1,781,500	2,398,400	1,965,900	4,321,200	4,508,850	6,924,900	7,167,250
Capital Outlays from O&M	500,000	495,600	210,350	500,000	522,500	546,013	570,583	596,259	623,091
Totals	\$93,762,204	\$139,897,524	\$244,235,658	\$178,396,787	\$86,781,547	\$58,008,028	\$33,587,996	\$34,171,966	\$34,545,527

TWWD Forecast Model Summary

Table 1
 Tualatin Valley Water District
 2021-2023 Financial Plan
45-year Categorical CIP Summary (Escalated)

Category	FY2030	FY2031	FY2032	FY2033	FY2034	FY2035	FY2036	FY2037	FY2038
WWSP	\$17,302,511	\$17,119,864	\$1,216,863	\$1,846,753	\$5,517,771	\$19,408,124	\$43,651,017	\$1,883,459	\$0
JWC	1,133,310	1,106,890	1,376,700	1,300,370	1,345,810	1,232,890	1,314,700	1,463,560	1,366,980
TWWD Source	0	0	0	0	0	0	0	0	0
Storage	80,300	83,100	3,006,000	3,109,000	92,100	95,300	3,813,700	3,947,000	4,533,500
Pumping	175,000	1,119,900	1,158,750	1,199,000	1,241,500	1,285,000	1,330,000	1,376,500	1,424,500
Pipelines	20,945,550	17,426,200	32,153,930	51,113,270	35,508,200	38,859,230	32,891,370	32,195,620	25,394,990
PRVs/Vaults	409,000	423,000	438,000	453,500	469,000	485,500	502,500	520,000	538,500
Facilities	377,750	391,000	404,650	418,850	433,500	448,650	464,350	480,600	497,450
Fleet	817,500	846,500	876,000	906,500	938,500	971,000	1,005,000	1,040,000	1,075,000
IT	0	0	0	0	0	0	0	0	0
Meters/Svcs	2,398,500	2,481,500	2,570,000	2,658,500	2,755,000	2,848,000	2,948,000	3,054,000	3,160,500
Other/Undefined	16,484,950	11,730,000	12,140,500	12,565,500	13,005,500	13,460,500	13,931,500	14,419,500	14,924,000
Capital Outlays from O&M	651,130	680,431	711,050	743,048	776,485	811,427	847,941	886,098	925,972
Totals	\$60,775,501	\$53,408,385	\$56,052,443	\$76,314,291	\$62,081,366	\$79,905,620	\$102,700,077	\$61,266,337	\$53,841,392

TWWD Forecast Model Summary

Table 1
 Tualatin Valley Water District
 2021-2023 Financial Plan
45-year Categorical CIP Summary (Escalated)

Category	FY2039	FY2040	FY2041	FY2042	FY2043	FY2044	FY2045	FY2046	FY2047
WWSP	\$0	\$125,346	\$13,537,623	\$7,192	\$0	\$28,417	\$7,880,894	\$88,450,327	\$40,177,164
JWC	1,231,080	1,602,960	1,512,270	1,840,170	1,728,850	1,898,470	1,964,960	1,620,790	1,822,660
TVWD Source	0	0	0	0	0	0	0	0	0
Storage	6,253,500	4,376,000	4,529,500	5,512,500	9,732,000	7,232,000	22,758,000	5,379,500	6,793,000
Pumping	1,474,000	3,451,000	5,559,000	1,634,500	1,692,000	1,751,000	1,812,500	1,875,500	1,941,500
Pipelines	42,840,450	49,470,000	26,143,500	24,301,500	40,575,000	25,126,000	30,277,500	26,112,000	30,471,500
PRVs/Vaults	557,000	577,000	597,000	618,000	639,500	662,000	685,000	709,000	734,000
Facilities	514,850	532,850	551,500	570,800	590,800	611,500	632,900	655,050	677,950
Fleet	1,115,000	1,155,000	1,195,000	1,235,000	1,280,000	1,325,000	1,370,000	1,420,000	1,470,000
IT	0	0	0	0	0	0	0	0	0
Meters/Svcs	3,272,500	3,385,000	3,503,000	3,627,000	3,751,500	3,882,000	4,017,500	4,159,500	4,306,500
Other/Undefined	15,446,500	15,987,000	16,546,500	17,125,500	17,725,000	18,345,500	18,987,500	19,652,000	20,340,000
Capital Outlays from O&M	967,641	1,011,185	1,056,688	1,104,239	1,153,930	1,205,857	1,260,121	1,316,826	1,376,083
Totals	\$73,672,521	\$81,672,941	\$74,731,581	\$57,576,402	\$78,868,580	\$62,067,744	\$91,646,874	\$151,350,493	\$110,110,357

TVWD Forecast Model Summary

Table 1
 Tualatin Valley Water District
 2021-2023 Financial Plan
45-Year Categorical CIP Summary (Escalated)

Category	FY2048	FY2049	FY2050	FY2051	FY2052	FY2053	FY2054	FY2055	FY2056
WWSP	\$4,152,500	\$0	\$5,535,486	\$863,935	\$4,982,240	\$0	\$0	\$188,916	\$65,597,314
JWC	7,637,800	7,905,100	8,182,050	8,533,120	9,004,050	1,992,900	2,062,700	2,134,550	2,286,430
TVWD Source	0	0	0	0	0	0	0	0	0
Storage	11,158,500	12,360,000	46,498,500	6,224,000	6,442,000	6,667,500	6,900,500	7,142,000	7,392,000
Pumping	2,009,500	2,079,500	2,152,500	2,240,300	2,318,850	2,399,900	2,483,900	2,570,850	2,660,850
Pipelines	25,283,000	26,171,500	27,086,000	29,014,950	30,030,200	31,081,400	32,169,550	33,295,250	34,461,000
PRVs/Vaults	759,500	786,000	813,500	871,500	902,000	933,600	966,250	1,000,000	1,035,000
Facilities	701,700	726,250	751,650	777,950	805,200	833,400	862,550	892,750	924,000
Fleet	1,520,000	1,570,000	1,625,000	1,401,500	1,450,500	1,501,500	1,554,000	1,608,500	1,665,000
IT	0	0	0	0	0	0	0	0	0
Meters/Svcs	4,455,000	4,614,000	4,773,500	4,013,500	4,154,000	4,299,500	4,450,000	4,606,000	4,767,000
Other/Undefined	21,052,000	21,788,500	22,551,000	23,340,500	24,157,500	25,003,000	25,878,000	26,783,500	27,721,000
Capital Outlays from O&M	1,438,007	1,502,717	1,570,340	1,641,005	1,714,850	1,792,018	1,872,659	1,956,929	2,044,991
Totals	\$80,167,507	\$79,503,567	\$121,539,526	\$78,922,260	\$85,961,390	\$76,504,718	\$79,200,109	\$82,179,244	\$150,554,585

TWWD Forecast Model Summary

Table 1
 Tualatin Valley Water District
 2021-2023 Financial Plan
45-year Categorical CIP Summary (Escalated)

Category	FY2057	FY2058	FY2059	FY2060	FY2061	FY2062	FY2063	FY2064	FY2065
WWSP	\$38,800,467	\$19,381,000	\$2,006,000	\$74,182	\$101,345	\$0	\$7,221,901	\$56,543	\$4,004,801
JWC	2,570,900	2,366,800	2,449,350	2,535,050	2,715,420	3,053,500	2,810,600	2,909,650	3,011,350
TWWD Source	0	0	0	0	0	0	0	0	0
Storage	7,651,000	7,918,500	8,196,000	8,482,500	8,779,500	9,087,000	9,405,000	9,734,000	10,075,000
Pumping	2,754,400	2,850,450	2,950,550	3,053,750	3,160,550	3,271,000	3,385,600	3,503,800	3,626,750
Pipelines	35,666,300	36,915,300	38,207,000	39,544,500	40,928,500	42,361,000	43,843,000	45,378,000	46,966,000
PRVs/Vaults	1,074,500	1,109,000	1,147,500	1,188,000	1,229,500	1,272,500	1,317,000	1,363,000	1,410,500
Facilities	956,300	989,800	1,024,500	1,060,500	1,097,500	1,136,000	1,175,500	1,216,500	1,259,500
Fleet	1,723,000	1,783,500	1,845,500	1,910,500	1,977,000	2,046,500	2,118,000	2,192,000	2,269,000
IT	0	0	0	0	0	0	0	0	0
Meters/Svcs	4,934,000	5,106,500	5,285,500	5,470,500	5,661,500	5,860,000	6,065,000	6,277,500	6,497,000
Other/Undefined	28,691,500	29,695,500	30,735,000	31,810,500	32,924,000	34,076,500	35,269,000	36,503,500	37,781,000
Capital Outlays from O&M	2,137,015	2,235,181	2,333,674	2,438,689	2,548,430	2,663,110	2,782,950	2,908,182	3,039,050
Totals	\$126,956,382	\$110,349,531	\$96,180,574	\$97,568,671	\$101,123,245	\$104,827,110	\$115,393,551	\$112,042,675	\$119,939,951

TVWD Forecast Model Summary

Table 2
Tualatin Valley Water District
2021-2023 Financial Plan
Funding Sources for Improvements

Description	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030
Funding Summary										
Capital Projects & Outlays from Cash/Reserves	\$88,761,607	\$75,616,970	\$44,442,139	\$40,842,707	\$45,807,101	\$53,184,223	\$28,891,365	\$29,609,524	\$30,124,521	\$56,503,413
Projects funded from Debt Proceeds (incl Fund Int.)	0	59,500,000	195,000,000	132,748,990	36,159,240	0	0	0	0	0
SDC-Funded Capital Projects	5,000,597	4,780,555	4,793,519	4,805,090	4,815,206	4,823,804	4,696,631	4,562,442	4,421,006	4,272,088
Totals	\$93,762,204	\$139,897,524	\$244,235,658	\$178,396,787	\$86,781,547	\$58,008,028	\$33,587,996	\$34,171,966	\$34,545,527	\$60,775,501
Funding Split										
Capital Projects & Outlays from Cash/Reserves	94.7%	54.1%	18.2%	22.9%	52.8%	91.7%	86.0%	86.6%	87.2%	93.0%
Projects funded from Debt Proceeds (incl Fund Int.)	0.0%	42.5%	79.8%	74.4%	41.7%	0.0%	0.0%	0.0%	0.0%	0.0%
SDC-Funded Capital Projects	5.3%	3.4%	2.0%	2.7%	5.5%	8.3%	14.0%	13.4%	12.8%	7.0%
Totals	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Check	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

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TVWD Forecast Model Summary

Table 2
 Tuolumne Valley Water District
 2021-2023 Financial Plan
Funding Sources for Improvements

Description	FY2031	FY2032	FY2033	FY2034	FY2035	FY2036	FY2037	FY2038	FY2039	FY2040
Funding Summary										
Capital Projects & Outlays from Cash/Reserves	\$49,292,940	\$52,101,616	\$72,536,312	\$58,484,730	\$56,178,958	\$46,680,516	\$58,267,440	\$51,060,597	\$60,950,518	\$37,311,241
Projects funded from Debt Proceeds (incl fund int.)	0	0	0	0	20,320,134	52,812,185	0	0	10,169,233	42,047,188
SDC-Funded Capital Projects	4,115,445	3,950,827	3,777,978	3,596,635	3,406,527	3,207,377	2,998,897	2,780,795	2,552,770	2,314,512
Totals	\$53,408,385	\$56,052,443	\$76,314,291	\$62,081,366	\$79,905,620	\$102,700,077	\$61,266,337	\$53,841,392	\$73,672,521	\$81,672,941
Funding Split										
Capital Projects & Outlays from Cash/Reserves	92.3%	93.0%	95.0%	94.2%	70.3%	45.5%	95.1%	94.8%	82.7%	45.7%
Projects funded from Debt Proceeds (incl fund int.)	0.0%	0.0%	0.0%	0.0%	25.4%	51.4%	0.0%	0.0%	13.8%	51.5%
SDC-Funded Capital Projects	7.7%	7.0%	5.0%	5.8%	4.3%	3.1%	4.9%	5.2%	3.5%	2.8%
Totals	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Check	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

TVWD Forecast Model Summary

Table 2
 Tuolumne Valley Water District
 2021-2023 Financial Plan
Funding Sources for Improvements

Description	FY2041	FY2042	FY2043	FY2044	FY2045	FY2046	FY2047	FY2048	FY2049	FY2050
Funding Summary										
Capital Projects & Outlays from Cash/Reserves	\$72,665,880	\$55,770,388	\$77,333,469	\$60,815,093	\$78,090,479	\$68,831,728	\$48,890,947	\$19,275,846	\$18,616,489	\$121,539,526
Projects funded from Debt Proceeds (incl fund int.)	0	0	0	0	12,598,117	81,867,136	60,887,078	60,891,661	60,887,078	0
SDC-Funded Capital Projects	2,065,702	1,806,013	1,535,111	1,252,651	958,278	651,629	332,331	0	0	0
Totals	\$74,731,581	\$57,576,402	\$78,868,580	\$62,067,744	\$91,646,874	\$151,350,493	\$110,110,357	\$80,167,507	\$79,503,567	\$121,539,526
Funding Split										
Capital Projects & Outlays from Cash/Reserves	97.2%	96.9%	98.1%	98.0%	85.2%	45.5%	44.4%	24.0%	23.4%	100.0%
Projects funded from Debt Proceeds (incl fund int.)	0.0%	0.0%	0.0%	0.0%	13.7%	54.1%	55.3%	76.0%	76.6%	0.0%
SDC-Funded Capital Projects	2.8%	3.1%	1.9%	2.0%	1.0%	0.4%	0.3%	0.0%	0.0%	0.0%
Totals	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Check	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

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TWWD Forecast Model Summary

Table 3
 Tuolumne Valley Water District
 2021-2023 Financial Plan
 Projected LTD Sizing & Debt Service Assumptions

	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030
PROJECTED DEBT ISSUE SIZING										
Total Cost of Debt-Eligible Projects	\$93,262,204	\$139,401,924	\$244,025,308	\$177,896,787	\$86,259,047	\$57,462,015	\$33,017,413	\$33,575,707	\$33,922,436	\$60,124,371
Total Debt-Eligible Capital Project Costs (after other funding)	88,261,607	134,621,370	239,231,789	173,091,697	36,157,842	52,638,211	28,320,782	29,013,265	29,501,430	55,852,283
Issue Proceeds, Costs, & Reserves Estimates										
Bond Proceeds Requested	\$0	\$0	\$0	\$0	\$336,157,842	\$0	\$0	\$0	\$0	\$0
Issuance Costs	0.75%	0.75%	0.75%	0.75%	0.75%	1.50%	1.50%	1.50%	1.50%	1.50%
Reserve Req. Selected: Minimum of 3-Prong Test	0.00%	0.00%	0.00%	0.00%	5.57%	0.00%	0.00%	0.00%	0.00%	0.00%
Issue Sizing										
Rev. Bonds Issue Sizing Formulas	\$0	\$0	\$0	\$0	\$38,598,507	\$0	\$0	\$0	\$0	\$0
Rev. Bonds Issue Size used in model	\$0	\$0	\$0	\$0	\$38,600,000	\$0	\$0	\$0	\$0	\$0
Summary of Costs and Reserves by Issue										
Issuance Costs	\$0	\$0	\$0	\$0	\$289,500	\$0	\$0	\$0	\$0	\$0
Reserve Requirement	0	0	0	0	2,151,260	0	0	0	0	0
Proceeds Used in model forecast	\$0	\$0	\$0	\$0	\$36,159,240	\$0	\$0	\$0	\$0	\$0
LTD Proceeds Used in model forecast	\$0	\$0	\$0	\$0	\$36,159,240	\$0	\$0	\$0	\$0	\$0
Difference recouped from (or added to) Rates/Reserves	0	0	0	0	(1,398)	0	0	0	0	0
DEBT SERVICE FORECASTING										
Debt Service Requirements										
Term (Years)	30	30	30	30	30	30	30	30	30	30
Interest Rate	3.00%	3.50%	3.50%	3.50%	3.50%	3.50%	4.00%	4.50%	5.00%	5.50%
New Debt Service										
Annual Debt Service Costs	\$0	\$0	\$0	\$0	\$2,098,733	\$0	\$0	\$0	\$0	\$0
Accumulated Debt Service	0	0	0	0	675,500	1,351,000	2,151,260	2,151,260	2,151,260	2,151,260
Check Proceeds	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

TWWD Forecast Model Summary

Table 3
Tualatin Valley Water District
2021-2023 Financial Plan
Projected LTD Sizing & Debt Service Assumptions

	FY2031	FY2032	FY2033	FY2034	FY2035	FY2036	FY2037	FY2038	FY2039	FY2040
PROJECTED DEBT ISSUE SIZING										
Total Cost of Debt-Eligible Projects	\$52,727,954	\$55,341,393	\$75,571,243	\$61,304,881	\$79,094,194	\$101,852,137	\$60,380,239	\$52,915,420	\$72,704,880	\$80,661,756
Total Debt-Eligible Capital Project Costs (after other funding)	48,612,510	51,390,566	71,799,265	57,708,246	20,321,731	52,811,299	57,381,342	50,134,625	10,170,584	42,049,454
Issue Proceeds, Costs, & Reserves Estimates										
Bond Proceeds Requested	\$0	\$0	\$0	\$0	\$20,321,731	\$52,811,299	\$0	\$0	\$10,170,584	\$42,049,454
Issuance Costs	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%
Reserve Req. Selected: Minimum of 3-Prong Test	0.00%	0.00%	0.00%	0.00%	6.84%	6.84%	0.00%	0.00%	6.84%	6.84%
Issue Sizing										
Rev. Bonds Issue Sizing Formulas	\$0	\$0	\$0	\$0	\$22,171,742	\$57,619,033	\$0	\$0	\$11,096,474	\$45,877,472
Rev. Bonds Issue Size used in model	\$0	\$0	\$0	\$0	\$22,170,000	\$57,620,000	\$0	\$0	\$11,095,000	\$45,875,000
Summary of Costs and Reserves by Issue										
Issuance Costs	\$0	\$0	\$0	\$0	\$332,550	\$864,300	\$0	\$0	\$166,425	\$688,125
Reserve Requirement	0	0	0	0	1,517,316	3,943,515	0	0	799,342	3,139,687
Proceeds Used in model forecast	\$0	\$0	\$0	\$0	\$20,320,134	\$52,812,185	\$0	\$0	\$10,169,233	\$42,047,188
LTD Proceeds Used in model forecast	\$0	\$0	\$0	\$0	\$20,320,134	\$52,812,185	\$0	\$0	\$10,169,233	\$42,047,188
Difference recouped from (or added to) Rates/Reserves	0	0	0	0	1,596	(887)	0	0	1,351	2,266
DEBT SERVICE FORECASTING										
Debt Service Requirements										
Term (Years)	30	30	30	30	30	30	30	30	30	30
Interest Rate	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%
New Debt Service										
Annual Debt Service Costs	\$0	\$0	\$0	\$0	\$1,525,415	\$3,964,567	\$0	\$0	\$763,396	\$3,156,447
Accumulated Debt Service	2,151,260	2,151,260	2,151,260	2,151,260	2,909,918	5,640,333	7,612,090	7,612,090	7,991,761	9,941,276
Check Proceeds	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

TWWD Forecast Model Summary

Table 3
 Tualatin Valley Water District
 2021-2023 Financial Plan
 Projected LTD Sizing & Debt Service Assumptions

	FY2041	FY2042	FY2043	FY2044	FY2045	FY2046	FY2047	FY2048	FY2049	FY2050
PROJECTED DEBT ISSUE SIZING										
Total Cost of Debt-Eligible Projects	\$72,527,893	\$56,472,162	\$77,714,630	\$60,861,887	\$90,386,734	\$150,033,667	\$108,734,274	\$78,729,500	\$78,000,850	\$114,442,186
Total Debt-Eligible Capital Project Costs (after other funding)	70,462,191	54,666,149	76,179,539	59,609,236	12,599,735	81,866,888	60,885,065	60,889,395	60,887,464	114,442,186
Issue Proceeds, Costs, & Reserves Estimates										
Bond Proceeds Requested	\$0	\$0	\$0	\$0	\$12,599,735	\$81,866,888	\$60,885,065	\$60,889,395	\$60,887,464	\$0
Issuance Costs	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%
Reserve Req. Selected: Minimum of 3-Prong Test	0.00%	0.00%	0.00%	0.00%	6.84%	6.84%	6.84%	6.84%	6.84%	0.00%
Issue Sizing										
Rev. Bonds Issue Sizing Formulas	\$0	\$0	\$0	\$0	\$13,746,766	\$89,319,729	\$66,427,803	\$66,432,528	\$66,430,420	\$0
Rev. Bonds Issue Size used in model	\$0	\$0	\$0	\$0	\$13,745,000	\$89,320,000	\$66,430,000	\$66,435,000	\$66,430,000	\$0
Summary of Costs and Reserves by Issue										
Issuance Costs	\$0	\$0	\$0	\$0	\$206,175	\$1,339,800	\$996,450	\$996,525	\$996,450	\$0
Reserve Requirement	0	0	0	0	940,708	6,113,064	4,546,472	4,546,814	4,546,472	0
Proceeds Used in model forecast	\$0	\$0	\$0	\$0	\$12,598,117	\$81,867,136	\$60,887,078	\$60,891,661	\$60,887,078	\$0
LTD Proceeds Used in model forecast	\$0	\$0	\$0	\$0	\$12,598,117	\$81,867,136	\$60,887,078	\$60,891,661	\$60,887,078	\$0
Difference recouped from (or added to) Rates/Reserves	0	0	0	0	1,618	(248)	(2,013)	(2,266)	385	0
DEBT SERVICE FORECASTING										
Debt Service Requirements										
Term (Years)	30	30	30	30	30	30	30	30	30	30
Interest Rate	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%
New Debt Service										
Annual Debt Service Costs	\$0	\$0	\$0	\$0	\$945,730	\$6,145,697	\$4,570,742	\$4,571,086	\$4,570,742	\$0
Accumulated Debt Service	11,511,119	11,511,119	11,511,119	11,511,119	11,981,473	15,508,359	20,838,127	25,384,770	29,931,412	32,204,648
Check Proceeds	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

TVWD Forecast Model Summary

Table 4
 Tualatin Valley Water District
 2021-2023 Financial Plan
WIFIA Loan Sizing & Debt Service Assumptions

	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027
Totals							
WIFIA Proceeds and Ratio based on TVWD Cost Shares							
WWSP Project Costs	\$790,824,470						
EPA WIFIA Issuance Costs	500,000						
Total WWSP/WIFIA Costs	\$791,324,470						
Less: Ineligible Costs	0						
Total Eligible WWSP/WIFIA Costs	\$791,324,470						
WIFIA Proceeds Requests	\$387,748,990	\$60,000,000	\$195,000,000	\$132,748,990	\$0	\$0	NA
WIFIA %	49.00%						
WIFIA Loan Sizing							
WIFIA Proceeds (FY2027 DSR amt. based on MADS)	\$387,748,990	\$60,000,000	\$195,000,000	\$132,748,990	\$0	\$0	\$0
Capitalized Interest on Proceeds	27,350,497	5,264,075	14,273,516	7,812,906	0	0	NA
WIFIA Debt	\$415,099,487	\$65,264,075	\$209,273,516	\$140,561,896	\$0	\$0	\$0
Debt Service Requirements							
# of Level Payments	67						
Interest Rate	1.35%						
First Repayment Year	FY2028						
Interest-only Payments (if not capitalized)	FALSE	\$0	\$0	\$0	\$0	\$0	\$0
Summary of WIFIA Proceeds and Requirements							
Issuance Costs	\$500,000	\$500,000	\$0	\$0	\$0	\$0	\$0
Reserve Requirement	0	NA	NA	NA	NA	NA	NA
WIFIA Proceeds for WWSP Projects	\$0	\$59,500,000	\$195,000,000	\$132,748,990	\$0	\$0	\$0

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TVWD Forecast Model Summary

Table 5
Tualatin Valley Water District
2021-2023 Financial Plan
Total Annual Debt Service and Balance Summary

Description	Subject to Req?	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030
Existing Debt Service											
None	TRUE	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
BANs Interest (if applicable)	FALSE	0	0	0	0	0	0	0	0	0	0
Totals		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Amount Subject to Coverage											
		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Debt Service on Proposed Debt											
Future Revenue Bonds	TRUE	\$0	\$0	\$0	\$0	\$675,500	\$1,351,000	\$2,151,260	\$2,151,260	\$2,151,260	\$2,151,260
WIFIA Interest-only	TRUE	0	0	0	0	0	0	0	0	0	0
WIFIA Loan	TRUE	0	0	0	0	0	0	0	7,722,250	15,444,500	15,444,500
Total Debt Service Subject to Coverage		\$0	\$0	\$0	\$0	\$675,500	\$1,351,000	\$2,151,260	\$9,873,510	\$17,595,760	\$17,595,760
Total Interest Expense		\$0	\$0	\$0	\$0	\$675,500	\$1,351,000	\$1,343,998	\$4,117,418	\$6,789,971	\$6,624,772
Ending Debt Balances											
Future Revenue Bonds		\$0	\$0	\$0	\$0	\$38,600,000	\$38,600,000	\$37,792,738	\$36,956,974	\$36,091,703	\$35,195,882
WIFIA Loan		0	0	0	0	0	0	0	410,179,159	400,238,641	390,163,474
Total Debt Balance		\$0	\$0	\$0	\$0	\$38,600,000	\$38,600,000	\$37,792,738	\$447,136,133	\$436,330,344	\$425,359,356

TVWD Forecast Model Summary

Table 5
 Tuolumne Valley Water District
 2021-2023 Financial Plan
 Total Annual Debt Service and Balance Summary

Description	FY2031	FY2032	FY2033	FY2034	FY2035	FY2036	FY2037	FY2038	FY2039	FY2040
Existing Debt Service										
None	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
BANs Interest (if applicable)	0	0	0	0	0	0	0	0	0	0
Totals	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>
Amount Subject to Coverage	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Debt Service on Proposed Debt										
Future Revenue Bonds	\$2,151,260	\$2,151,260	\$2,151,260	\$2,151,260	\$2,909,918	\$5,640,333	\$7,612,090	\$7,612,090	\$7,991,761	\$9,941,276
WIFIA Interest-only	0	0	0	0	0	0	0	0	0	0
WIFIA Loan	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500
Total Debt Service Subject to Coverage	<u>\$17,595,760</u>	<u>\$17,595,760</u>	<u>\$17,595,760</u>	<u>\$17,595,760</u>	<u>\$18,354,418</u>	<u>\$21,084,833</u>	<u>\$23,056,590</u>	<u>\$23,056,590</u>	<u>\$23,436,261</u>	<u>\$25,385,776</u>
Total Interest Expense	\$6,456,670	\$6,285,602	\$6,111,506	\$5,934,313	\$6,363,631	\$8,361,862	\$9,709,973	\$9,456,452	\$9,501,063	\$10,793,772
Ending Debt Balances										
Future Revenue Bonds	\$34,268,433	\$33,308,240	\$32,314,145	\$31,284,953	\$52,240,441	\$108,059,716	\$105,783,292	\$103,403,300	\$111,935,230	\$154,744,397
WIFIA Loan	379,951,832	369,601,869	359,111,709	348,479,454	337,703,179	326,780,934	315,710,740	304,490,595	293,118,466	281,592,296
Total Debt Balance	<u>\$414,220,266</u>	<u>\$402,910,108</u>	<u>\$391,425,854</u>	<u>\$379,764,407</u>	<u>\$389,943,620</u>	<u>\$434,840,649</u>	<u>\$421,494,032</u>	<u>\$407,893,894</u>	<u>\$405,053,696</u>	<u>\$436,336,692</u>

TVWD Forecast Model Summary

Table 5
 Tuolumne Valley Water District
 2021-2023 Financial Plan
Total Annual Debt Service and Balance Summary

Description	FY2041	FY2042	FY2043	FY2044	FY2045	FY2046	FY2047	FY2048	FY2049	FY2050
Existing Debt Service										
None	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
BANs Interest (if applicable)	0	0	0	0	0	0	0	0	0	0
Totals	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Amount Subject to Coverage	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Debt Service on Proposed Debt										
Future Revenue Bonds	\$11,511,119	\$11,511,119	\$11,511,119	\$11,511,119	\$11,981,473	\$15,508,359	\$20,838,127	\$25,384,770	\$29,931,412	\$32,204,648
WIFIA Interest-only	0	0	0	0	0	0	0	0	0	0
WIFIA Loan	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500
Total Debt Service Subject to Coverage	\$26,955,619	\$26,955,619	\$26,955,619	\$26,955,619	\$27,425,973	\$30,952,859	\$36,282,627	\$40,829,269	\$45,375,912	\$47,649,148
Total Interest Expense	\$11,745,707	\$11,417,611	\$11,078,848	\$10,728,947	\$10,745,402	\$13,198,316	\$17,034,357	\$20,170,277	\$23,235,948	\$24,400,631
Ending Debt Balances										
Future Revenue Bonds	\$151,216,784	\$147,519,319	\$143,643,477	\$139,580,293	\$148,972,972	\$233,033,672	\$292,879,900	\$351,491,954	\$408,791,907	\$398,729,534
WIFIA Loan	269,909,997	258,069,454	246,068,525	233,905,037	221,576,787	209,081,544	196,417,046	183,581,001	170,571,084	157,384,940
Total Debt Balance	\$421,126,781	\$405,588,773	\$389,712,002	\$373,485,330	\$370,549,760	\$442,115,216	\$489,296,946	\$535,072,954	\$579,362,990	\$556,114,474

TWWD Forecast Model Summary

Table 6
Tualatin Valley Water District
2021-2023 Financial Plan
Summary O&M Forecast

	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030	FY2031	FY2032
Water Costs												
Portland	\$9,459,000	\$8,274,600	\$9,664,200	\$10,609,884	\$10,927,493	\$11,315,874	\$74,771	\$78,136	\$81,652	\$85,326	\$89,166	\$93,178
JWC	1,049,650	2,595,300	2,999,500	2,555,365	2,697,707	2,847,794	5,447,817	5,692,969	5,949,152	6,216,864	6,496,623	6,788,971
WWSS Water	0	0	0	0	0	0	2,996,093	3,167,193	3,345,230	3,527,686	3,714,314	3,904,825
Water Costs Subtotal	\$10,508,650	\$10,869,900	\$12,663,700	\$13,165,248	\$13,625,201	\$14,163,667	\$8,518,681	\$8,938,297	\$9,376,034	\$9,829,877	\$10,300,103	\$10,786,974
% Change		3.4%	16.5%	4.0%	3.5%	4.0%	(39.5%)	4.5%	4.5%	4.8%	4.8%	4.7%
Pumping Power												
In-District Pumping	\$457,100	\$450,000	\$479,325	\$500,895	\$523,435	\$546,989	\$571,604	\$597,326	\$624,206	\$652,295	\$681,648	\$712,323
WWSS Pumping	0	0	0	0	0	0	772,999	817,143	863,077	910,151	958,302	1,007,454
Pumping Power Subtotal	\$457,100	\$450,000	\$479,325	\$500,895	\$523,435	\$546,989	\$1,344,603	\$1,414,469	\$1,487,283	\$1,562,447	\$1,639,950	\$1,719,777
% Change		(1.6%)	6.5%	4.3%	4.5%	4.5%	145.5%	5.2%	5.1%	5.1%	5.0%	4.9%
WWSS (excluding treatment & pump power)												
WWSS O&M (non-WTP)	0	0	0	0	0	0	457,081	476,160	496,047	516,774	538,378	560,897
WTR-related	38,275	39,998	41,798	43,679	45,644	47,698	79,545	83,124	86,865	90,774	94,858	99,127
WFA Insurance and Servicing	13,500	14,108	14,742	15,406	16,099	16,823	17,581	18,372	19,198	20,062	20,965	21,909
WWSS Subtotal	\$51,775	\$54,105	\$56,540	\$59,084	\$61,743	\$64,522	\$154,206	\$157,656	\$162,110	\$167,610	\$173,202	\$179,933
% Change		4.5%	4.5%	4.5%	4.5%	4.5%	758.9%	4.2%	4.2%	4.2%	4.2%	4.2%
Operational Expenses												
Administrative Services	\$3,175,401	\$4,007,770	\$3,955,615	\$4,157,482	\$4,344,569	\$4,540,075	\$4,287,298	\$4,481,715	\$4,684,933	\$4,897,949	\$5,119,381	\$5,351,461
Customer Service	5,616,464	5,502,670	5,914,675	6,199,306	6,471,537	6,735,849	7,052,783	7,362,903	7,686,796	8,025,078	8,378,392	8,747,411
Engineering/Operations	11,953,961	12,452,059	12,822,215	13,427,005	14,031,221	14,662,626	15,322,444	16,011,954	16,748,492	17,485,454	18,272,299	19,094,553
Other Operational Expenses	104,500	109,203	114,117	119,252	124,618	130,226	136,086	142,210	148,610	155,297	162,285	169,588
Finance	3,209,663	3,943,987	4,174,090	4,572,236	4,777,987	4,993,502	4,800,210	5,016,219	5,241,949	5,477,837	5,724,340	5,981,935
Water Supply Program	2,402,319	1,893,265	1,986,575	2,075,971	2,169,390	2,267,012	2,369,028	2,475,634	2,587,037	2,703,454	2,825,110	2,952,239
IT Services	2,528,168	2,796,112	3,112,337	3,331,544	3,481,463	3,638,129	3,801,845	3,972,928	4,151,710	4,338,537	4,533,771	4,737,791
Operational Expenses Subtotal	\$28,990,476	\$30,705,065	\$32,079,623	\$33,882,797	\$35,400,784	\$36,587,419	\$37,769,694	\$39,463,562	\$41,233,526	\$43,083,006	\$45,015,578	\$47,034,977
% Change		5.9%	4.5%	5.6%	4.5%	3.4%	3.2%	4.5%	4.5%	4.5%	4.5%	4.5%
Other												
Expenses from Master Plan CIP	\$88,000	\$92,000	\$96,000	\$574,900	\$105,000	\$122,700	\$128,200	\$125,500	\$130,600	\$136,800	\$143,000	\$149,300
Capital Outlays	500,000	495,600	210,350	500,000	522,500	546,013	570,583	596,259	623,091	651,130	680,431	711,050
Initiatives - Personnel Svcs.	0	0	0	1,014,500	2,788,000	3,033,500	3,043,000	3,043,000	3,180,500	3,568,000	3,730,500	3,898,373
Initiatives - M&S	0	0	0	420,250	591,150	303,510	318,065	333,330	349,320	366,090	623,360	651,411
Other Subtotal	\$588,000	\$587,600	\$306,350	\$2,509,650	\$2,521,650	\$3,760,223	\$3,929,848	\$4,098,089	\$4,284,511	\$4,722,020	\$5,177,291	\$5,410,134
% Change		(0.1%)	(47.5%)	719.2%	0.5%	48.1%	4.5%	4.3%	4.5%	10.2%	9.6%	4.5%
Grand Total O&M	\$40,596,001	\$42,666,670	\$45,585,538	\$50,117,674	\$52,132,813	\$55,122,820	\$52,117,082	\$54,492,075	\$56,982,464	\$59,824,959	\$62,787,123	\$65,633,795
% Change		5.1%	6.6%	9.3%	4.0%	5.7%	(5.5%)	4.6%	4.6%	5.0%	5.0%	4.5%
Less Capitalized OH & Capital Outlays	\$3,757,180	\$3,906,238	\$3,781,698	\$4,239,634	\$4,438,354	\$4,195,678	\$2,571,050	\$2,686,747	\$2,807,651	\$2,933,995	\$3,066,025	\$3,203,996
Net O&M	\$36,838,822	\$38,760,432	\$41,803,840	\$45,878,040	\$47,694,459	\$50,927,142	\$49,545,982	\$51,805,328	\$54,174,813	\$56,890,964	\$59,721,098	\$62,429,799
% Change		5.2%	7.9%	9.7%	4.0%	6.6%	(2.7%)	4.6%	4.6%	5.0%	5.0%	4.5%
Check	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

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TWWD Forecast Model Summary

Table 6
Tualatin Valley Water District
2021-2023 Financial Plan
Summary O&M Forecast

	FY2033	FY2034	FY2035	FY2036	FY2037	FY2038	FY2039	FY2040	FY2041	FY2042	FY2043	FY2044
Water Costs												
Portland	\$97,371	\$101,753	\$106,332	\$111,117	\$116,117	\$121,342	\$126,803	\$132,509	\$138,472	\$144,703	\$151,214	\$158,019
JWC	7,094,475	7,413,726	7,747,344	8,460,293	8,840,077	9,238,852	9,338,852	9,654,600	10,089,507	10,543,065	11,017,503	11,513,290
WWSS Water	4,098,893	4,296,146	4,496,169	4,698,497	4,909,929	5,130,876	5,361,766	5,603,045	5,855,182	6,118,665	6,394,005	6,681,735
Water Costs Subtotal	\$11,290,739	\$11,811,626	\$12,349,845	\$12,905,988	\$13,486,340	\$14,092,225	\$14,727,420	\$15,390,154	\$16,082,711	\$16,806,433	\$17,562,722	\$18,353,045
% Change	4.7%	4.6%	4.6%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%
Pumping Power												
In-District Pumping	\$744,377	\$777,874	\$812,878	\$849,458	\$887,683	\$927,629	\$969,373	\$1,012,994	\$1,068,579	\$1,106,215	\$1,155,995	\$1,208,015
WWSS Pumping	1,057,524	1,108,416	1,160,022	1,212,223	1,266,773	1,323,778	1,383,348	1,445,599	1,510,651	1,578,650	1,649,669	1,723,904
Pumping Power Subtotal	\$1,801,901	\$1,886,290	\$1,972,901	\$2,061,681	\$2,154,457	\$2,251,407	\$2,352,721	\$2,458,593	\$2,569,230	\$2,684,865	\$2,805,663	\$2,931,918
% Change	4.8%	4.7%	4.6%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%
WWSS (excluding treatment & pump power)												
WWSS O&M (non-WTP)	614,602	640,429	667,355	695,425	724,071	753,320	783,193	813,620	844,617	876,186	907,337	939,070
WTR-related	105,388	108,249	113,120	118,211	123,530	129,089	134,898	140,969	147,312	153,941	160,869	168,108
WFA Insurance and Servicing	22,894	23,925	25,001	26,126	27,302	28,531	29,814	31,156	32,558	34,023	35,554	37,154
WWSS Subtotal	\$741,884	\$772,603	\$805,476	\$839,762	\$880,273	\$918,940	\$957,985	\$1,000,145	\$1,047,487	\$1,094,150	\$1,141,260	\$1,188,322
% Change	4.7%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%
Operational Expenses												
Administrative Services	\$5,563,812	\$5,816,014	\$6,079,628	\$6,355,172	\$6,642,433	\$6,940,358	\$7,249,073	\$7,568,522	\$7,898,720	\$8,239,646	\$8,581,352	\$8,933,869
Customer Service	9,132,854	9,535,397	9,959,865	10,395,058	10,853,752	11,332,883	11,833,342	12,356,083	12,901,105	13,472,446	14,068,198	14,690,495
Engineering/Operations	19,953,807	20,851,729	21,790,057	22,770,609	23,795,287	24,866,074	25,983,048	27,154,375	28,376,322	29,653,256	30,987,653	32,382,097
Other Operational Expenses	177,220	185,194	193,528	202,337	211,338	220,848	230,786	241,171	252,024	263,365	275,217	287,601
Finance	6,251,122	6,532,422	6,826,381	7,133,569	7,454,579	7,790,035	8,140,587	8,506,913	8,889,724	9,289,762	9,707,801	10,144,652
Water Supply Program	3,085,090	3,223,919	3,368,996	3,520,600	3,679,028	3,844,584	4,017,590	4,198,382	4,387,309	4,584,738	4,791,051	5,006,648
IT Services	4,950,991	5,173,786	5,406,606	5,649,904	5,904,149	6,169,836	6,447,479	6,737,615	7,040,808	7,357,644	7,688,738	8,034,731
Operational Expenses Subtotal	\$49,114,877	\$51,318,462	\$53,621,061	\$56,027,128	\$58,427,566	\$61,049,618	\$63,789,503	\$66,652,522	\$69,644,211	\$72,770,358	\$76,037,009	\$79,450,484
% Change	4.4%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%
Other												
Expenses from Master Plan CIP	\$155,500	\$749,200	\$169,900	\$177,200	\$185,400	\$193,700	\$202,000	\$211,200	\$220,500	\$230,800	\$241,100	\$1,078,500
Capital Outlays	743,048	776,485	811,427	847,941	886,098	925,972	967,641	1,011,185	1,056,688	1,104,239	1,153,930	1,205,857
Initiatives - Personnel Svcs.	4,073,799	4,257,120	4,448,691	4,648,882	4,858,081	5,076,695	5,305,146	5,543,878	5,793,352	6,054,053	6,326,486	6,611,178
Initiatives - M&S	680,725	711,357	743,368	776,820	811,777	848,307	886,481	926,372	968,059	1,011,622	1,057,145	1,104,716
Other Subtotal	\$5,633,072	\$6,494,162	\$6,173,386	\$6,450,842	\$6,741,356	\$7,046,674	\$7,361,268	\$7,692,635	\$8,038,600	\$8,400,714	\$8,778,660	\$10,000,251
% Change	4.5%	14.9%	(4.5%)	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	13.9%
Grand Total O&M	\$68,601,673	\$72,283,143	\$74,922,669	\$78,285,003	\$81,796,992	\$85,470,615	\$89,306,855	\$93,316,015	\$97,505,029	\$101,882,880	\$106,457,015	\$112,063,359
% Change	4.5%	5.4%	3.7%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	5.3%
Less Capitalized OH & Capital Outlays	\$3,348,176	\$3,498,844	\$3,656,292	\$3,820,825	\$3,992,762	\$4,172,436	\$4,360,196	\$4,556,405	\$4,761,443	\$4,975,708	\$5,199,615	\$5,433,597
Net O&M	\$65,253,497	\$68,784,299	\$71,266,377	\$74,464,178	\$77,804,230	\$81,298,179	\$84,946,660	\$88,759,611	\$92,743,586	\$96,907,173	\$101,257,400	\$106,629,762
% Change	4.5%	5.4%	3.6%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	5.3%
Check	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

TVWD Forecast Model Summary

Table 6
Tualatin Valley Water District
2021-2023 Financial Plan
Summary O&M Forecast

	FY2045	FY2046	FY2047	FY2048	FY2049	FY2050
Water Costs						
Portland	\$165,130	\$172,561	\$180,326	\$188,441	\$196,921	\$205,782
JWC	12,031,388	12,572,801	13,138,577	13,729,813	14,347,654	14,993,299
WWSS Water	6,982,413	7,296,622	7,624,970	7,968,094	8,326,658	8,701,358
Water Costs Subtotal	\$19,178,932	\$20,041,984	\$20,943,873	\$21,886,347	\$22,871,233	\$23,900,438
% Change	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%
Pumping Power						
In-District Pumping	\$1,262,375	\$1,319,182	\$1,378,545	\$1,440,580	\$1,505,406	\$1,573,149
WWSS Pumping	1,801,479	1,882,546	1,967,260	2,055,787	2,148,298	2,244,971
Pumping Power Subtotal	\$3,063,854	\$3,201,728	\$3,345,806	\$3,496,367	\$3,653,705	\$3,818,120
% Change	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%
WWSS (excluding treatment & pump power)						
WWSS O&M (non-WTP)	1,170,236	1,220,131	1,272,175	1,326,461	1,383,086	1,442,151
WTF-related	175,673	183,578	191,839	200,472	209,493	218,920
WTPA Issuance and Servicing	38,826	40,573	42,399	44,307	46,301	48,384
WWSS Subtotal	\$1,384,735	\$1,444,283	\$1,506,413	\$1,571,240	\$1,638,879	\$1,709,456
% Change	4.3%	4.3%	4.3%	4.3%	4.3%	4.3%
Operational Expenses						
Administrative Services	\$9,307,622	\$9,729,231	\$10,169,908	\$10,630,516	\$11,111,955	\$11,615,167
Customer Service	13,340,326	16,728,811	18,728,811	17,469,718	18,243,668	19,062,141
Engineering/Operations	33,839,292	35,362,060	36,953,352	38,616,253	40,353,985	42,169,914
Other Operational Expenses	300,543	314,068	328,201	342,970	358,404	374,532
Finance	10,604,162	11,078,214	11,576,733	12,097,687	12,642,082	13,210,976
Water Supply Program	5,231,947	5,467,385	5,713,417	5,970,521	6,239,194	6,519,958
IT Services	8,396,294	8,774,127	9,168,963	9,581,566	10,012,737	10,463,310
Operational Expenses Subtotal	\$83,017,386	\$86,744,617	\$90,639,387	\$94,709,231	\$98,962,025	\$103,405,998
% Change	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%
Other						
Expenses from Master Plan CIP	\$262,800	\$274,100	\$286,500	\$298,800	\$298,800	\$298,800
Capital Outlays	1,260,121	1,316,826	1,376,083	1,438,007	1,502,717	1,570,340
Initiatives – Personnel Svcs	6,908,681	7,219,571	7,544,452	7,883,952	8,238,730	8,609,473
Initiatives – M&S	1,154,428	1,206,378	1,260,665	1,317,395	1,376,677	1,438,628
Other Subtotal	\$9,586,029	\$10,016,875	\$10,467,700	\$10,938,154	\$11,416,925	\$11,917,240
% Change	(4.1%)	4.5%	4.5%	4.4%	4.4%	4.4%
Grand Total O&M	\$116,230,937	\$121,449,486	\$126,903,178	\$132,601,339	\$138,542,766	\$144,751,252
% Change	3.7%	4.5%	4.5%	4.5%	4.5%	4.5%
Less Capitalized OH & Capital Outlays	\$5,678,109	\$5,933,624	\$6,200,637	\$6,479,666	\$6,771,251	\$7,075,957
Net O&M	\$110,552,828	\$115,515,862	\$120,702,541	\$126,121,673	\$131,771,515	\$137,675,295
% Change	3.7%	4.5%	4.5%	4.5%	4.5%	4.5%
Check	OK	OK	OK	OK	OK	OK

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TVWD Forecast Model Summary

Table 7
 Tuahatin Valley Water District
 2021-2023 Financial Plan
Rate Revenue Assumptions

	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030
GENERAL Assumptions										
Overall Rate Revenue Increases	3.60%	9.50%	9.50%	3.90%	3.90%	3.90%	3.90%	3.90%	3.90%	3.90%
Month of Rate Increase Impact	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.
Prorated Percent Impact of Increase	47.51%	47.51%	47.51%	47.51%	47.51%	47.51%	47.51%	47.51%	47.51%	47.51%
RETAIL RATE Assumptions										
<i>Rate Revenue Increase Overrides</i>										
Class Customer/System Growth Rate	0.75%	0.70%	0.65%	0.60%	0.55%	0.50%	0.45%	0.40%	0.35%	0.30%
Sales Growth / Conservation Adj.	(0.72%)	0.37%	0.37%	0.37%	0.37%	0.37%	0.37%	0.37%	0.35%	0.30%
<i>Ratio - Volumetric Revenue</i>	78.82%	78.82%	78.82%	78.82%	78.82%	78.82%	78.82%	78.82%	78.82%	78.82%
Internal Revenue Growth	(0.41%)	0.44%	0.43%	0.42%	0.41%	0.40%	0.39%	0.38%	0.35%	0.30%

TVWD Forecast Model Summary

Table 7
 Tuolumne Valley Water District
 2021-2023 Financial Plan
Rate Revenue Assumptions

	FY2031	FY2032	FY2033	FY2034	FY2035	FY2036	FY2037	FY2038	FY2039	FY2040
GENERAL Assumptions										
Overall Rate Revenue Increases	3.90%	3.90%	3.90%	3.90%	3.90%	3.90%	3.90%	3.90%	3.90%	3.90%
Month of Rate Increase Impact	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.
Prorated Percent Impact of Increase	47.51%	47.51%	47.51%	47.51%	47.51%	47.51%	47.51%	47.51%	47.51%	47.51%
RETAIL RATE Assumptions										
<i>Rate Revenue Increase Overrides</i>										
Class Customer/System Growth Rate	0.25%	0.20%	0.15%	0.10%	0.05%	0.00%	0.00%	0.00%	0.00%	0.00%
Sales Growth / Conservation Adj.	0.25%	0.20%	0.15%	0.10%	0.05%	0.00%	0.00%	0.00%	0.00%	0.00%
<i>Ratio - Volumetric Revenue</i>	78.82%	78.82%	78.82%	78.82%	78.82%	78.82%	78.82%	78.82%	78.82%	78.82%
Internal Revenue Growth	0.25%	0.20%	0.15%	0.10%	0.05%	0.00%	0.00%	0.00%	0.00%	0.00%

TVWD Forecast Model Summary

Table 7
 Tuahatū Valley Water District
 2021-2023 Financial Plan
Rate Revenue Assumptions

	FY2041	FY2042	FY2043	FY2044	FY2045	FY2046	FY2047	FY2048	FY2049	FY2050
GENERAL Assumptions										
Overall Rate Revenue Increases	3.90%	3.90%	3.90%	3.90%	3.90%	3.90%	3.90%	3.90%	3.90%	3.90%
Month of Rate Increase Impact	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.
Prorated Percent Impact of Increase	47.51%	47.51%	47.51%	47.51%	47.51%	47.51%	47.51%	47.51%	47.51%	47.51%
RETAIL RATE Assumptions										
<i>Rate Revenue Increase Overrides</i>										
Class Customer/System Growth Rate	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Sales Growth / Conservation Adj.	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
<i>Ratio - Volumetric Revenue</i>	78.82%	78.82%	78.82%	78.82%	78.82%	78.82%	78.82%	78.82%	78.82%	78.82%
Internal Revenue Growth	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

TWWD Forecast Model Summary

Table 8
Tualatin Valley Water District
2021-2023 Financial Plan
Revenue Forecast

	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030
Retail										
Retail Revenue Before Increase	\$68,822,796	\$71,617,195	\$78,760,910	\$86,608,039	\$90,356,869	\$94,257,993	\$98,317,143	\$102,540,246	\$106,912,421	\$111,415,418
Retail Revenue from Increase	1,177,204	3,232,643	3,555,094	1,604,869	1,674,336	1,746,625	1,821,842	1,900,097	1,981,114	2,064,556
Total Retail Revenue	\$70,000,000	\$74,849,838	\$82,316,005	\$88,212,908	\$92,031,205	\$96,004,618	\$100,138,985	\$104,440,342	\$108,893,535	\$113,479,974
Total User Charges										
Manual Overrides	\$70,000,000	\$74,849,838	\$82,316,005	\$88,212,908	\$92,031,205	\$96,004,618	\$100,138,985	\$104,440,342	\$108,893,535	\$113,479,974
Non-Rate Revenues*										
Meter & Svc Revenue	\$417,140	\$1,697,650	\$1,737,975	\$1,818,775	\$1,884,325	\$1,950,825	\$2,016,850	\$2,127,050	\$2,200,200	\$2,278,575
Special Service & Turn On Fees	2,993	3,075	3,167	3,262	3,360	3,461	3,565	3,672	3,782	3,895
Penalty Fees	5,931	6,100	6,283	6,471	6,666	6,866	7,072	7,284	7,502	7,727
Dispatch Fees	0	133,425	137,428	141,551	145,797	150,171	154,676	159,316	164,096	169,019
Miscellaneous Income	574,860	202,375	208,446	214,700	221,141	227,775	234,608	241,646	248,896	256,363
Plan Review	26,235	25,125	25,879	26,655	27,455	28,278	29,127	30,001	30,901	31,828
Contract Reimbursements	1,143,759	1,200,000	1,236,000	1,273,080	1,311,272	1,350,611	1,391,129	1,432,863	1,475,849	1,520,124
Inspection Fees	91,260	86,700	89,301	91,980	94,739	97,582	100,509	103,524	106,630	109,829
Backflow Program Reimbursement	178,470	352,625	363,204	374,100	385,323	396,883	408,789	421,053	433,684	446,695
Power Generation Station	34,774	24,225	24,952	25,700	26,471	27,265	28,083	28,926	29,794	30,688
Rental Property Income	55,572	72,625	74,804	77,048	79,359	81,740	84,192	86,718	89,320	91,999
Payments for Fund 15 Expenses	1,350,950	1,417,148	1,486,596	1,559,439	1,635,844	1,716,186	0	0	0	0
COB Wheeling Revenue	1,304,632	1,082,935	933,005	771,679	598,357	412,413	213,189	219,585	226,172	232,957
Interest Earnings - Cash & Investments	1,236,710	664,557	194,969	170,209	220,489	223,922	305,197	462,026	601,666	651,332
Total Non-Rate Revenues	\$6,423,285	\$6,968,365	\$6,542,008	\$6,554,649	\$6,640,598	\$6,319,977	\$4,976,986	\$5,323,663	\$5,618,491	\$5,831,031
Total Revenues	\$76,423,285	\$81,818,403	\$88,858,013	\$94,767,558	\$98,671,803	\$102,324,595	\$105,115,971	\$109,764,005	\$114,512,026	\$119,311,005

* Note: Non-Rate Revenues are net of related expenses.

TWWD Forecast Model Summary

Table 8
Tualatin Valley Water District
2021-2023 Financial Plan
Revenue Forecast

	FY2031	FY2032	FY2033	FY2034	FY2035	FY2036	FY2037	FY2038	FY2039	FY2040
Retail										
Retail Revenue Before Increase	\$116,050,142	\$120,817,330	\$125,717,547	\$130,751,173	\$135,918,400	\$141,219,218	\$146,726,767	\$152,449,111	\$158,394,626	\$164,572,017
Retail Revenue from Increase	2,150,439	2,238,716	2,329,578	2,422,853	2,518,603	2,616,828	2,718,885	2,824,921	2,935,093	3,049,562
Total Retail Revenue	\$118,200,580	\$123,056,106	\$128,047,125	\$133,174,026	\$138,437,003	\$143,836,046	\$149,445,652	\$155,274,032	\$161,329,719	\$167,621,578
Total User Charges	\$118,200,580	\$123,056,106	\$128,047,125	\$133,174,026	\$138,437,003	\$143,836,046	\$149,445,652	\$155,274,032	\$161,329,719	\$167,621,578
<i>Manual Overrides</i>										
Non-Rate Revenues*										
Meter & Svc Revenue	\$2,357,425	\$2,441,500	\$2,525,575	\$2,615,350	\$2,705,600	\$2,800,600	\$2,901,300	\$3,002,475	\$3,108,875	\$3,215,750
Special Service & Turn On Fees	4,012	4,133	4,257	4,384	4,516	4,651	4,791	4,934	5,083	5,235
Penalty Fees	7,959	8,198	8,444	8,697	8,958	9,227	9,504	9,789	10,082	10,385
Dispatch Fees	174,089	179,312	184,691	190,232	195,939	201,817	207,872	214,108	220,531	227,147
Miscellaneous Income	264,053	271,975	280,134	288,538	297,195	306,110	315,294	324,752	334,495	344,530
Plan Review	32,782	33,766	34,779	35,822	36,897	38,004	39,144	40,318	41,528	42,774
Contract Reimbursements	1,565,728	1,612,700	1,661,081	1,710,913	1,762,240	1,815,108	1,869,561	1,925,648	1,983,417	2,042,920
Inspection Fees	113,124	116,518	120,013	123,613	127,322	131,142	135,076	139,128	143,302	147,601
Backflow Program Reimbursement	460,096	473,899	488,115	502,759	517,842	533,377	549,378	565,860	582,835	600,320
Power Generation Station	31,608	32,556	33,533	34,539	35,575	36,642	37,742	38,874	40,040	41,241
Rental Property Income	94,759	97,602	100,530	103,546	106,652	109,852	113,147	116,542	120,038	123,639
Payments for Fund 15 Expenses	0	0	0	0	0	0	0	0	0	0
COB Wheeling Revenue	239,946	247,145	254,559	262,196	270,062	278,163	286,508	295,104	303,957	313,075
Interest Earnings - Cash & Investments	601,945	583,044	498,754	405,941	383,965	409,974	429,533	444,588	467,155	548,745
Total Non-Rate Revenues	\$5,947,527	\$6,102,346	\$6,194,466	\$6,286,531	\$6,452,763	\$6,674,667	\$6,898,849	\$7,122,120	\$7,361,338	\$7,663,363
Total Revenues	\$124,148,107	\$129,158,451	\$134,241,591	\$139,460,557	\$144,889,766	\$150,510,713	\$156,344,500	\$162,396,152	\$168,691,058	\$175,284,941

* Note: Non-Rate Revenues are net of related expense

TWWD Forecast Model Summary

Table 8
Tualatin Valley Water District
2021-2023 Financial Plan
Revenue Forecast

	FY2041	FY2042	FY2043	FY2044	FY2045	FY2046	FY2047	FY2048	FY2049	FY2050
Retail										
Retail Revenue Before Increase	\$170,990,325	\$177,658,948	\$184,587,647	\$191,786,565	\$199,266,241	\$207,037,625	\$215,112,092	\$223,501,464	\$232,218,021	\$241,274,524
Retail Revenue from Increase	3,168,494	3,292,066	3,420,456	3,553,854	3,692,454	3,836,460	3,986,082	4,141,539	4,303,059	4,470,879
Total Retail Revenue	\$174,158,820	\$180,951,014	\$188,008,103	\$195,340,419	\$202,958,696	\$210,874,085	\$219,098,174	\$227,643,003	\$236,521,080	\$245,745,402
Total User Charges	\$174,158,820	\$180,951,014	\$188,008,103	\$195,340,419	\$202,958,696	\$210,874,085	\$219,098,174	\$227,643,003	\$236,521,080	\$245,745,402
<i>Manual Overrides</i>										
Non-Rate Revenues*										
Meter & Svc Revenue	\$3,327,850	\$3,445,650	\$3,563,925	\$3,687,900	\$3,816,625	\$3,951,525	\$4,091,175	\$4,232,250	\$4,383,300	\$4,534,825
Special Service & Turn On Fees	5,392	5,554	5,720	5,892	6,069	6,251	6,438	6,632	6,830	7,035
Penalty Fees	10,696	11,017	11,348	11,688	12,039	12,400	12,772	13,155	13,550	13,956
Dispatch Fees	233,962	240,980	248,210	255,656	263,326	271,226	279,362	287,743	296,375	305,267
Miscellaneous Income	354,866	365,512	376,477	387,771	399,405	411,387	423,728	436,440	449,533	463,019
Plan Review	44,057	45,379	46,740	48,142	49,586	51,074	52,606	54,184	55,810	57,484
Contract Reimbursements	2,104,207	2,167,333	2,232,353	2,299,324	2,368,304	2,439,353	2,512,534	2,587,910	2,665,547	2,745,513
Inspection Fees	152,029	156,590	161,288	166,126	171,110	176,243	181,531	186,976	192,586	198,363
Backflow Program Reimbursement	618,330	636,880	655,986	675,666	695,936	716,814	738,318	760,468	783,282	806,780
Power Generation Station	42,479	43,753	45,066	46,418	47,810	49,244	50,722	52,243	53,811	55,425
Rental Property Income	127,348	131,169	135,104	139,157	143,332	147,632	152,061	156,622	161,321	166,161
Payments for Fund 15 Expenses	0	0	0	0	0	0	0	0	0	0
COB Wheeling Revenue	322,468	332,142	342,106	352,369	362,940	373,828	385,043	396,595	408,492	420,747
Interest Earnings - Cash & Investments	596,739	594,603	596,486	598,791	618,474	621,409	719,003	980,519	1,342,859	1,349,898
Total Non-Rate Revenues	\$7,940,423	\$8,176,562	\$8,420,809	\$8,674,901	\$8,954,955	\$9,228,386	\$9,605,293	\$10,151,738	\$10,813,296	\$11,424,475
Total Revenues	\$182,099,243	\$189,127,576	\$196,428,913	\$204,015,320	\$211,913,650	\$220,102,471	\$228,703,467	\$237,794,741	\$247,334,376	\$256,869,877

* Note: Non-Rate Revenues are net of related expense

TVWD Forecast Model Summary

Table 9
 Tualatin Valley Water District
 2021-2023 Financial Plan
SDC Revenue Forecast

	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030
SDC Fee Escalation		2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Annual Fee per EDU										
Improvement Fee	\$6,422	\$6,550	\$6,681	\$6,815	\$6,951	\$7,090	\$7,232	\$0	\$0	\$0
Reimbursement Fee	1,522	1,552	1,583	1,615	1,647	1,680	1,714	9,125	9,307	9,494
New Equivalent Dwelling Units	630	590	580	570	560	550	525	500	475	450
SDC Forecast Revenue										
Improvement Fee	\$4,042,599	\$3,864,711	\$3,875,192	\$3,884,546	\$3,893,724	\$3,899,675	\$3,796,866	\$0	\$0	\$0
Reimbursement Fee	957,998	915,843	918,327	920,544	922,482	924,129	899,765	4,562,442	4,421,006	4,272,088
Totals	\$5,000,597	\$4,780,555	\$4,793,519	\$4,805,090	\$4,815,206	\$4,823,804	\$4,696,631	\$4,562,442	\$4,421,006	\$4,272,088

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TVWD Forecast Model Summary

Table 9
 Tualatin Valley Water District
 2021-2023 Financial Plan
SDC Revenue Forecast

	FY2031	FY2032	FY2033	FY2034	FY2035	FY2036	FY2037	FY2038	FY2039	FY2040
SDC Fee Escalation	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Annual Fee per EDU										
Improvement Fee	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Reimbursement Fee	9,683	9,877	10,075	10,276	10,482	10,691	10,905	11,123	11,346	11,573
New Equivalent Dwelling Units										
	42.5	400	375	350	325	300	275	250	225	200
SDC Forecast Revenue										
Improvement Fee	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Reimbursement Fee	4,115,445	3,950,827	3,777,978	3,596,635	3,406,527	3,207,377	2,998,897	2,780,795	2,552,770	2,314,512
Totals	\$4,115,445	\$3,950,827	\$3,777,978	\$3,596,635	\$3,406,527	\$3,207,377	\$2,998,897	\$2,780,795	\$2,552,770	\$2,314,512

TVWD Forecast Model Summary

Table 9
 Tualatin Valley Water District
 2021-2023 Financial Plan
SDC Revenue Forecast

	FY2041	FY2042	FY2043	FY2044	FY2045	FY2046	FY2047	FY2048	FY2049	FY2050
SDC Fee Escalation	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Annual Fee per EDU										
Improvement Fee	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Reimbursement Fee	11,804	12,040	12,281	12,527	12,777	13,033	13,293	13,559	13,830	14,107
New Equivalent Dwelling Units	175	150	125	100	75	50	25	0	0	0
SDC Forecast Revenue										
Improvement Fee	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Reimbursement Fee	2,065,702	1,806,013	1,535,111	1,252,651	958,278	651,629	332,331	0	0	0
Totals	\$2,065,702	\$1,806,013	\$1,535,111	\$1,252,651	\$958,278	\$651,629	\$332,331	\$0	\$0	\$0

TWWD Forecast Model Summary

Table 10
Tualatin Valley Water District
2021-2023 Financial Plan
Debt Service Coverage Calculations
— Net Revenues Incl. SOCS

	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030	FY2031	FY2032	FY2033
Estimated Gross Revenues													
Total User Charges	\$70,000,000	\$74,869,838	\$82,316,005	\$88,212,908	\$92,031,205	\$96,004,618	\$100,138,985	\$104,460,342	\$108,893,535	\$113,479,974	\$118,200,580	\$123,056,106	\$128,047,125
Non-Rate Revenue													
Meter & Soc. Revenue	417,140	1,697,650	1,757,975	1,818,775	1,894,325	1,950,825	2,016,850	2,127,050	2,200,200	2,278,575	2,357,425	2,441,500	2,525,575
Special Service & Turn On Fees	2,993	3,075	3,167	3,262	3,360	3,461	3,565	3,672	3,782	3,895	4,012	4,133	4,257
Penalty Fees	5,931	6,100	6,283	6,471	6,666	6,866	7,072	7,284	7,502	7,727	7,959	8,198	8,444
Dispatch Fees	0	133,425	137,428	141,551	145,797	150,171	154,676	159,316	164,096	169,019	174,089	179,312	184,691
Miscellaneous Income	574,860	202,375	208,446	214,700	221,141	227,775	234,608	241,646	248,896	256,363	264,053	271,875	280,134
Plan Review	26,235	25,125	25,879	26,655	27,455	28,278	29,127	30,001	30,901	31,828	32,782	33,766	34,779
Contract Reimbursements	1,143,759	1,200,000	1,236,000	1,273,080	1,311,272	1,350,611	1,391,129	1,432,863	1,475,849	1,520,124	1,565,728	1,612,700	1,661,081
Inspection Fees	91,260	86,700	89,301	91,980	94,739	97,582	100,509	103,524	106,630	109,829	113,124	116,518	120,013
Backlog Program Reimbursement	178,470	352,625	363,204	374,100	385,323	396,883	408,789	421,053	433,694	446,695	460,096	473,899	488,115
Power Generation Station	34,774	24,225	24,952	25,700	26,471	27,265	28,083	28,926	29,794	30,688	31,608	32,556	33,533
Rental Property Income	55,572	72,625	74,894	77,048	79,359	81,740	84,192	86,718	89,320	91,999	94,759	97,602	100,530
Payments for Fund 15 Expenses	1,350,950	1,417,148	1,486,596	1,559,944	1,635,944	1,715,186	1,797,188	1,881,518	1,967,820	2,056,727	2,148,896	2,244,996	2,344,715
COB Wheeling Revenue	1,304,632	1,082,935	933,005	771,679	598,357	412,413	213,189	219,585	226,172	232,957	239,946	247,145	254,559
Interest Earnings on Reserve Funds													
Cash & Investments	1,236,710	664,557	194,869	170,209	220,489	223,922	305,197	462,036	601,666	651,322	601,945	583,044	498,754
Rev. Bond Debt Service	0	0	0	0	5,378	10,756	11,832	12,508	13,983	15,059	15,059	15,059	15,059
Construction Clearing Account													
Improvement Fee	4,042,599	3,864,711	3,875,192	3,866,546	3,892,724	3,859,675	3,796,866	0	0	0	0	0	0
Reimbursement Fee	957,998	915,843	918,327	920,544	922,682	924,129	899,765	4,562,442	4,421,006	4,272,088	4,115,445	3,950,827	3,777,978
Gross Revenue (including related Revenue)	\$81,423,882	\$86,598,957	\$93,651,532	\$99,572,647	\$103,492,387	\$107,824,434	\$111,897,015	\$114,339,355	\$118,947,015	\$123,598,151	\$128,278,611	\$133,124,337	\$138,034,628
Gross Revenue (excluding related Revenue)	76,006,145	80,120,753	87,100,038	92,948,783	96,792,856	100,384,526	103,110,953	107,649,863	112,325,809	117,047,489	121,805,741	126,732,010	131,751,074
Operating Expenses (excluding depreciation)													
Total O&M Costs	\$40,596,001	\$42,856,670	\$45,585,338	\$50,117,674	\$52,132,813	\$55,122,820	\$57,117,032	\$54,492,075	\$56,882,464	\$59,824,959	\$62,787,123	\$65,633,795	\$68,601,673
Less Capitalized OH & Capital Outlays	(3,757,180)	(3,906,238)	(3,781,698)	(4,239,654)	(4,438,354)	(4,195,678)	(2,971,050)	(2,686,747)	(2,807,651)	(2,933,995)	(3,066,025)	(3,203,996)	(3,348,176)
Net O&M (less Capital Outlays)	\$36,838,821	\$38,950,432	\$41,803,640	\$45,878,020	\$47,694,459	\$50,927,142	\$49,545,982	\$51,805,328	\$54,074,813	\$56,890,964	\$59,721,098	\$62,429,799	\$65,253,497
Net Revenue (including Growth-related Revenue)	\$44,585,061	\$47,648,526	\$51,847,892	\$53,694,627	\$55,797,928	\$56,233,013	\$60,278,452	\$62,534,027	\$64,722,202	\$66,707,187	\$68,557,512	\$70,694,538	\$72,781,130
Net Revenue (excluding Growth-related Revenue)	\$91,673,524	41,360,521	45,286,198	47,070,743	49,098,397	49,457,584	53,649,971	55,844,335	58,150,996	60,196,524	62,084,643	64,302,211	66,477,577
Annual DS Subject to Coverage	\$0	\$0	\$0	\$0	\$675,500	\$1,951,000	\$2,151,260	\$9,873,510	\$17,995,760	\$17,595,760	\$17,595,760	\$17,595,760	\$17,595,760
DSC Test 1 (including related Revenue)													
Estimated Coverage	0.00	0.00	0.00	0.00	82.60	41.62	28.02	6.33	3.68	3.79	3.90	4.02	4.14
Target Coverage	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Additional Revenues Required - Test 1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
DSC Test 2 (excluding related Revenue)													
Estimated Coverage	0.00	0.00	0.00	0.00	72.68	36.61	24.90	5.66	3.30	3.42	3.53	3.65	3.78
Target Coverage	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Additional Revenues Required - Test 2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
DSC Target Coverage-Check 1	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
DSC Target Coverage-Check 2	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

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TWWD Forecast Model Summary

Table 10
Tualatin Valley Water District
2021-2023 Financial Plan
Debt Service Coverage Calculations
— Net Revenues Incl. SOCS

	FY2034	FY2035	FY2036	FY2037	FY2038	FY2039	FY2040	FY2041	FY2042	FY2043	FY2044	FY2045	FY2046
Estimated Gross Revenues													
Total User Charges	\$133,174,026	\$138,437,003	\$143,836,046	\$149,445,652	\$155,274,032	\$161,329,719	\$167,621,578	\$174,158,820	\$180,951,014	\$188,008,103	\$195,340,419	\$202,958,696	\$210,874,085
Non-Rate Revenue													
Meter & Soc. Revenue	2,615,350	2,705,600	2,800,900	2,901,300	3,002,475	3,108,975	3,215,750	3,327,850	3,445,650	3,583,925	3,687,900	3,816,625	3,951,525
Special Service & Turn On Fees	4,384	4,516	4,651	4,791	4,934	5,083	5,235	5,392	5,554	5,720	5,892	6,069	6,251
Penalty Fees	8,697	8,958	9,227	9,504	9,789	10,082	10,385	10,696	11,017	11,348	11,689	12,039	12,400
Dispatch Fees	190,232	195,939	201,817	207,872	214,108	220,531	227,147	233,962	240,980	248,210	255,656	263,326	271,226
Miscellaneous Income	288,538	297,195	306,110	315,294	324,752	334,495	344,530	354,866	365,512	376,477	387,771	399,405	411,387
Plan Review	35,922	36,897	38,004	39,144	40,318	41,528	42,774	44,057	45,379	46,740	48,142	49,586	51,074
Contract Reimbursements	1,710,913	1,762,240	1,815,108	1,869,561	1,925,648	1,983,417	2,042,920	2,104,207	2,167,333	2,232,853	2,299,324	2,368,304	2,439,353
Inspection Fees	123,613	127,322	131,142	135,078	139,128	143,302	147,601	152,029	156,590	161,288	166,126	171,110	176,243
Backflow Program Reimbursement	90,759	517,842	33,377	549,374	565,960	582,835	600,320	618,330	636,880	655,986	675,666	695,936	716,814
Power Generation Station	34,539	35,575	36,642	37,742	38,874	40,040	41,241	42,479	43,753	45,066	46,418	47,810	49,244
Rental Property Income	103,546	106,652	109,852	113,147	116,542	120,038	123,639	127,348	131,169	135,104	139,157	143,332	147,632
Payments for Fund 15 Expenses													
COB/Whelping Revenue	252,196	270,062	278,163	286,508	295,104	303,957	313,075	322,468	332,142	342,106	352,369	362,940	373,828
Interest Earnings on Reserve Funds													
Cash & Investments	405,941	383,965	409,974	439,533	444,588	467,155	548,745	596,739	584,603	596,686	598,791	618,474	624,409
Rev. Bond Debt Service	15,059	20,369	39,462	53,285	55,285	55,942	69,589	80,578	80,578	80,578	80,578	83,870	106,559
Construction Clearing Account													
Reimbursement fee													
Improvement fee													
TRUE													
TRUE													
Growth-related Revenue													
Net Revenue (including related Revenue)	\$143,072,251	\$148,316,662	\$153,757,572	\$159,396,682	\$165,230,232	\$171,298,770	\$177,669,042	\$184,245,522	\$191,014,167	\$198,044,602	\$205,348,549	\$212,955,799	\$220,869,509
Gross Revenue (including related Revenue)	136,860,266	142,204,535	147,749,596	153,496,485	159,446,962	165,638,125	172,138,780	178,851,971	185,762,504	192,945,565	200,407,998	208,180,896	216,259,505
Operating Expenses (excluding depreciation)													
Total O&M Costs	\$72,283,143	\$74,922,669	\$78,285,003	\$81,798,992	\$85,470,615	\$89,306,855	\$93,316,015	\$97,505,029	\$1,01,882,880	\$1,06,457,015	\$1,12,063,359	\$1,16,230,897	\$1,21,449,488
Less Capitalized OH & Capital Outlays	(3,498,844)	(3,656,292)	(3,820,823)	(3,992,752)	(4,172,436)	(4,360,196)	(4,556,405)	(4,761,443)	(4,975,708)	(5,199,615)	(5,433,597)	(5,678,109)	(5,933,624)
Net O&M (less Capital Outlays)	\$68,784,299	\$71,266,377	\$74,464,178	\$77,806,240	\$81,298,179	\$84,946,660	\$88,759,611	\$92,743,586	\$96,907,173	\$1,01,257,400	\$1,05,629,762	\$1,10,552,828	\$1,15,515,862
Net Revenue (including Growth-related Revenue)	\$74,287,953	\$77,050,285	\$79,293,394	\$81,590,442	\$83,932,053	\$86,351,111	\$88,909,431	\$91,501,936	\$94,106,995	\$96,787,202	\$98,718,787	\$1,00,402,971	\$1,05,346,797
Net Revenue (including Growth-related Revenue)	68,076,567	70,938,158	73,285,418	75,656,255	78,148,783	80,691,465	83,379,169	86,108,384	88,895,331	91,688,165	94,578,236	97,628,068	100,745,643
Annual DS Subject to Coverage	\$17,955,760	\$18,354,418	\$21,064,833	\$23,056,590	\$25,056,990	\$25,456,261	\$25,385,776	\$26,955,619	\$26,955,619	\$26,955,619	\$27,425,973	\$26,955,619	\$30,952,859
DSC Test 1 (including related Revenue)													
Estimated Coverage	4.22	4.20	3.76	3.54	3.64	3.68	3.50	3.39	3.49	3.59	3.66	3.73	3.40
Target Coverage	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Additional Revenues Required - Test 1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
DSC Test 2 (including related Revenue)													
Estimated Coverage	3.87	3.86	3.48	3.28	3.39	3.44	3.28	3.19	3.30	3.40	3.48	3.56	3.25
Target Coverage	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Additional Revenues Required - Test 2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
DSC Target Coverage-Check 1	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
DSC Target Coverage-Check 2	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

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TWWD Forecast Model Summary

Table 10
Tuleatin Valley Water District
2021-2023 Financial Plan
Debt Service Coverage Calculations
— Net Revenues incl. SOCs

	FY2047	FY2048	FY2049	FY2050
Estimated Gross Revenues				
Total User Charges	\$219,098,174	\$227,843,003	\$236,521,080	\$245,745,402
Non-Rate Revenue				
Meter & Svc Revenue	4,091,175	4,232,250	4,383,300	4,534,825
Special Service & Turn On Fees	6,438	6,632	6,830	7,035
Penalty Fees	12,772	13,155	13,550	13,956
Dispatch Fees	279,362	287,743	296,375	305,267
Miscellaneous Income	423,728	436,440	449,533	463,019
Plan Review	52,606	54,184	55,810	57,484
Contract Reimbursements	2,512,534	2,587,910	2,665,547	2,745,513
Inspection Fees	181,331	186,976	192,586	198,363
Backflow Program Reimbursement	738,318	760,468	783,282	806,780
Power Generation Station	50,722	52,243	53,811	55,425
Rental Property Income	152,061	156,622	161,321	166,161
Payments for Fund 15 Expenses				
COB Wheeling Revenue	385,043	396,595	408,482	420,747
Interest Earnings on Reserve Funds				
Cash & Investments	719,003	880,519	1,343,859	1,349,898
Rev. Bond Debt Service	145,867	177,693	209,520	225,493
Construction Clearing Account	0	0	0	0
Reimbursement Fee	332,331	0	0	0
Improvement Fee	0	0	0	0
Gross Revenue (including related Revenue)	\$229,181,665	\$237,972,434	\$247,543,886	\$257,096,310
Gross Revenue (excluding related Revenue)	224,758,159	233,740,184	243,150,596	252,660,485
Operating Expenses (excluding depreciation)				
Total O&M Costs	\$126,909,178	\$132,801,339	\$138,542,766	\$144,751,252
Less Capitalized OH & Capital Outlays	(6,200,637)	(6,479,666)	(6,771,251)	(7,075,957)
Net O&M (less Capital Outlays)	\$120,702,541	\$126,321,673	\$131,771,515	\$137,675,295
Net Revenue (including Growth-related Revenue)	\$108,479,124	\$111,850,761	\$115,772,382	\$119,426,015
Net Revenue (excluding Growth-related Revenue)	104,095,618	107,616,511	111,589,082	114,885,190
Annual DS Subject to Coverage	\$56,282,627	\$40,829,269	\$45,975,912	\$47,649,148
DSC Test 1 (including related Revenue)				
Estimated Coverage	2.99	2.74	2.55	2.51
Target Coverage	2.00	2.00	2.00	2.00
Additional Revenues Required - Test 1	\$0	\$0	\$0	\$0
DSC Test 2 (excluding related Revenue)				
Estimated Coverage	2.87	2.64	2.45	2.41
Target Coverage	1.50	1.50	1.50	1.50
Additional Revenues Required - Test 2	\$0	\$0	\$0	\$0
DSC Target Coverage Check 1	OK	OK	OK	OK
DSC Target Coverage Check 2	OK	OK	OK	OK

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TWWD Forecast Model Summary

Table 11
 Tusahin Valley Water District
 2021-2023 Financial Plan
Projected Net Leverage Ratio (Fitch Ratings)
 - Net Adjusted Debt to Adjusted Net Revenue (FADS)

	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030	FY2031
Calculation of Net Adjusted Debt											
Outstanding Debt Balances											
Future Revenue Bonds	\$0	\$0	\$0	\$0	\$38,600,000	\$38,600,000	\$37,792,738	\$36,956,974	\$36,091,703	\$35,195,882	\$34,268,433
WIFIA Proceeds	0	60,000,000	255,000,000	387,748,990	387,748,990	387,748,990	387,748,990				
Capitalized Interest on WIFIA Proceeds	0	608,867	3,408,665	8,256,064	13,620,175	19,056,946	24,567,362				
WIFIA Loan Balance	9,511,789	9,409,510	9,307,231	9,204,952	9,102,673			410,179,159	400,238,641	390,163,474	379,951,832
TWWD Share of Wilkinsonville Ground Lease	\$9,511,789	\$70,018,376	\$267,715,896	\$405,210,006	\$449,071,838	\$445,405,936	\$450,109,089	\$447,136,133	\$436,330,344	\$425,359,356	\$414,220,266
Total Outstanding Debt	(a)										
Capitalized Fixed Charges											
Purchased Water - PWB	\$9,459,000	\$8,274,600	\$9,664,200	\$10,609,884	\$10,927,493	\$11,315,874	\$0	\$0	\$0	\$0	\$0
Ratio	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%
Fixed Services Expense	\$3,310,650	\$2,896,110	\$3,382,470	\$3,713,459	\$3,824,623	\$3,960,556	\$0	\$0	\$0	\$0	\$0
Multiplier	7	7	7	7	7	7	7	7	7	7	7
Total Capitalized Fixed Charges	(b)	\$20,272,770	\$23,677,290	\$25,994,215	\$26,772,358	\$27,723,891	\$0	\$0	\$0	\$0	\$0
Adjusted Net Pension Liability	(c)	\$10,500,000	\$10,500,000	\$10,500,000	\$10,500,000	\$10,500,000	\$10,500,000	\$10,500,000	\$10,500,000	\$10,500,000	\$10,500,000
Less Cash and Restricted Funds											
Available Cash	\$63,747,856	\$31,188,858	\$33,800,891	\$41,847,702	\$46,347,822	\$43,220,808	\$67,760,004	\$86,248,555	\$98,879,471	\$87,215,397	\$84,768,764
Funds Restricted for Debt Service	0	0	0	0	2,151,260	2,151,260	2,151,260	2,151,260	2,151,260	2,151,260	2,151,260
Total Cash/Restricted	(d)	\$63,747,856	\$33,800,891	\$41,847,702	\$48,999,083	\$45,372,068	\$69,911,265	\$88,399,816	\$101,030,731	\$89,366,657	\$86,920,025
Net Adjusted Debt	(e)-(b)-(c)-(d)	(\$20,561,518)	(\$268,092,295)	(\$399,856,518)	(\$437,845,114)	(\$438,257,759)	(\$390,697,825)	(\$369,236,317)	(\$345,799,613)	(\$346,492,699)	(\$337,800,241)
Calculation of Adjusted Net Revenue (FADS)											
Net Revenue (Funds Available for Debt Service)	\$44,585,061	\$47,838,526	\$51,847,692	\$53,694,607	\$55,797,928	\$56,232,013	\$60,278,452	\$62,534,027	\$64,772,202	\$66,707,187	\$68,557,512
Fixed Services Expense	3,310,650	2,896,110	3,382,470	3,713,459	3,824,623	3,960,556	0	0	0	0	0
Operating Leases	0	0	0	0	0	0	0	0	0	0	0
Net Transfers	0	0	0	0	0	0	0	0	0	0	0
Pension Expense (estimated)	547,587	547,587	547,587	547,587	547,587	547,587	547,587	547,587	547,587	547,587	547,587
Adjusted Net Revenue (FADS)		\$48,443,298	\$51,282,223	\$55,777,749	\$59,555,653	\$60,170,137	\$60,826,039	\$63,081,614	\$65,319,789	\$67,254,774	\$69,105,099
Net Adjusted Debt to Adjusted FADS		0.00	1.36	4.81	6.90	7.28	6.42	5.85	5.29	5.15	4.89
Target Maximum Ratio		8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00
Capital Deficit		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Net Leverage Check		OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

TWWD Forecast Model Summary

Table 11
 Tusahin Valley Water District
 2021-2023 Financial Plan
Projected Net Leverage Ratio (Fitch Ratings)
 - Net Adjusted Debt to Adjusted Net Revenue (FADS)

	FY2032	FY2033	FY2034	FY2035	FY2036	FY2037	FY2038	FY2039	FY2040	FY2041	FY2042
Calculation of Net Adjusted Debt											
Outstanding Debt Balances											
Future Revenue Bonds	\$33,308,240	\$32,314,145	\$31,284,953	\$52,240,441	\$108,059,716	\$105,783,292	\$103,403,300	\$111,493,230	\$154,744,397	\$151,216,784	\$147,519,319
WIFIA Proceeds											
Capitalized Interest on WIFIA Proceeds											
WIFIA Loan Balance	369,601,869	359,111,709	348,479,454	337,703,179	326,780,934	315,710,740	304,490,595	293,118,466	281,592,296	269,909,997	258,069,454
TWWD Share of Wilsonville Ground Lease											
Total Outstanding Debt	\$402,910,108	\$391,425,854	\$379,764,407	\$389,943,620	\$434,840,649	\$421,494,032	\$407,893,894	\$405,053,696	\$436,336,692	\$421,126,781	\$405,588,773
	(a)										
Capitalized Fixed Charges											
Purchased Water - PWB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ratio	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%
Fixed Services Expense	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Multiplier	7	7	7	7	7	7	7	7	7	7	7
Total Capitalized Fixed Charges	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	(b)										
Adjusted Net Pension Liability											
Total Adjusted LAL	\$10,500,000	\$10,500,000	\$10,500,000	\$10,500,000	\$10,500,000	\$10,500,000	\$10,500,000	\$10,500,000	\$10,500,000	\$10,500,000	\$10,500,000
	(c)										
Less Cash and Restricted Funds											
Available Cash	\$81,815,099	\$60,686,179	\$55,297,006	\$54,407,388	\$62,728,058	\$59,995,583	\$67,029,654	\$66,443,215	\$90,341,118	\$80,155,853	\$89,730,827
Funds Restricted for Debt Service	2,151,260	2,151,260	2,151,260	3,668,576	7,612,091	7,612,091	7,612,091	8,371,433	11,511,119	11,511,119	11,511,119
Total Cash/Restricted	\$83,966,360	\$62,837,440	\$57,448,267	\$58,075,964	\$70,340,148	\$67,607,674	\$74,641,744	\$74,814,648	\$101,852,237	\$91,666,973	\$101,241,947
	(d)										
Net Adjusted Debt	\$329,443,749	\$339,088,415	\$332,816,140	\$342,367,656	\$375,000,501	\$364,386,359	\$343,752,150	\$340,739,048	\$344,984,455	\$339,959,808	\$314,846,826
	(e)-(b)-(c)-(d)										
Calculation of Adjusted Net Revenue (FADS)											
Net Revenue (Funds Available for Debt Service)	\$70,694,538	\$72,781,130	\$74,287,953	\$77,050,285	\$79,293,394	\$81,590,452	\$83,932,053	\$86,353,111	\$88,909,431	\$91,501,936	\$94,106,995
Fixed Services Expense	0	0	0	0	0	0	0	0	0	0	0
Operating Leases	0	0	0	0	0	0	0	0	0	0	0
Net Transfers	0	0	0	0	0	0	0	0	0	0	0
Pension Expense (estimated)	547,587	547,587	547,587	547,587	547,587	547,587	547,587	547,587	547,587	547,587	547,587
Adjusted Net Revenue (FADS)	\$71,242,125	\$73,328,717	\$74,835,540	\$77,597,872	\$79,840,981	\$82,138,039	\$84,479,640	\$86,900,698	\$89,457,018	\$92,049,523	\$94,654,582
	(f)										
Net Adjusted Debt to Adjusted FADS	4.62	4.62	4.45	4.41	4.70	4.44	4.07	3.92	3.86	3.69	3.33
Target Maximum Ratio	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00
Capital Deficit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Net Leverage Check	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

TWWD Forecast Model Summary

Table 11
 Toulatin Valley Water District
 2021-2023 Financial Plan
Projected Net Leverage Ratio (Fitch Ratings)
 — Net Adjusted Debt to Adjusted Net Revenue (FADS)

	FY2043	FY2044	FY2045	FY2046	FY2047	FY2048	FY2049	FY2050
Calculation of Net Adjusted Debt								
Outstanding Debt Balances								
Future Revenue Bonds	\$143,643,477	\$139,580,293	\$148,972,972	\$233,033,672	\$292,879,900	\$351,491,954	\$408,791,907	\$398,729,534
WIFIA Proceeds								
Capitalized Interest on WIFIA Proceeds								
WIFIA Loan Balance	246,068,525	233,905,037	221,576,787	209,081,544	196,417,046	183,581,001	170,571,084	157,384,940
TWWD Share of Wilsonville Ground Lease								
Total Outstanding Debt	\$389,712,002	\$373,485,330	\$370,549,760	\$442,115,216	\$489,296,946	\$535,072,954	\$579,362,990	\$556,114,474
(a)								
Capitalized Fixed Charges								
Purchased Water - PW/B Ratio	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Fixed Services Expense Multiplier	35%	35%	35%	35%	35%	35%	35%	35%
Total Capitalized Fixed Charges	7	7	7	7	7	7	7	7
(b)								
Adjusted Net Pension Liability								
Total Adjusted LUAL	\$10,500,000	\$10,500,000	\$10,500,000	\$10,500,000	\$10,500,000	\$10,500,000	\$10,500,000	\$10,500,000
(c)								
Less Cash and Restricted Funds								
Available Cash	\$80,693,830	\$90,389,254	\$86,317,495	\$91,228,076	\$114,201,295	\$165,946,941	\$217,726,922	\$167,938,264
Funds Restricted for Debt Service	11,511,119	11,511,119	12,451,828	18,564,892	23,111,363	27,658,177	32,204,648	32,204,648
Total Cash/Restricted	\$92,204,949	\$101,900,374	\$98,769,323	\$109,792,968	\$137,312,658	\$193,605,118	\$249,931,571	\$200,162,912
(d)								
Net Adjusted Debt								
(a)-(b)+(c)-(d)	\$308,007,052	\$282,084,956	\$282,280,437	\$342,822,248	\$362,484,288	\$351,967,836	\$339,931,420	\$366,451,562
Calculation of Adjusted Net Revenue (FADS)								
Net Revenue (Funds Available for Debt Service)	\$96,787,202	\$98,718,787	\$102,402,971	\$105,346,797	\$108,479,124	\$111,850,761	\$115,772,382	\$119,420,015
Fixed Services Expense	0	0	0	0	0	0	0	0
Operating Leases	0	0	0	0	0	0	0	0
Net Transfers	0	0	0	0	0	0	0	0
Pension Expense (estimated)	547,587	547,587	547,587	547,587	547,587	547,587	547,587	547,587
Adjusted Net Revenue (FADS)	\$97,334,789	\$99,266,374	\$102,950,558	\$105,894,384	\$109,026,711	\$112,398,348	\$116,319,969	\$119,967,602
Net Adjusted Debt to Adjusted FADS								
Target Maximum Ratio	3.16	2.84	2.74	3.24	3.32	3.13	2.92	3.05
Capital Deficit	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00
Net Leverage Check	OK	OK	OK	OK	OK	OK	OK	OK

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TWWD Forecast Model Summary

Table 12
 Tuolumne Valley Water District
 2021-2023 Financial Plan
Fund Balance Summary

	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030
FUND BALANCE SUMMARY										
Beginning Fund Balances										
Cash & Investments	\$112,925,000	\$63,747,856	\$31,188,858	\$33,800,891	\$41,847,702	\$46,347,822	\$43,220,808	\$67,760,004	\$86,248,555	\$98,879,471
Bond Proceeds	0	0	0	0	0	0	0	0	0	0
Rev. Bond Debt Service	0	0	0	0	0	2,151,260	2,151,260	2,151,260	2,151,260	2,151,260
Construction Clearing/Account	0	0	0	0	0	0	0	0	0	0
Reimbursement SDC Account	0	0	0	0	0	0	0	0	0	0
Improvement SDC Account	0	0	0	0	0	0	0	0	0	0
WiFiA Reserve	0	0	0	0	0	0	0	0	0	0
Totals	\$112,925,000	\$63,747,856	\$31,188,858	\$33,800,891	\$41,847,702	\$48,499,083	\$45,372,068	\$69,911,265	\$88,399,816	\$101,030,731
Ending Fund Balances										
Cash & Investments	\$63,747,856	\$31,188,858	\$33,800,891	\$41,847,702	\$46,347,822	\$43,220,808	\$67,760,004	\$86,248,555	\$98,879,471	\$87,215,397
Bond Proceeds	0	0	0	0	0	0	0	0	0	0
Rev. Bond Debt Service	0	0	0	0	2,151,260	2,151,260	2,151,260	2,151,260	2,151,260	2,151,260
Construction Clearing/Account	0	0	0	0	0	0	0	0	0	0
Reimbursement SDC Account	0	0	0	0	0	0	0	0	0	0
Improvement SDC Account	0	0	0	0	0	0	0	0	0	0
WiFiA Reserve	0	0	0	0	0	0	0	0	0	0
Totals	\$63,747,856	\$31,188,858	\$33,800,891	\$41,847,702	\$48,499,083	\$45,372,068	\$69,911,265	\$88,399,816	\$101,030,731	\$89,366,657
YEAR-END MINI BALANCE ASSUMPTIONS										
Cash & Investments										
Operating Reserve										
Days of O&M in Fund Balance	250	250	250	250	250	250	250	250	250	250
Cash & Investments Minimum Ending Balance	\$27,805,480	\$29,223,747	\$31,222,971	\$34,327,174	\$35,707,406	\$37,755,356	\$35,696,597	\$37,323,339	\$39,029,085	\$40,976,000
Minimum Cash & Investments Overrides										
Rev. Bond Debt Service	50	50	50	50	50	50	50	50	50	50
Reimbursement SDC Account	0	0	0	0	0	0	0	0	0	0
WiFiA Reserve	0	0	0	0	0	0	0	0	0	0
Check Beginning Fund Balances	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Check Ending Fund Balances	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

TWWD Forecast Model Summary

Table 12
 Tuolumne Valley Water District
 2021-2023 Financial Plan
Fund Balance Summary

	FY2031	FY2032	FY2033	FY2034	FY2035	FY2036	FY2037	FY2038	FY2039	FY2040
FUND BALANCE SUMMARY										
Beginning Fund Balances										
Cash & Investments	\$87,215,397	\$84,768,764	\$81,815,099	\$60,686,179	\$55,297,006	\$54,407,388	\$62,728,058	\$59,995,583	\$67,029,654	\$66,443,215
Bond Proceeds	0	0	0	0	0	0	0	0	0	0
Rev. Bond Debt Service	2,151,260	2,151,260	2,151,260	2,151,260	2,151,260	3,668,576	7,612,091	7,612,091	7,612,091	8,371,433
Construction Clearing/Account	0	0	0	0	0	0	0	0	0	0
Reimbursement SDC Account	0	0	0	0	0	0	0	0	0	0
Improvement SDC Account	0	0	0	0	0	0	0	0	0	0
WiFi Reserve	0	0	0	0	0	0	0	0	0	0
Totals	\$89,366,657	\$86,920,025	\$83,966,360	\$62,837,440	\$57,448,267	\$58,075,964	\$70,340,148	\$67,607,674	\$74,641,744	\$74,814,648
Ending Fund Balances										
Cash & Investments	\$84,768,764	\$81,815,099	\$60,686,179	\$55,297,006	\$54,407,388	\$62,728,058	\$59,995,583	\$67,029,654	\$66,443,215	\$90,341,118
Bond Proceeds	0	0	0	0	0	0	0	0	0	0
Rev. Bond Debt Service	2,151,260	2,151,260	2,151,260	2,151,260	3,668,576	7,612,091	7,612,091	7,612,091	8,371,433	11,511,119
Construction Clearing/Account	0	0	0	0	0	0	0	0	0	0
Reimbursement SDC Account	0	0	0	0	0	0	0	0	0	0
Improvement SDC Account	0	0	0	0	0	0	0	0	0	0
WiFi Reserve	0	0	0	0	0	0	0	0	0	0
Totals	\$86,920,025	\$83,966,360	\$62,837,440	\$57,448,267	\$58,075,964	\$70,340,148	\$67,607,674	\$74,641,744	\$74,814,648	\$101,852,237
YEAR-END MINI BALANCE ASSUMPTIONS										
Cash & Investments										
Operating Reserve										
Days of O&M in Fund Balance	250	250	250	250	250	250	250	250	250	250
Cash & Investments Minimum Ending Balance	\$43,004,879	\$44,954,654	\$46,987,447	\$49,509,002	\$51,316,897	\$53,619,865	\$56,026,707	\$58,541,517	\$61,169,079	\$63,915,079
Minimum Cash & Investments Overrides										
Rev. Bond Debt Service	\$2,151,260	\$2,151,260	\$2,151,260	\$2,151,260	\$3,668,575	\$7,612,090	\$7,612,090	\$7,612,090	\$8,371,432	\$11,511,119
Reimbursement SDC Account	0	0	0	0	0	0	0	0	0	0
WiFi Reserve	0	0	0	0	0	0	0	0	0	0
Check Beginning Fund Balances	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Check Ending Fund Balances	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

TWWD Forecast Model Summary

Table 12
 Tuolumne Valley Water District
 2021-2023 Financial Plan
Fund Balance Summary

	FY2041	FY2042	FY2043	FY2044	FY2045	FY2046	FY2047	FY2048	FY2049	FY2050
FUND BALANCE SUMMARY										
Beginning Fund Balances										
Cash & Investments	\$90,341,118	\$80,155,853	\$89,730,827	\$80,693,830	\$90,389,254	\$86,317,495	\$91,228,076	\$114,201,295	\$165,946,941	\$217,726,922
Bond Proceeds	0	0	0	0	0	0	0	0	0	0
Rev. Bond Debt Service	11,511,119	11,511,119	11,511,119	11,511,119	11,511,119	12,451,828	18,564,892	23,111,363	27,658,177	32,204,648
Construction Clearing/Account	0	0	0	0	0	0	0	0	0	0
Reimbursement SDC Account	0	0	0	0	0	0	0	0	0	0
Improvement SDC Account	0	0	0	0	0	0	0	0	0	0
WiFi Reserve	0	0	0	0	0	0	0	0	0	0
Totals	\$101,852,237	\$91,666,973	\$101,241,947	\$92,204,949	\$101,900,374	\$98,769,323	\$109,792,968	\$137,312,658	\$193,605,118	\$249,931,571
Ending Fund Balances										
Cash & Investments	\$80,155,853	\$89,730,827	\$80,693,830	\$90,389,254	\$86,317,495	\$91,228,076	\$114,201,295	\$165,946,941	\$217,726,922	\$167,958,264
Bond Proceeds	0	0	0	0	0	0	0	0	0	0
Rev. Bond Debt Service	11,511,119	11,511,119	11,511,119	11,511,119	12,451,828	18,564,892	23,111,363	27,658,177	32,204,648	32,204,648
Construction Clearing/Account	0	0	0	0	0	0	0	0	0	0
Reimbursement SDC Account	0	0	0	0	0	0	0	0	0	0
Improvement SDC Account	0	0	0	0	0	0	0	0	0	0
WiFi Reserve	0	0	0	0	0	0	0	0	0	0
Totals	\$91,666,973	\$101,241,947	\$92,204,949	\$101,900,374	\$98,769,323	\$109,792,968	\$137,312,658	\$193,605,118	\$249,931,571	\$200,162,912
YEAR-END MINI BALANCE ASSUMPTIONS										
Cash & Investments										
Operating Reserve										
Days of O&M in Fund Balance	250	250	250	250	250	250	250	250	250	250
Cash & Investments Minimum Ending Balance	\$66,784,267	\$69,782,795	\$72,915,764	\$76,755,726	\$79,610,231	\$83,484,579	\$86,919,985	\$90,822,835	\$94,892,305	\$99,144,693
<i>Minimum Cash & Investments Overrides</i>										
Rev. Bond Debt Service	\$11,511,119	\$11,511,119	\$11,511,119	\$11,511,119	\$12,451,827	\$18,564,891	\$23,111,363	\$27,658,176	\$32,204,648	\$32,204,648
Reimbursement SDC Account	0	0	0	0	0	0	0	0	0	0
WiFi Reserve	0	0	0	0	0	0	0	0	0	0
Check Beginning Fund Balances	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Check Ending Fund Balances	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

TWWD Forecast Model Summary

Table 13
 Tuolumne Valley Water District
 2021-2023 Financial Plan
Fund Summary – Cash & Investments

Description	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030
Interest Rate on Fund Balance	1.40%	1.40%	0.60%	0.45%	0.50%	0.50%	0.55%	0.60%	0.65%	0.70%
Sources of Funds										
Beginning Cash & Investments Balance	\$112,925,000	\$63,747,856	\$31,188,858	\$33,800,891	\$41,847,702	\$46,347,822	\$43,220,808	\$67,460,004	\$86,248,555	\$98,879,471
Total User Charges	70,000,000	74,849,838	82,316,005	88,212,908	92,031,205	96,004,618	100,138,985	104,440,342	108,893,535	113,479,974
Non-Rate Revenues										
Meter & Svc Revenue	417,140	1,697,650	1,751,975	1,818,775	1,884,325	1,950,825	2,016,850	2,127,050	2,200,200	2,278,575
Special Service & Turn On Fees	2,993	3,075	3,167	3,262	3,360	3,461	3,565	3,672	3,782	3,895
Penalty Fees	5,931	6,100	6,283	6,471	6,666	6,866	7,072	7,284	7,502	7,727
Dispatch Fees	0	133,425	137,428	141,551	145,797	150,171	154,676	159,316	164,096	169,019
Miscellaneous Income	574,860	202,375	208,446	214,700	221,141	227,775	234,608	241,646	248,896	256,363
Plan Review	26,235	25,125	25,879	26,655	27,455	28,278	29,127	30,001	30,901	31,828
Contract Reimbursements	1,143,759	1,200,000	1,236,000	1,273,080	1,311,272	1,350,611	1,391,129	1,432,863	1,475,849	1,520,124
Inspection Fees	91,260	86,700	89,301	91,980	94,739	97,582	100,509	103,524	106,630	109,829
Backflow Program Reimbursement	178,470	352,625	363,204	374,100	385,323	396,883	408,789	421,053	433,684	446,695
Power Generation Station	34,774	24,225	24,952	25,700	26,471	27,265	28,083	28,926	29,794	30,688
Rental Property Income	55,572	72,625	74,804	77,048	79,359	81,740	84,192	86,718	89,320	91,999
Payments for Fund IS Expenses	1,350,950	1,417,148	1,486,596	1,559,439	1,635,844	1,364,186	0	0	0	0
COB Wheeling Revenue	1,304,632	1,082,935	933,005	771,679	598,357	412,413	213,189	219,585	226,172	232,957
Interest Earnings - Cash & Investments	1,236,710	664,557	194,969	170,209	220,489	223,922	305,197	462,026	601,666	651,332
Total Sources of Funds	\$189,348,285	\$145,566,259	\$120,046,871	\$128,568,449	\$140,519,505	\$148,672,417	\$148,336,779	\$177,524,010	\$200,760,582	\$218,190,475
Uses of Funds										
Net O&M Expenditures	\$36,838,822	\$38,760,432	\$41,803,840	\$45,878,040	\$47,694,459	\$50,927,142	\$49,545,982	\$51,805,328	\$54,174,813	\$56,890,964
Capital Outlays from Budget	500,000	495,600	210,350	500,000	522,500	546,013	570,583	596,259	623,091	651,130
Transfers Out										
Cash & Investments to Construction Clearing Account	882,616,607	75,121,370	44,231,789	40,342,707	45,284,601	52,638,211	28,320,782	29,013,265	29,501,430	55,852,283
Cash & Investments to Res. Bond Debt Service	0	0	0	0	670,122	1,340,244	2,139,428	2,138,552	2,137,277	2,136,201
Cash & Investments to WiFi Reserve	0	0	0	0	0	0	0	7,722,250	15,444,500	15,444,500
Transfers Out for Reserves										
Ending Cash & Investments Balance	63,747,856	31,188,858	33,800,891	41,847,702	46,347,822	43,220,808	67,760,004	86,248,555	98,879,471	87,215,397
Total Uses of Funds	\$189,348,285	\$145,566,259	\$120,046,871	\$128,568,449	\$140,519,505	\$148,672,417	\$148,336,779	\$177,524,010	\$200,760,582	\$218,190,475
Minimum Fund Balance Assumptions	\$27,805,080	\$29,223,747	\$31,222,971	\$34,327,174	\$35,707,406	\$37,755,356	\$35,696,597	\$37,333,339	\$39,029,085	\$40,976,000
Check Sources/Uses	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Check Ending Fund Balance	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

TWWD Forecast Model Summary

Table 13
 Tuolumne Valley Water District
 2021-2023 Financial Plan
Fund Summary – Cash & Investments

Description	FY2031	FY2032	FY2033	FY2034	FY2035	FY2036	FY2037	FY2038	FY2039	FY2040
Interest Rate on Fund Balance	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%
Sources of Funds										
Beginning Cash & Investments Balance	\$87,215,397	\$84,768,764	\$81,815,099	\$60,686,179	\$55,297,006	\$54,407,388	\$62,728,058	\$59,995,583	\$67,029,654	\$66,443,215
Total User Charges	118,200,580	123,056,106	128,047,125	133,174,026	138,437,003	143,836,046	149,445,652	155,274,032	161,329,719	167,621,578
Non-Rate Revenues										
Meter & Svc Revenue	2,357,425	2,441,500	2,525,575	2,615,350	2,705,600	2,800,600	2,901,300	3,002,475	3,108,875	3,215,750
Special Service & Turn On Fees	4,012	4,133	4,257	4,384	4,516	4,651	4,791	4,934	5,083	5,235
Penalty Fees	7,959	8,198	8,444	8,697	8,958	9,227	9,504	9,789	10,082	10,385
Dispatch Fees	174,089	179,312	184,691	190,232	195,939	201,817	207,872	214,108	220,531	227,147
Miscellaneous Income	264,053	271,975	280,134	288,538	297,195	306,110	315,294	324,752	334,495	344,530
Plan Review	32,782	33,766	34,779	35,822	36,897	38,004	39,144	40,318	41,528	42,774
Contract Reimbursements	1,565,728	1,612,700	1,661,081	1,710,913	1,762,240	1,815,108	1,869,561	1,925,648	1,983,417	2,042,920
Inspection Fees	113,124	115,188	120,013	123,613	127,322	131,142	135,076	139,128	143,302	147,601
Backflow Program Reimbursement	460,096	473,899	488,115	502,759	517,842	533,377	549,378	565,860	582,835	600,320
Power Generation Station	31,608	32,556	33,533	34,539	35,575	36,642	37,742	38,874	40,040	41,241
Rental Property Income	94,759	97,602	100,530	103,546	106,652	109,852	113,147	116,542	120,038	123,639
Payments for Fund 15 Expenses	0	0	0	0	0	0	0	0	0	0
COB Wheeling Revenue	239,946	247,145	254,559	262,196	270,062	278,163	286,508	295,104	303,957	313,075
Interest Earnings - Cash & Investments	601,945	583,044	498,754	405,941	383,965	409,974	429,533	444,588	467,155	548,745
Total Sources of Funds	\$211,363,504	\$213,927,216	\$216,056,690	\$200,146,737	\$200,186,772	\$204,918,101	\$219,072,558	\$222,391,735	\$235,720,711	\$241,728,156
Uses of Funds										
Net O&M Expenditures	\$59,721,098	\$62,429,799	\$65,253,497	\$68,784,299	\$71,266,377	\$74,464,178	\$77,806,230	\$81,298,179	\$84,946,660	\$88,759,611
Capital Outlays from Budget	680,431	711,050	743,048	776,485	811,427	847,941	886,098	925,972	967,641	1,011,185
Transfers Out										
Cash & Investments to Construction Clearing Account	48,612,510	51,390,566	71,793,265	57,708,246	55,367,532	45,832,575	57,381,342	50,134,625	59,982,877	36,300,056
Cash & Investments to Res. Bond Debt Service	2,136,201	2,136,201	2,136,201	2,136,201	2,889,548	5,600,851	7,558,806	7,558,806	7,935,819	9,871,687
Cash & Investments to WIFA Reserve	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500
Transfers Out for Reserves										
Ending Cash & Investments Balance	84,768,764	81,815,099	60,686,179	55,297,006	54,407,388	62,728,058	59,995,583	67,029,654	66,443,215	90,341,118
Total Uses of Funds	\$211,363,504	\$213,927,216	\$216,056,690	\$200,146,737	\$200,186,772	\$204,918,101	\$219,072,558	\$222,391,735	\$235,720,711	\$241,728,156
Minimum Fund Balance Assumptions	\$43,004,879	\$44,954,654	\$46,982,447	\$49,509,002	\$51,316,897	\$53,619,865	\$56,026,707	\$58,541,517	\$61,169,079	\$63,915,079
Check Sources/Uses	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Check Ending Fund Balance	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

TWWD Forecast Model Summary

Table 13
 Tuolumne Valley Water District
 2021-2023 Financial Plan
Fund Summary – Cash & Investments

Description	FY2041	FY2042	FY2043	FY2044	FY2045	FY2046	FY2047	FY2048	FY2049	FY2050
Interest Rate on Fund Balance	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%
Sources of Funds										
Beginning Cash & Investments Balance	\$90,341,118	\$80,155,853	\$89,730,827	\$80,693,830	\$90,389,254	\$86,317,495	\$91,228,076	\$114,201,295	\$165,946,941	\$217,726,922
Total User Charges	174,158,820	180,951,014	188,008,103	195,340,419	202,958,696	210,874,085	219,098,174	227,643,003	236,521,080	245,745,402
Non-Rate Revenues										
Meter & Svc Revenue	3,327,850	3,445,650	3,563,925	3,687,900	3,816,625	3,951,525	4,091,175	4,232,250	4,383,300	4,534,825
Special Service & Turn On Fees	5,392	5,554	5,720	5,892	6,069	6,251	6,438	6,632	6,830	7,035
Penalty Fees	10,696	11,017	11,348	11,688	12,039	12,400	12,772	13,155	13,550	13,956
Dispatch Fees	233,962	240,980	248,210	255,656	263,326	271,226	279,362	287,743	296,375	305,267
Miscellaneous Income	354,866	365,512	376,471	387,771	399,405	411,387	423,728	436,440	449,533	463,019
Plan Review	44,057	45,379	46,740	48,142	49,586	51,074	52,606	54,184	55,810	57,484
Contract Reimbursements	2,104,207	2,167,333	2,232,353	2,299,324	2,368,304	2,439,353	2,512,534	2,587,910	2,665,547	2,745,513
Inspection Fees	152,029	156,590	161,288	166,126	171,110	176,243	181,531	186,976	192,586	198,363
Backflow Program Reimbursement	618,330	636,880	655,986	675,666	695,936	716,814	738,318	760,468	783,282	806,780
Power Generation Station	42,479	43,753	45,066	46,418	47,810	49,244	50,722	52,243	53,811	55,425
Rental Property Income	127,348	131,169	135,104	139,157	143,332	147,632	152,061	156,622	161,321	166,161
Payments for Fund 15 Expenses	0	0	0	0	0	0	0	0	0	0
COB Wheeling Revenue	322,468	332,142	342,106	352,369	362,940	373,828	385,043	396,595	408,492	420,747
Interest Earnings - Cash & Investments	596,739	594,603	596,486	598,791	618,474	621,409	719,003	980,519	1,342,859	1,349,898
Total Sources of Funds	\$272,440,361	\$269,283,429	\$286,159,740	\$284,709,150	\$302,302,905	\$306,419,966	\$319,931,544	\$351,996,036	\$413,281,318	\$474,596,800
Uses of Funds										
Net O&M Expenditures	\$92,743,586	\$96,907,173	\$101,257,400	\$106,629,762	\$110,552,828	\$115,155,862	\$120,702,541	\$126,121,673	\$131,771,515	\$137,675,295
Capital Outlays from Budget	1,056,688	1,104,239	1,153,930	1,205,857	1,260,121	1,316,826	1,376,083	1,438,007	1,502,717	1,570,340
Transfers Out										
Cash & Investments to Construction Clearing Account	71,609,191	54,666,149	76,179,539	59,609,236	76,830,359	67,514,902	47,514,864	17,837,839	17,113,772	119,969,186
Cash & Investments to Res. Bond Debt Service	11,430,541	11,430,541	11,430,541	11,430,541	11,897,603	15,399,801	20,692,260	25,207,076	29,721,892	31,979,215
Cash & Investments to WIFIA Reserve	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500
Transfers Out for Reserves										
Ending Cash & Investments Balance	80,155,853	89,730,827	80,693,830	90,389,254	86,317,495	91,228,076	114,201,295	165,946,941	217,726,922	167,958,264
Total Uses of Funds	\$272,440,361	\$269,283,429	\$286,159,740	\$284,709,150	\$302,302,905	\$306,419,966	\$319,931,544	\$351,996,036	\$413,281,318	\$474,596,800
Minimum Fund Balance Assumptions	\$66,780,267	\$69,782,295	\$72,915,764	\$76,755,726	\$79,610,231	\$83,184,579	\$86,919,985	\$90,822,835	\$94,892,305	\$99,144,693
Check Sources/Uses	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Check Ending Fund Balance	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

TWWD Forecast Model Summary

Table 14
 Tuolumne Valley Water District
 2021-2023 Financial Plan
Fund Summary – Bond Proceeds

Description	FY2021 1.40%	FY2022 1.40%	FY2023 0.60%	FY2024 0.45%	FY2025 0.50%	FY2026 0.50%	FY2027 0.55%	FY2028 0.60%	FY2029 0.65%	FY2030 0.70%
Interest Rate on Fund Balance										
Beginning Bond Proceeds Balance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Bond Proceeds	0	0	0	0	38,600,000	0	0	0	0	0
Interest Earnings	0	0	0	0	0	0	0	0	0	0
Total Sources of Funds	\$0	\$0	\$0	\$0	\$38,600,000	\$0	\$0	\$0	\$0	\$0
Uses of Funds										
Issuance Costs	\$0	\$0	\$0	\$0	\$2,895,500	\$0	\$0	\$0	\$0	\$0
STD Retirement	0	0	0	0	0	0	0	0	0	0
Transfers Out	0	0	0	0	0	0	0	0	0	0
Bond Proceeds to Rev. Bond Debt Service	\$0	\$0	\$0	\$0	\$2,151,260	\$0	\$0	\$0	\$0	\$0
Bond Proceeds to Construction Clearing Account	0	0	0	0	36,199,240	0	0	0	0	0
Use of Prior Bond Proceeds for CIP	0	0	0	0	0	0	0	0	0	0
Ending Bond Proceeds Balance	0	0	0	0	0	0	0	0	0	0
Total Uses of Funds	\$0	\$0	\$0	\$0	\$38,600,000	\$0	\$0	\$0	\$0	\$0
Minimum Fund Balance Assumptions										
Check Sources/Uses	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Check Ending Fund Balance	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

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TWWD Forecast Model Summary

Table 14
 Tuolumne Valley Water District
 2021-2023 Financial Plan
Fund Summary – Bond Proceeds

Description	FY2031 0.70%	FY2032 0.70%	FY2033 0.70%	FY2034 0.70%	FY2035 0.70%	FY2036 0.70%	FY2037 0.70%	FY2038 0.70%	FY2039 0.70%	FY2040 0.70%
Interest Rate on Fund Balance										
Beginning Bond Proceeds Balance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Bond Proceeds	0	0	0	22,170,000	57,620,000	0	0	0	11,095,000	45,875,000
Interest Earnings	0	0	0	0	0	0	0	0	0	0
Total Sources of Funds	\$0	\$0	\$0	\$22,170,000	\$57,620,000	\$0	\$0	\$0	\$11,095,000	\$45,875,000
Uses of Funds										
Issuance Costs	\$0	\$0	\$0	\$332,550	\$864,300	\$0	\$0	\$0	\$166,425	\$688,125
STD Retirement	0	0	0	0	0	0	0	0	0	0
Transfers Out	0	0	0	0	0	0	0	0	0	0
Bond Proceeds to Rev. Bond Debt Service	\$0	\$0	\$0	\$1,517,316	\$3,943,515	\$0	\$0	\$0	\$759,342	\$3,139,687
Bond Proceeds to Construction Clearing Account	0	0	0	20,320,134	52,812,185	0	0	0	10,169,233	42,047,188
Use of Prior Bond Proceeds for CIP	0	0	0	0	0	0	0	0	0	0
Ending Bond Proceeds Balance	0	0	0	0	0	0	0	0	0	0
Total Uses of Funds	\$0	\$0	\$0	\$22,170,000	\$57,620,000	\$0	\$0	\$0	\$11,095,000	\$45,875,000
Minimum Fund Balance Assumptions										
Check Sources/Uses	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Check Ending Fund Balance	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

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TWWD Forecast Model Summary

Table 14
 Tuolumne Valley Water District
 2021-2023 Financial Plan
Fund Summary – Bond Proceeds

Description	FY2041 0.70%	FY2042 0.70%	FY2043 0.70%	FY2044 0.70%	FY2045 0.70%	FY2046 0.70%	FY2047 0.70%	FY2048 0.70%	FY2049 0.70%	FY2050 0.70%
Interest Rate on Fund Balance										
Beginning Bond Proceeds Balance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Bond Proceeds	0	0	0	0	13,745,000	89,320,000	66,430,000	66,435,000	66,430,000	0
Interest Earnings	0	0	0	0	0	0	0	0	0	0
Total Sources of Funds	\$0	\$0	\$0	\$0	\$13,745,000	\$89,320,000	\$66,430,000	\$66,435,000	\$66,430,000	\$0
Uses of Funds										
Issuance Costs	\$0	\$0	\$0	\$0	\$2,061,175	\$1,339,800	\$996,450	\$996,525	\$996,450	\$0
STD Retirement	0	0	0	0	0	0	0	0	0	0
Transfers Out	0	0	0	0	0	0	0	0	0	0
Bond Proceeds to Rev. Bond Debt Service	\$0	\$0	\$0	\$0	\$940,708	\$6,113,064	\$4,546,472	\$4,546,814	\$4,546,472	\$0
Bond Proceeds to Construction Clearing Account	0	0	0	0	12,598,117	81,867,136	60,887,078	60,891,661	60,887,078	0
Use of Prior Bond Proceeds for CIP	0	0	0	0	0	0	0	0	0	0
Ending Bond Proceeds Balance	0	0	0	0	0	0	0	0	0	0
Total Uses of Funds	\$0	\$0	\$0	\$0	\$13,745,000	\$89,320,000	\$66,430,000	\$66,435,000	\$66,430,000	\$0
Minimum Fund Balance Assumptions										
Check Sources/Uses	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Check Ending Fund Balance	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

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TVWD Forecast Model Summary

Table 15
 Tualatin Valley Water District
 2021-2023 Financial Plan
Fund Summary – Rev. Bond Debt Service

Description	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030
Interest rate on fund balance	1.40%	1.40%	0.60%	0.45%	0.50%	0.50%	0.55%	0.60%	0.65%	0.70%
Sources of Funds										
Beginning Rev. Bond Debt Service Balance	\$0	\$0	\$0	\$0	\$0	\$2,151,260	\$2,151,260	\$2,151,260	\$2,151,260	\$2,151,260
Transfers In										
Cash & Investments to Rev. Bond Debt Service	\$0	\$0	\$0	\$0	\$670,122	\$1,340,244	\$2,139,428	\$2,138,352	\$2,137,277	\$2,136,201
Bond Proceeds to Rev. Bond Debt Service	0	0	0	0	2,151,260	0	0	0	0	0
Interest Earnings	0	0	0	0	5,378	10,756	11,832	12,908	13,983	15,059
Total Sources of Funds	\$0	\$0	\$0	\$0	\$2,826,760	\$3,502,260	\$4,302,520	\$4,302,520	\$4,302,520	\$4,302,520
Uses of Funds										
Total Debt Service	\$0	\$0	\$0	\$0	\$675,500	\$1,351,000	\$2,151,260	\$2,151,260	\$2,151,260	\$2,151,260
Ending Rev. Bond Debt Service Balance	0	0	0	0	2,151,260	2,151,260	2,151,260	2,151,260	2,151,260	2,151,260
Total Uses of Funds	\$0	\$0	\$0	\$0	\$2,826,760	\$3,502,260	\$4,302,520	\$4,302,520	\$4,302,520	\$4,302,520
Minimum Fund Balance Assumptions	\$0	\$0	\$0	\$0	\$2,151,260	\$2,151,260	\$2,151,260	\$2,151,260	\$2,151,260	\$2,151,260
Check Sources/Uses	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Check Ending Fund Balance	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

TWWD Forecast Model Summary

Table 15
 Tuolumne Valley Water District
 2021-2023 Financial Plan
Fund Summary – Rev. Bond Debt Service

Description	FY2031	FY2032	FY2033	FY2034	FY2035	FY2036	FY2037	FY2038	FY2039	FY2040
Interest Rate on Fund Balance	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%
Sources of Funds										
Beginning Rev. Bond Debt Service Balance	\$2,151,260	\$2,151,260	\$2,151,260	\$2,151,260	\$2,151,260	\$3,668,576	\$7,612,091	\$7,612,091	\$7,612,091	\$8,371,433
Transfers In										
Cash & Investments to Rev. Bond Debt Service	\$2,136,201	\$2,136,201	\$2,136,201	\$2,136,201	\$2,889,548	\$5,600,851	\$7,558,806	\$7,558,806	\$7,935,819	\$9,871,687
Bond Proceeds to Rev. Bond Debt Service	0	0	0	0	1,517,316	3,943,515	0	0	759,342	3,139,687
Interest Earnings	15,059	15,059	15,059	15,059	20,369	39,482	53,285	53,285	55,942	69,589
Total Sources of Funds	\$4,302,520	\$4,302,520	\$4,302,520	\$4,302,520	\$6,578,494	\$13,252,424	\$15,224,181	\$15,224,181	\$16,363,194	\$21,452,395
Uses of Funds										
Total Debt Service	\$2,151,260	\$2,151,260	\$2,151,260	\$2,151,260	\$2,909,918	\$5,640,333	\$7,612,090	\$7,612,090	\$7,991,761	\$9,941,276
Ending Rev. Bond Debt Service Balance	2,151,260	2,151,260	2,151,260	2,151,260	3,668,576	7,612,091	7,612,091	7,612,091	8,371,433	11,511,119
Total Uses of Funds	\$4,302,520	\$4,302,520	\$4,302,520	\$4,302,520	\$6,578,494	\$13,252,424	\$15,224,181	\$15,224,181	\$16,363,194	\$21,452,395
Minimum Fund Balance Assumptions	\$2,151,260	\$2,151,260	\$2,151,260	\$2,151,260	\$3,668,575	\$7,612,090	\$7,612,090	\$7,612,090	\$8,371,432	\$11,511,119
Check Sources/Uses	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Check Ending Fund Balance	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

TWWD Forecast Model Summary

Table 15
 Tualatin Valley Water District
 2021-2023 Financial Plan
Fund Summary – Rev. Bond Debt Service

Description	FY2041	FY2042	FY2043	FY2044	FY2045	FY2046	FY2047	FY2048	FY2049	FY2050
Interest rate on fund balance	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%
Sources of Funds										
Beginning Rev. Bond Debt Service Balance	\$11,511,119	\$11,511,119	\$11,511,119	\$11,511,119	\$11,511,119	\$12,451,828	\$18,564,892	\$23,111,363	\$27,658,177	\$32,204,648
Transfers In										
Cash & Investments to Rev. Bond Debt Service	\$11,430,541	\$11,430,541	\$11,430,541	\$11,430,541	\$11,897,603	\$15,399,801	\$20,692,260	\$25,207,076	\$29,721,892	\$31,979,215
Bond Proceeds to Rev. Bond Debt Service	0	0	0	0	940,708	6,113,064	4,546,472	4,546,814	4,546,472	0
Interest Earnings	80,578	80,578	80,578	80,578	83,870	108,559	145,867	177,693	209,520	225,433
Total Sources of Funds	\$23,022,239	\$23,022,239	\$23,022,239	\$23,022,239	\$24,433,301	\$34,073,251	\$43,949,490	\$53,042,946	\$62,136,061	\$64,409,296
Uses of Funds										
Total Debt Service	\$11,511,119	\$11,511,119	\$11,511,119	\$11,511,119	\$11,981,473	\$15,508,359	\$20,838,127	\$25,384,770	\$29,931,412	\$32,204,648
Ending Rev. Bond Debt Service Balance	11,511,119	11,511,119	11,511,119	11,511,119	12,451,828	18,564,892	23,111,363	27,658,177	32,204,648	32,204,648
Total Uses of Funds	\$23,022,239	\$23,022,239	\$23,022,239	\$23,022,239	\$24,433,301	\$34,073,251	\$43,949,490	\$53,042,946	\$62,136,061	\$64,409,296
Minimum Fund Balance Assumptions	\$11,511,119	\$11,511,119	\$11,511,119	\$11,511,119	\$12,451,827	\$18,564,891	\$23,111,363	\$27,658,176	\$32,204,648	\$32,204,648
Check Sources/Uses	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Check Ending Fund Balance	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

TVWD Forecast Model Summary

Table 16
 Tuolumne Valley Water District
 2021-2023 Financial Plan
Fund Summary – Construction Clearing Account

Description	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030
Interest Rate on Fund Balance	1.40%	1.40%	0.60%	0.45%	0.50%	0.50%	0.55%	0.60%	0.65%	0.70%
Sources of Funds										
Beginning Construction Clearing Account Balance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Transfers In	\$882,616,607	\$75,121,370	\$44,231,789	\$40,342,707	\$45,284,601	\$52,638,211	\$28,320,782	\$29,013,265	\$29,501,430	\$55,852,283
Cash & Investments to Construction Clearing Account	0	0	0	0	36,159,240	0	0	0	0	0
Bond Proceeds to Construction Clearing Account	0	0	0	0	0	0	0	0	0	0
Reimbursement SDC Account to Construction Clearing Account	957,998	915,843	918,327	920,544	922,482	924,129	899,765	4,562,442	4,421,006	4,272,088
Improvement SDC Account to Construction Clearing Account	4,042,599	3,864,711	3,875,192	3,884,546	3,892,724	3,899,675	3,796,866	0	0	0
WIEA Reserve to Construction Clearing Account	0	59,500,000	195,000,000	132,748,990	0	0	0	0	0	0
Short-Term Debt	0	0	0	0	0	0	0	0	0	0
Interest Earnings	0	0	0	0	0	0	0	0	0	0
Total Sources of Funds	\$93,262,204	\$139,401,924	\$244,025,308	\$177,896,787	\$86,259,047	\$57,462,015	\$33,017,413	\$33,575,707	\$33,922,436	\$60,124,371
Uses of Funds										
Capital Projects funded from Cash/Reserves	\$882,616,607	\$75,121,370	\$44,231,789	\$40,342,707	\$45,284,601	\$52,638,211	\$28,320,782	\$29,013,265	\$29,501,430	\$55,852,283
Projects funded from Debt Proceeds (incl fund Int.)	0	59,500,000	195,000,000	132,748,990	0	0	0	0	0	0
SDC-Funded Capital Projects	5,000,597	4,780,555	4,793,519	4,805,090	4,815,206	4,823,804	4,696,631	4,562,442	4,421,006	4,272,088
Ending Construction Clearing Account Balance	0	0	0	0	0	0	0	0	0	0
Total Uses of Funds	\$93,262,204	\$139,401,924	\$244,025,308	\$177,896,787	\$86,259,047	\$57,462,015	\$33,017,413	\$33,575,707	\$33,922,436	\$60,124,371
Minimum Fund Balance Assumptions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Check Sources/Uses	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Check Total Capital Projects & Outlays	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Check Ending Fund Balance	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

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Table 16
 Tuolumne Valley Water District
 2021-2023 Financial Plan
Fund Summary – Construction Clearing Account

Description	FY2031 0.70%	FY2032 0.70%	FY2033 0.70%	FY2034 0.70%	FY2035 0.70%	FY2036 0.70%	FY2037 0.70%	FY2038 0.70%	FY2039 0.70%	FY2040 0.70%
Interest Rate on Fund Balance										
Beginning Construction Clearing Account Balance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Sources of Funds										
Transfers In	\$48,612,510	\$51,390,566	\$71,793,265	\$57,708,246	\$55,367,532	\$45,832,575	\$57,381,342	\$50,134,625	\$59,982,877	\$36,300,056
Cash & Investments to Construction Clearing Account	0	0	0	0	20,320,134	52,812,185	0	0	10,169,233	42,047,188
Bond Proceeds to Construction Clearing Account	0	0	0	0	0	0	0	0	0	0
Reimbursement SDC Account to Construction Clearing Account	4,115,445	3,950,827	3,777,978	3,596,635	3,406,527	3,207,377	2,998,897	2,780,795	2,552,770	2,314,512
Improvement SDC Account to Construction Clearing Account	0	0	0	0	0	0	0	0	0	0
WIEA Reserve to Construction Clearing Account	0	0	0	0	0	0	0	0	0	0
Short-Term Debt	0	0	0	0	0	0	0	0	0	0
Interest Earnings	0	0	0	0	0	0	0	0	0	0
Total Sources of Funds	\$52,727,954	\$55,341,393	\$75,571,243	\$61,304,881	\$79,094,194	\$101,853,137	\$60,380,239	\$52,915,420	\$72,704,880	\$80,661,756
Uses of Funds										
Capital Projects funded from Cash/Reserves	\$48,612,510	\$51,390,566	\$71,793,265	\$57,708,246	\$55,367,532	\$45,832,575	\$57,381,342	\$50,134,625	\$59,982,877	\$36,300,056
Projects funded from Debt Proceeds (incl fund Int.)	0	0	0	0	20,320,134	52,812,185	0	0	10,169,233	42,047,188
SDC-Funded Capital Projects	4,115,445	3,950,827	3,777,978	3,596,635	3,406,527	3,207,377	2,998,897	2,780,795	2,552,770	2,314,512
Ending Construction Clearing Account Balance	0	0	0	0	0	0	0	0	0	0
Total Uses of Funds	\$52,727,954	\$55,341,393	\$75,571,243	\$61,304,881	\$79,094,194	\$101,853,137	\$60,380,239	\$52,915,420	\$72,704,880	\$80,661,756
Minimum Fund Balance Assumptions										
Check Sources/Uses	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Check Total Capital Projects & Outlays	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Check Ending Fund Balance	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

TVWD Forecast Model Summary

Table 16
 Tuolumne Valley Water District
 2021-2023 Financial Plan
Fund Summary – Construction Clearing Account

Description	FY2041 0.70%	FY2042 0.70%	FY2043 0.70%	FY2044 0.70%	FY2045 0.70%	FY2046 0.70%	FY2047 0.70%	FY2048 0.70%	FY2049 0.70%	FY2050 0.70%
Sources of Funds										
Interest Rate on Fund Balance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Beginning Construction Clearing Account Balance	\$71,609,191	\$54,666,149	\$76,179,539	\$59,609,236	\$76,830,359	\$67,514,902	\$47,514,864	\$17,837,839	\$17,113,772	\$119,969,186
Transfers In	0	0	0	0	12,598,117	81,867,136	60,887,078	60,891,661	60,887,078	0
Cash & Investments to Construction Clearing Account	0	0	0	0	0	0	0	0	0	0
Bond Proceeds to Construction Clearing Account	2,065,702	1,806,013	1,535,111	1,252,651	958,278	651,629	332,331	0	0	0
Reimbursement SDC Account to Construction Clearing Account	0	0	0	0	0	0	0	0	0	0
Improvement SDC Account to Construction Clearing Account	0	0	0	0	0	0	0	0	0	0
WIEFA Reserve to Construction Clearing Account	0	0	0	0	0	0	0	0	0	0
Short-Term Debt	0	0	0	0	0	0	0	0	0	0
Interest Earnings	0	0	0	0	0	0	0	0	0	0
Total Sources of Funds	\$73,674,893	\$56,472,162	\$77,714,650	\$60,861,887	\$90,386,754	\$150,033,667	\$108,734,274	\$78,729,500	\$78,000,850	\$119,969,186
Uses of Funds										
Capital Projects funded from Cash/Reserves	\$71,609,191	\$54,666,149	\$76,179,539	\$59,609,236	\$76,830,359	\$67,514,902	\$47,514,864	\$17,837,839	\$17,113,772	\$119,969,186
Projects funded from Debt Proceeds (incl fund Int.)	0	0	0	0	12,598,117	81,867,136	60,887,078	60,891,661	60,887,078	0
SDC-Funded Capital Projects	2,065,702	1,806,013	1,535,111	1,252,651	958,278	651,629	332,331	0	0	0
Ending Construction Clearing Account Balance	0	0	0	0	0	0	0	0	0	0
Total Uses of Funds	\$73,674,893	\$56,472,162	\$77,714,650	\$60,861,887	\$90,386,754	\$150,033,667	\$108,734,274	\$78,729,500	\$78,000,850	\$119,969,186
Minimum Fund Balance Assumptions										
Check Sources/Uses	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Check Total Capital Projects & Outlays	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Check Ending Fund Balance	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

TWWD Forecast Model Summary

Table 17
 Tuolumne Valley Water District
 2021-2023 Financial Plan
Fund Summary – Reimbursement SDC Account

Description	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030
Interest Rate on Account Balance	1.40%	1.40%	0.60%	0.45%	0.50%	0.50%	0.55%	0.60%	0.65%	0.70%
Sources of Funds										
Beginning Reimbursement SDC Account Balance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Reimbursement Fee Receipts	957,998	915,843	918,327	920,544	922,482	924,129	899,765	4,562,442	4,421,006	4,272,088
Interest Earnings	0	0	0	0	0	0	0	0	0	0
Total Sources of Funds	\$957,998	\$915,843	\$918,327	\$920,544	\$922,482	\$924,129	\$899,765	\$4,562,442	\$4,421,006	\$4,272,088
Uses of Funds										
Transfers Out										
Reimbursement SDC Account to Construction Clearing Account	\$957,998	\$915,843	\$918,327	\$920,544	\$922,482	\$924,129	\$899,765	\$4,562,442	\$4,421,006	\$4,272,088
Ending Reimbursement SDC Account Balance	0	0	0	0	0	0	0	0	0	0
Total Uses of Funds	\$957,998	\$915,843	\$918,327	\$920,544	\$922,482	\$924,129	\$899,765	\$4,562,442	\$4,421,006	\$4,272,088
Minimum Fund Balance Assumptions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Check Sources/Uses	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Check Ending Fund Balance	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

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Table 17
 Tuolumne Valley Water District
 2021-2023 Financial Plan
Fund Summary – Reimbursement SDC Account

Description	FY2031	FY2032	FY2033	FY2034	FY2035	FY2036	FY2037	FY2038	FY2039	FY2040
	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%
Interest Rate on Account Balance										
Sources of Funds										
Beginning Reimbursement SDC Account Balance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Reimbursement Fee Receipts	4,115,445	3,950,827	3,777,978	3,596,635	3,406,527	3,207,377	2,998,897	2,780,795	2,552,770	2,314,512
Interest Earnings	0	0	0	0	0	0	0	0	0	0
Total Sources of Funds	\$4,115,445	\$3,950,827	\$3,777,978	\$3,596,635	\$3,406,527	\$3,207,377	\$2,998,897	\$2,780,795	\$2,552,770	\$2,314,512
Uses of Funds										
Transfers Out										
Reimbursement SDC Account to Construction Clearing Account	\$4,115,445	\$3,950,827	\$3,777,978	\$3,596,635	\$3,406,527	\$3,207,377	\$2,998,897	\$2,780,795	\$2,552,770	\$2,314,512
Ending Reimbursement SDC Account Balance	0	0	0	0	0	0	0	0	0	0
Total Uses of Funds	\$4,115,445	\$3,950,827	\$3,777,978	\$3,596,635	\$3,406,527	\$3,207,377	\$2,998,897	\$2,780,795	\$2,552,770	\$2,314,512
Minimum Fund Balance Assumptions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Check Sources/Uses	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Check Ending Fund Balance	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

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Table 17
 Tuolumne Valley Water District
 2021-2023 Financial Plan
Fund Summary – Reimbursement SDC Account

Description	FY2041	FY2042	FY2043	FY2044	FY2045	FY2046	FY2047	FY2048	FY2049	FY2050
	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%
Interest Rate on Account Balance										
Sources of Funds										
Beginning Reimbursement SDC Account Balance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Reimbursement Fee Receipts	2,065,702	1,806,013	1,535,111	1,252,651	958,278	651,629	332,331	0	0	0
Interest Earnings	0	0	0	0	0	0	0	0	0	0
Total Sources of Funds	\$2,065,702	\$1,806,013	\$1,535,111	\$1,252,651	\$958,278	\$651,629	\$332,331	\$0	\$0	\$0
Uses of Funds										
Transfers Out										
Reimbursement SDC Account to Construction Clearing Account	\$2,065,702	\$1,806,013	\$1,535,111	\$1,252,651	\$958,278	\$651,629	\$332,331	\$0	\$0	\$0
Ending Reimbursement SDC Account Balance	0	0	0	0	0	0	0	0	0	0
Total Uses of Funds	\$2,065,702	\$1,806,013	\$1,535,111	\$1,252,651	\$958,278	\$651,629	\$332,331	\$0	\$0	\$0
Minimum Fund Balance Assumptions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Check Sources/Uses	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Check Ending Fund Balance	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

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Table 18
 Tuolumne Valley Water District
 2021-2023 Financial Plan
Fund Summary – Improvement SDC Account

Description	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030
Interest Rate on Fund Balance	1.40%	1.40%	0.60%	0.45%	0.50%	0.50%	0.55%	0.60%	0.65%	0.70%
Sources of Funds										
Beginning Improvement SDC Account Balance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Improvement Fee Receipts	4,042,599	3,864,711	3,875,192	3,884,546	3,892,724	3,899,675	3,796,866	0	0	0
Interest Earnings	0	0	0	0	0	0	0	0	0	0
Total Sources of Funds	\$4,042,599	\$3,864,711	\$3,875,192	\$3,884,546	\$3,892,724	\$3,899,675	\$3,796,866	\$0	\$0	\$0
Uses of Funds										
Transfers Out										
Improvement SDC Account to Construction Clearing Account	\$4,042,599	\$3,864,711	\$3,875,192	\$3,884,546	\$3,892,724	\$3,899,675	\$3,796,866	\$0	\$0	\$0
Ending Improvement SDC Account Balance	0	0	0	0	0	0	0	0	0	0
Total Uses of Funds	\$4,042,599	\$3,864,711	\$3,875,192	\$3,884,546	\$3,892,724	\$3,899,675	\$3,796,866	\$0	\$0	\$0
Minimum Fund Balance Assumptions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Check Sources/Uses	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Check Ending Fund Balance	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

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Table 18
 Tuolumne Valley Water District
 2021-2023 Financial Plan
Fund Summary – Improvement SDC Account

Description	FY2031	FY2032	FY2033	FY2034	FY2035	FY2036	FY2037	FY2038	FY2039	FY2040
Interest Rate on Fund Balance	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%
Sources of Funds										
Beginning Improvement SDC Account Balance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Improvement Fee Receipts	0	0	0	0	0	0	0	0	0	0
Interest Earnings	0	0	0	0	0	0	0	0	0	0
Total Sources of Funds	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Uses of Funds										
Transfers Out										
Improvement SDC Account to Construction Clearing Account	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ending Improvement SDC Account Balance	0	0	0	0	0	0	0	0	0	0
Total Uses of Funds	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Minimum Fund Balance Assumptions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Check Sources/Uses	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Check Ending Fund Balance	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

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Table 18
 Tuolumne Valley Water District
 2021-2023 Financial Plan
Fund Summary – Improvement SDC Account

Description	FY2041 0.70%	FY2042 0.70%	FY2043 0.70%	FY2044 0.70%	FY2045 0.70%	FY2046 0.70%	FY2047 0.70%	FY2048 0.70%	FY2049 0.70%	FY2050 0.70%
Interest Rate on Fund Balance										
Beginning Improvement SDC Account Balance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Improvement Fee Receipts	0	0	0	0	0	0	0	0	0	0
Interest Earnings	0	0	0	0	0	0	0	0	0	0
Total Sources of Funds	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Uses of Funds										
Transfers Out										
Improvement SDC Account to Construction Clearing Account	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ending Improvement SDC Account Balance	0	0	0	0	0	0	0	0	0	0
Total Uses of Funds	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Minimum Fund Balance Assumptions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Check Sources/Uses	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Check Ending Fund Balance	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

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TVWD Forecast Model Summary

Table 19
 Tuolumne Valley Water District
 2021-2023 Financial Plan
Fund Summary – WIFIA Reserve

Description	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030
Interest Rate on Fund Balance	1.40%	1.40%	0.60%	0.45%	0.50%	0.50%	0.55%	0.60%	0.65%	0.70%
Sources of Funds										
Beginning WIFIA Reserve Balance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
WIFIA Proceeds	0	60,000,000	195,000,000	132,748,990	0	0	0	0	0	0
Transfers In										
Cash & Investments to WIFIA Reserve	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$7,722,250	\$15,444,500	\$15,444,500
Interest Earnings	0	0	0	0	0	0	0	0	0	0
Total Sources of Funds	\$0	\$60,000,000	\$195,000,000	\$132,748,990	\$0	\$0	\$0	\$7,722,250	\$15,444,500	\$15,444,500
Uses of Funds										
WIFIA Issuance Costs	\$0	\$5,000,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
WIFIA Interest-only Payments	0	0	0	0	0	0	0	0	0	0
WIFIA Loan Repayments	0	0	0	0	0	0	0	7,722,250	15,444,500	15,444,500
Transfers Out										
WIFIA Reserve to Construction Clearing Account	0	59,500,000	195,000,000	132,748,990	0	0	0	0	0	0
Ending WIFIA Reserve Balance	0	0	0	0	0	0	0	0	0	0
Total Uses of Funds	\$0	\$60,000,000	\$195,000,000	\$132,748,990	\$0	\$0	\$0	\$7,722,250	\$15,444,500	\$15,444,500
Minimum Fund Balance Assumptions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<i>Ending Fund Balance Factor</i>										
Check Sources/Uses	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Check Ending Fund Balance	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

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Table 19
 Tuolumne Valley Water District
 2021-2023 Financial Plan
Fund Summary – WIFIA Reserve

Description	FY2031	FY2032	FY2033	FY2034	FY2035	FY2036	FY2037	FY2038	FY2039	FY2040
Interest Rate on Fund Balance	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%
Sources of Funds										
Beginning WIFIA Reserve Balance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
WIFIA Proceeds	0	0	0	0	0	0	0	0	0	0
Transfers In										
Cash & Investments to WIFIA Reserve	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500
Interest Earnings	0	0	0	0	0	0	0	0	0	0
Total Sources of Funds	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500
Uses of Funds										
WIFIA Issuance Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
WIFIA Interest-only Payments	0	0	0	0	0	0	0	0	0	0
WIFIA Loan Repayments	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500
Transfers Out										
WIFIA Reserve to Construction Clearing Account	0	0	0	0	0	0	0	0	0	0
Ending WIFIA Reserve Balance	0	0	0	0	0	0	0	0	0	0
Total Uses of Funds	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500
Minimum Fund Balance Assumptions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<i>Ending Fund Balance Factor</i>	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Check Sources/Uses	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Check Ending Fund Balance	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

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TVWD Forecast Model Summary

Table 19
 Tuolumne Valley Water District
 2021-2023 Financial Plan
Fund Summary – WIFIA Reserve

Description	FY2041	FY2042	FY2043	FY2044	FY2045	FY2046	FY2047	FY2048	FY2049	FY2050
Interest Rate on Fund Balance	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%
Sources of Funds										
Beginning WIFIA Reserve Balance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
WIFIA Proceeds	0	0	0	0	0	0	0	0	0	0
Transfers In										
Cash & Investments to WIFIA Reserve	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500
Interest Earnings	0	0	0	0	0	0	0	0	0	0
Total Sources of Funds	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500
Uses of Funds										
WIFIA Issuance Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
WIFIA Interest-only Payments	0	0	0	0	0	0	0	0	0	0
WIFIA Loan Repayments	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500
Transfers Out										
WIFIA Reserve to Construction Clearing Account	0	0	0	0	0	0	0	0	0	0
Ending WIFIA Reserve Balance	0	0	0	0	0	0	0	0	0	0
Total Uses of Funds	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500	\$15,444,500
Minimum Fund Balance Assumptions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<i>Ending Fund Balance Factor</i>										
Check Sources/Uses	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Check Ending Fund Balance	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

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TWWD Forecast Model Summary

Table 20
Tualatin Valley Water District
2021-2023 Financial Plan
Sources and Uses Summary with Changes in Reserves by Fund

	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030
Sources of Funds										
Water Sales	\$70,000,000	\$74,849,838	\$82,316,005	\$88,212,908	\$92,031,205	\$96,004,618	\$100,138,985	\$104,440,342	\$108,893,535	\$113,479,974
SDCs	5,000,597	4,780,555	4,793,519	4,805,090	4,815,206	4,823,804	4,696,631	4,562,442	4,421,006	4,272,088
Other Revenue	6,423,285	6,968,565	6,542,008	6,554,649	6,645,977	6,330,733	4,988,818	5,336,571	5,632,474	5,846,090
WHA Proceeds	0	60,000,000	195,000,000	132,748,990	0	0	0	0	0	0
Debt Proceeds	0	0	0	0	38,600,000	0	0	0	0	0
Reserves	49,177,144	32,558,998	0	0	0	3,127,015	0	0	0	11,664,074
Cash & Investments	0	0	0	0	0	0	0	0	0	0
Rev. Bond Debt Service	0	0	0	0	0	0	0	0	0	0
Improvement SDC Account	0	0	0	0	0	0	0	0	0	0
Total Sources of Funds	\$130,601,026	\$179,157,956	\$288,651,532	\$232,321,637	\$142,092,387	\$110,286,170	\$109,824,434	\$114,339,355	\$118,947,015	\$135,262,225
Uses of Funds										
Operating Exp.	\$25,873,072	\$27,940,532	\$28,660,815	\$32,211,897	\$33,835,324	\$36,216,485	\$39,682,697	\$41,452,561	\$43,311,496	\$45,498,641
Purchased Water & Pumping Power	10,965,750	11,319,900	13,143,025	13,666,143	14,148,635	14,710,657	9,863,284	10,352,767	10,863,317	11,392,323
Capital Outlay	95,762,204	139,897,524	244,235,658	178,396,787	86,781,547	58,008,028	33,587,996	34,171,966	34,545,527	60,775,501
Debt Service	0	0	0	0	675,500	1,351,000	2,151,260	9,873,510	17,595,760	17,595,760
Building Reserves	0	0	0	0	0	0	0	0	0	0
Cash & Investments	0	0	2,612,034	8,046,810	4,500,121	0	24,539,197	18,488,551	12,630,915	0
Rev. Bond Debt Service	0	0	0	0	2,151,260	0	0	0	0	0
Improvement SDC Account	0	0	0	0	0	0	0	0	0	0
Total Uses of Funds	\$130,601,026	\$179,157,956	\$288,651,532	\$232,321,637	\$142,092,387	\$110,286,170	\$109,824,434	\$114,339,355	\$118,947,015	\$135,262,225
Check Sources/Uses	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

TVWD Forecast Model Summary

Table 20
 Tuolumne Valley Water District
 2021-2023 Financial Plan
Sources and Uses Summary with Changes in Reserves by Fund

	FY2031	FY2032	FY2033	FY2034	FY2035	FY2036	FY2037	FY2038	FY2039	FY2040
Sources of Funds										
Water Sales	\$118,200,580	\$123,056,106	\$128,047,125	\$133,174,026	\$138,437,003	\$143,836,046	\$149,445,652	\$155,274,032	\$161,329,719	\$167,621,578
SDCs	4,115,445	3,950,827	3,777,978	3,596,635	3,406,527	3,207,377	2,998,897	2,780,795	2,552,770	2,314,512
Other Revenue	5,962,586	6,117,404	6,209,524	6,301,590	6,473,132	6,714,150	6,952,134	7,175,405	7,417,281	7,732,952
WHA Proceeds	0	0	0	0	0	0	0	0	0	0
Debt Proceeds	0	0	0	0	0	0	0	0	0	0
Reserves	0	0	0	0	22,170,000	57,620,000	0	0	11,095,000	45,875,000
Cash & Investments	2,446,632	2,953,665	21,128,920	5,389,173	889,618	0	2,732,475	0	586,439	0
Rev. Bond Debt Service	0	0	0	0	0	0	0	0	0	0
Improvement SDC Account	0	0	0	0	0	0	0	0	0	0
Total Sources of Funds	\$130,725,243	\$136,078,002	\$159,163,548	\$148,461,424	\$171,376,280	\$211,377,572	\$162,129,157	\$165,230,232	\$182,981,209	\$223,544,042
Uses of Funds										
Operating Exp.	\$47,781,046	\$49,923,048	\$52,160,857	\$55,086,383	\$57,276,181	\$60,361,208	\$62,165,433	\$64,953,546	\$68,032,944	\$71,598,988
Purchased Water & Pumping Power	11,940,053	12,506,751	13,092,640	13,697,915	14,322,746	14,967,269	15,640,797	16,344,632	17,080,141	17,868,747
Capital Outlay	53,408,385	56,052,443	76,314,291	62,081,366	79,905,620	102,700,077	61,266,337	53,841,392	73,672,521	81,672,941
Debt Service	17,595,760	17,595,760	17,595,760	17,595,760	18,354,418	21,084,833	23,056,590	23,056,590	23,436,261	25,385,776
Building Reserves	0	0	0	0	0	8,320,669	0	7,034,071	0	23,897,903
Cash & Investments	0	0	0	0	1,517,316	3,943,515	0	0	759,342	3,139,687
Rev. Bond Debt Service	0	0	0	0	0	0	0	0	0	0
Improvement SDC Account	0	0	0	0	0	0	0	0	0	0
Total Uses of Funds	\$130,725,243	\$136,078,002	\$159,163,548	\$148,461,424	\$171,376,280	\$211,377,572	\$162,129,157	\$165,230,232	\$182,981,209	\$223,544,042
Check Sources/Uses	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

TWWD Forecast Model Summary

Table 20
 Tuolumne Valley Water District
 2021-2023 Financial Plan
Sources and Uses Summary with Changes in Reserves by Fund

	FY2041	FY2042	FY2043	FY2044	FY2045	FY2046	FY2047	FY2048	FY2049	FY2050
Sources of Funds										
Water Sales	\$174,158,820	\$180,951,014	\$188,008,103	\$195,340,419	\$202,958,696	\$210,874,085	\$219,098,174	\$227,643,003	\$236,521,080	\$245,745,402
SDCs	2,065,702	1,806,013	1,535,111	1,252,651	958,278	651,629	332,331	0	0	0
Other Revenue	8,021,001	8,257,140	8,501,387	8,755,478	9,038,825	9,336,945	9,751,160	10,329,431	11,022,816	11,349,908
WHA Proceeds	0	0	0	0	0	0	0	0	0	0
Debt Proceeds	0	0	0	0	0	0	0	0	0	0
Reserves	0	0	0	0	13,745,000	89,320,000	66,430,000	66,435,000	66,430,000	0
Cash & Investments	10,185,264	0	9,036,997	0	4,071,759	0	0	0	0	49,768,659
Rev. Bond Debt Service	0	0	0	0	0	0	0	0	0	0
Improvement SDC Account	0	0	0	0	0	0	0	0	0	0
Total Sources of Funds	\$194,430,787	\$191,014,167	\$207,081,599	\$205,348,549	\$230,772,558	\$310,182,659	\$295,611,665	\$304,407,434	\$313,973,896	\$306,863,969
Uses of Funds										
Operating Exp.	\$74,091,646	\$77,415,894	\$80,889,015	\$85,344,799	\$88,516,216	\$93,611,950	\$97,409,312	\$101,735,484	\$106,243,028	\$109,956,736
Purchased Water & Pumping Power	18,651,941	19,491,278	20,368,386	21,284,963	22,242,786	23,243,712	24,289,679	25,382,714	26,524,936	27,718,559
Capital Outlay	74,731,581	57,576,402	78,868,580	62,067,744	91,646,874	151,350,493	110,110,357	80,167,507	79,503,567	121,539,526
Debt Service	26,955,619	26,955,619	26,955,619	26,955,619	27,425,973	30,952,859	36,282,627	40,829,269	45,375,912	47,649,148
Building Reserves	0	9,574,974	0	9,695,424	0	4,910,581	22,973,219	51,745,646	51,779,981	0
Cash & Investments	0	0	0	0	940,708	6,115,064	4,546,471	4,546,814	4,546,471	0
Rev. Bond Debt Service	0	0	0	0	0	0	0	0	0	0
Improvement SDC Account	0	0	0	0	0	0	0	0	0	0
Total Uses of Funds	\$194,430,787	\$191,014,167	\$207,081,599	\$205,348,549	\$230,772,558	\$310,182,659	\$295,611,665	\$304,407,434	\$313,973,896	\$306,863,969
Check Sources/Uses	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

TWWD Forecast Model Summary

Table 21
Tualatin Valley Water District
2021-2023 Financial Plan
45-year Revenue Requirements Forecast

	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029
O&M Summary									
Fixed Expenses	\$39,089,251	\$39,621,370	\$42,106,713	\$47,061,414	\$48,911,671	\$51,728,037	\$45,324,612	\$47,384,636	\$49,546,028
Variable Costs									
JWC	1,049,650	2,595,300	2,999,500	2,555,365	2,697,707	2,847,794	5,447,817	5,692,969	5,949,152
Pumping Power	457,100	450,000	479,325	500,895	523,435	546,989	1,344,603	1,414,469	1,487,283
Total O&M	\$40,596,001	\$42,666,670	\$45,585,538	\$50,117,674	\$52,132,813	\$55,122,820	\$52,117,032	\$54,492,075	\$56,982,464
Less Capitalized OH & Outlays from O&M	\$3,757,180	\$3,906,238	\$3,781,698	\$4,239,634	\$4,438,354	\$4,195,678	\$2,571,050	\$2,686,747	\$2,807,651
Net O&M (A)	\$36,838,822	\$38,760,432	\$41,803,840	\$45,878,040	\$47,694,459	\$50,927,142	\$49,545,982	\$51,805,328	\$54,174,813
Debt Service from Rates (net of Debt Reserve Retirements)									
Future Revenue Bonds	\$0	\$0	\$0	\$0	\$675,500	\$1,351,000	\$2,151,260	\$2,151,260	\$2,151,260
WIFA	0	0	0	0	0	0	0	7,722,250	15,444,500
Total Debt Service (B)	\$0	\$0	\$0	\$0	\$675,500	\$1,351,000	\$2,151,260	\$9,873,510	\$17,595,760
Cash-Funded Capital Expenditures									
Capital Projects & Outlays from O&M	\$93,762,204	\$139,897,524	\$244,235,638	\$178,396,787	\$86,781,547	\$58,008,028	\$33,587,996	\$34,171,966	\$34,545,527
Less Debt-Funding	0	(59,500,000)	(195,000,000)	(132,748,990)	(36,159,240)	0	0	0	0
CIP & Outlays from Cash/Reserves (C)	\$93,762,204	\$80,397,524	\$49,235,638	\$45,647,797	\$50,622,307	\$58,008,028	\$33,587,996	\$34,171,966	\$34,545,527
Total Requirements (A)+(B)+(C)	\$130,601,026	\$119,157,956	\$91,039,498	\$91,525,837	\$98,992,266	\$110,286,170	\$85,285,238	\$95,850,803	\$106,316,100
Less Non-Rate Revenues and Reserves									
Meter & Svc Revenue	\$417,140	\$1,697,650	\$1,571,975	\$1,818,775	\$1,884,325	\$1,950,825	\$2,016,850	\$2,127,050	\$2,200,200
Non-Rate Revenue (net of related expenses)	4,769,435	4,606,358	4,589,064	4,565,665	4,533,785	4,145,230	2,654,939	2,734,587	2,816,625
SDC Funding for Capital	5,000,597	4,780,555	4,793,519	4,805,090	4,812,066	4,823,804	4,896,631	4,562,442	4,421,006
Funding from Reserves (incl. interest earnings)	50,413,854	33,223,555	194,969	170,209	225,867	3,361,692	317,029	474,933	615,649
Totals (E)	\$60,601,026	\$44,308,118	\$113,335,527	\$113,359,739	\$114,461,182	\$14,281,552	\$9,685,449	\$9,899,012	\$10,053,480
Net Revenue Requirements (D)-(E)	\$70,000,000	\$74,849,838	\$79,703,971	\$80,166,098	\$87,531,084	\$96,004,618	\$75,599,788	\$85,951,791	\$96,262,620

(1) Pension costs included in Fixed Expenses to FY2021.
(2) Pension costs aggregated separately beginning FY2022.

TWWD Forecast Model Summary

Table Z1
Tualatin Valley Water District
2021-2023 Financial Plan
45-year Revenue Requirements Forecast

	FY2030	FY2031	FY2032	FY2033	FY2034	FY2035	FY2036	FY2037	FY2038
O&M Summary									
Fixed Expenses	\$2,045,649	\$4,650,550	\$7,125,047	\$9,705,297	\$62,983,126	\$65,202,424	\$68,127,347	\$71,184,242	\$74,378,201
Variable Costs									
JWC	6,216,864	6,496,623	6,788,971	7,094,475	7,413,726	7,747,344	8,095,975	8,460,293	8,841,007
Pumping Power	1,562,447	1,639,950	1,719,777	1,801,901	1,886,290	1,972,901	2,061,681	2,154,457	2,251,407
Total O&M	\$9,824,959	\$62,787,123	\$65,633,795	\$68,601,673	\$72,283,143	\$74,922,669	\$78,285,003	\$81,798,992	\$85,470,615
Less Capitalized OH & Outlays from O&M	\$2,993,995	\$3,066,025	\$3,203,996	\$3,348,176	\$3,498,844	\$3,656,292	\$3,820,825	\$3,992,762	\$4,172,436
Net O&M	\$6,890,964	\$59,721,098	\$62,429,799	\$65,253,497	\$68,784,299	\$71,266,377	\$74,464,178	\$77,806,230	\$81,298,179
	(A)								
Debt Service from Rates (net of Debt Reserve Retirements)									
Future Revenue Bonds	\$2,151,260	\$2,151,260	\$2,151,260	\$2,151,260	\$2,151,260	\$2,909,918	\$5,640,333	\$7,612,090	\$7,612,090
WIFA	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500
Total Debt Service	\$17,595,760	\$17,595,760	\$17,595,760	\$17,595,760	\$17,595,760	\$18,354,418	\$21,084,833	\$23,056,590	\$23,056,590
	(B)								
Cash-Funded Capital Expenditures									
Capital Projects & Outlays from O&M	\$60,775,501	\$53,408,385	\$56,052,443	\$76,314,291	\$62,081,366	\$79,905,620	\$102,700,077	\$61,266,337	\$53,841,392
Less Debt-Funding	0	0	0	0	0	(20,320,134)	(52,812,185)	0	0
CIP & Outlays from Cash/Reserves	\$60,775,501	\$53,408,385	\$56,052,443	\$76,314,291	\$62,081,366	\$59,585,486	\$49,887,892	\$61,266,337	\$53,841,392
	(C)								
Total Requirements (A)+(B)+(C)	\$135,262,225	\$130,725,243	\$136,078,002	\$159,163,548	\$148,461,424	\$149,206,280	\$145,436,903	\$162,129,157	\$158,196,161
	(D)								
Less Non-Rate Revenues and Reserves									
Meter & Svc Revenue	\$2,278,575	\$2,357,425	\$2,441,500	\$2,525,575	\$2,613,530	\$2,705,600	\$2,800,600	\$2,901,300	\$3,002,475
Non-Rate Revenue (net of related expenses)	2,901,124	2,988,157	3,077,802	3,170,136	3,265,240	3,363,197	3,464,093	3,568,016	3,675,057
SDC Funding for Capital	4,272,088	4,115,445	3,950,827	3,777,978	3,596,635	3,406,527	3,207,377	2,998,897	2,780,795
Funding from Reserves (incl. interest earnings)	12,330,465	3,063,656	3,551,768	21,642,733	5,810,173	1,293,953	449,456	3,215,292	497,873
Totals	\$21,782,251	\$12,524,663	\$13,021,897	\$31,116,423	\$15,287,398	\$10,769,278	\$9,921,526	\$12,683,505	\$9,956,200
	(E)								
Net Revenue Requirements (D)-(E)	\$113,479,974	\$118,200,580	\$123,056,106	\$128,047,125	\$133,174,026	\$138,437,003	\$135,515,376	\$149,445,652	\$148,239,961

[1] Pension costs included in Fixed Expenses to FY2021.
[2] Pension costs aggregated separately beginning FY2022.

TWWD Forecast Model Summary

Table 21
Tualatin Valley Water District
2021-2023 Financial Plan
45-year Revenue Requirements Forecast

	FY2039	FY2040	FY2041	FY2042	FY2043	FY2044	FY2045	FY2046	FY2047
O&M Summary									
Fixed Expenses	\$77,715,283	\$81,202,822	\$84,846,742	\$88,654,970	\$92,633,849	\$97,618,151	\$101,135,694	\$105,674,957	\$110,418,796
Variable Costs									
JWC	9,238,852	9,654,600	10,089,057	10,543,065	11,017,503	11,513,290	12,031,388	12,572,801	13,138,577
Pumping Power	2,352,721	2,458,593	2,569,230	2,684,845	2,805,663	2,931,918	3,063,854	3,201,728	3,345,806
Total O&M	\$89,306,855	\$93,316,015	\$97,505,029	\$101,882,880	\$106,457,015	\$112,063,359	\$116,230,937	\$121,449,486	\$126,903,178
Less Capitalized OH & Outlays from O&M	\$4,360,196	\$4,556,405	\$4,761,443	\$4,975,708	\$5,199,615	\$5,433,597	\$5,678,109	\$5,933,624	\$6,200,637
Net O&M	\$84,946,660	\$88,759,611	\$92,743,586	\$96,907,173	\$101,257,400	\$106,629,762	\$110,552,828	\$115,515,862	\$120,702,541
	(A)								
Debt Service from Rates (net of Debt Reserve Retirements)									
Future Revenue Bonds	\$7,991,761	\$9,941,276	\$11,511,119	\$11,511,119	\$11,511,119	\$11,511,119	\$11,981,473	\$15,508,359	\$20,838,127
WIFA	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500
Total Debt Service	\$23,436,261	\$25,385,776	\$26,955,619	\$26,955,619	\$26,955,619	\$26,955,619	\$27,425,973	\$30,952,859	\$36,282,627
	(B)								
Cash-Funded Capital Expenditures									
Capital Projects & Outlays from O&M	\$73,672,521	\$81,672,941	\$74,731,581	\$57,576,402	\$78,868,580	\$62,067,744	\$91,646,874	\$151,350,493	\$110,110,357
Less Debt-Funding	(10,169,233)	(42,047,188)	0	0	0	0	(12,598,117)	(81,867,136)	(60,887,078)
CIP & Outlays from Cash/Reserves	\$63,503,288	\$39,625,752	\$74,731,581	\$57,576,402	\$78,868,580	\$62,067,744	\$79,048,757	\$69,483,357	\$49,223,278
	(C)								
Total Requirements (A)+(B)+(C)	\$171,886,209	\$153,771,139	\$194,430,787	\$181,439,193	\$207,081,599	\$195,653,125	\$217,027,558	\$215,952,078	\$206,208,446
	(D)								
Less Non-Rate Revenues and Reserves									
Meter & Svc Revenue	\$3,108,875	\$3,215,750	\$3,327,850	\$3,445,650	\$3,563,925	\$3,687,900	\$3,816,625	\$3,951,525	\$4,091,175
Non-Rate Revenue (net of related expenses)	3,785,308	3,898,868	4,015,834	4,136,309	4,260,398	4,388,210	4,519,856	4,655,452	4,795,115
SDC Funding for Capital	2,552,770	2,314,512	2,065,702	1,806,013	1,535,111	1,255,111	958,278	651,629	332,331
Funding from Reserves (incl. interest earnings)	1,109,536	618,334	10,862,581	675,181	9,714,062	679,369	4,774,103	729,968	864,870
Totals	\$10,556,490	\$10,047,463	\$20,271,967	\$10,063,153	\$19,073,496	\$10,008,129	\$14,068,862	\$9,988,574	\$10,083,491
	(E)								
Net Revenue Requirements (D)-(E)	\$161,329,719	\$143,723,675	\$174,158,820	\$171,376,040	\$188,008,103	\$185,644,995	\$202,958,696	\$205,963,504	\$196,124,955

[1] Pension costs included in Fixed Expenses to FY2021.
[2] Pension costs aggregated separately beginning FY2022.

TWWD Forecast Model Summary

Table Z1
Tualatin Valley Water District
2021-2023 Financial Plan
45-year Revenue Requirements Forecast

	FY2048	FY2049	FY2050	FY2051	FY2052	FY2053	FY2054	FY2055	FY2056
O&M Summary									
Fixed Expenses	\$115,375,159	\$120,541,408	\$125,939,833	\$131,580,025	\$137,472,812	\$143,629,505	\$150,061,923	\$156,782,415	\$163,803,882
Variable Costs									
JWC	13,729,813	14,347,654	14,993,299	15,667,997	16,373,057	17,109,845	17,879,788	18,684,378	19,525,175
Pumping Power	3,496,367	3,653,703	3,818,120	3,989,936	4,169,483	4,357,109	4,553,179	4,758,072	4,972,186
Total O&M	\$132,601,339	\$138,542,766	\$144,751,252	\$151,237,958	\$158,015,352	\$165,096,459	\$172,494,890	\$180,224,866	\$188,301,243
Less Capitalized OH & Outlays from O&M	\$6,479,666	\$6,771,251	\$7,075,957	\$7,394,375	\$7,727,122	\$8,074,843	\$8,438,211	\$8,817,930	\$9,214,737
Net O&M	\$126,121,673	\$131,771,515	\$137,675,295	\$143,843,583	\$150,288,229	\$157,021,616	\$164,056,679	\$171,406,936	\$179,086,506
	(A)								
Debt Service from Rates (net of Debt Reserve Retirements)									
Future Revenue Bonds	\$25,384,770	\$29,931,412	\$32,204,648	\$32,204,648	\$32,204,648	\$32,204,648	\$32,204,648	\$31,129,018	\$30,053,388
WiFi	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500
Total Debt Service	\$40,829,269	\$45,375,912	\$47,649,148	\$47,649,148	\$47,649,148	\$47,649,148	\$47,649,148	\$46,573,518	\$45,497,888
	(B)								
Cash-Funded Capital Expenditures									
Capital Projects & Outlays from O&M	\$80,167,507	\$79,503,567	\$121,539,526	\$78,922,260	\$85,961,390	\$76,504,718	\$79,200,109	\$82,179,244	\$150,554,585
Less Debt-Funding	(60,891,661)	(60,887,078)	0	0	0	0	0	0	0
CIP & Outlays from Cash/Reserves	\$19,275,846	\$18,616,489	\$121,539,526	\$78,922,260	\$85,961,390	\$76,504,718	\$79,200,109	\$82,179,244	\$150,554,585
	(C)								
Total Requirements (A)+(B)+(C)	\$186,226,788	\$195,763,916	\$306,863,969	\$270,414,991	\$283,898,767	\$284,175,482	\$290,905,936	\$300,159,698	\$375,138,978
	(D)								
Less Non-Rate Revenues and Reserves									
Meter & Svc Revenue	\$4,232,250	\$4,383,300	\$4,534,825	\$4,691,588	\$4,853,770	\$5,021,559	\$5,195,147	\$5,374,737	\$5,560,535
Non-Rate Revenue (net of related expenses)	4,958,969	5,087,138	5,239,752	5,396,945	5,558,853	5,725,619	5,897,387	6,074,309	6,256,538
SDC Funding for Capital	0	0	0	399,726	366,920	374,258	381,744	389,378	397,166
Funding from Reserves (incl. interest earnings)	1,158,212	1,552,378	51,343,989	4,618,304	6,760,468	1,096,967	1,179,290	3,444,521	44,398,426
Totals	\$10,329,431	\$11,022,816	\$61,118,566	\$15,066,562	\$17,540,011	\$12,218,403	\$12,653,568	\$15,282,945	\$56,612,665
	(E)								
Net Revenue Requirements (D)-(E)	\$175,897,357	\$184,741,099	\$245,745,402	\$255,348,429	\$266,358,756	\$269,957,079	\$278,252,368	\$284,876,753	\$318,526,314

[1] Pension costs included in Fixed Expenses to FY2021.
[2] Pension costs aggregated separately beginning FY2022.

TVWD Forecast Model Summary

Table Z1
 Tuatatin Valley Water District
 2021-2023 Financial Plan
45-year Revenue Requirements Forecast

	FY2057	FY2058	FY2059	FY2060	FY2061	FY2062	FY2063	FY2064	FY2065
O&M Summary									
Fixed Expenses	\$171,139,803	\$178,804,260	\$186,811,968	\$195,178,298	\$203,919,310	\$213,051,786	\$222,593,256	\$232,562,038	\$242,977,267
Variable Costs									
JWC	20,403,808	21,321,980	22,281,469	23,284,135	24,331,921	25,426,857	26,571,066	27,766,764	29,016,268
Pumping Power	5,195,934	5,429,751	5,674,090	5,929,424	6,196,248	6,475,079	6,766,458	7,070,948	7,389,141
Total O&M	\$196,739,545	\$205,555,991	\$214,767,526	\$224,391,856	\$234,447,479	\$244,953,722	\$255,930,780	\$267,399,749	\$279,382,676
Less Capitalized OH & Outlays from O&M	\$9,629,400	\$10,062,723	\$10,515,546	\$10,988,745	\$11,483,239	\$11,999,984	\$12,539,984	\$13,104,283	\$13,693,976
Net O&M	\$187,110,145	\$195,493,268	\$204,251,981	\$213,403,111	\$222,964,241	\$232,953,738	\$243,390,796	\$254,295,467	\$265,688,700
	(A)								
Debt Service from Rates (net of Debt Reserve Retirements)									
Future Revenue Bonds	\$30,053,388	\$30,053,388	\$30,053,388	\$30,053,388	\$30,053,388	\$30,053,388	\$30,053,388	\$30,053,388	\$30,053,388
WIFA	15,444,500	15,444,500	15,444,500	15,444,500	15,444,500	0	0	0	0
Total Debt Service	\$45,497,888	\$45,497,888	\$45,497,888	\$45,497,888	\$45,497,888	\$30,053,388	\$30,053,388	\$30,053,388	\$29,294,730
	(B)								
Cash-Funded Capital Expenditures									
Capital Projects & Outlays from O&M	\$126,956,382	\$110,349,531	\$96,180,574	\$97,568,671	\$101,123,245	\$104,827,110	\$115,393,551	\$112,042,675	\$119,939,951
Less Debt-Funding	0	0	0	0	0	0	0	0	0
CIP & Outlays from Cash/Reserves	\$126,956,382	\$110,349,531	\$96,180,574	\$97,568,671	\$101,123,245	\$104,827,110	\$115,393,551	\$112,042,675	\$119,939,951
	(C)								
Total Requirements (A)+(B)+(C)	\$359,564,414	\$351,340,687	\$345,930,443	\$356,469,670	\$369,583,374	\$367,834,236	\$388,837,735	\$396,391,530	\$414,923,381
	(D)								
Less Non-Rate Revenues and Reserves									
Meter & Svc Revenue	\$5,752,755	\$5,951,620	\$6,157,360	\$6,370,212	\$6,590,422	\$6,818,245	\$7,053,942	\$7,297,788	\$7,550,063
Non-Rate Revenue (net of related expenses)	6,444,234	6,637,561	6,836,688	7,041,789	7,253,042	7,470,633	7,694,752	7,925,595	8,163,363
SDC Funding for Capital	405,109	413,212	421,476	429,905	438,503	447,273	456,219	465,343	474,650
Funding from Reserves (incl. interest earnings)	17,924,700	941,647	1,016,730	1,157,273	1,301,400	1,495,129	1,714,019	1,928,580	3,667,889
Totals	\$30,526,799	\$13,944,040	\$14,432,254	\$14,999,179	\$15,583,368	\$16,231,280	\$16,918,933	\$17,617,306	\$19,855,965
	(E)								
Net Revenue Requirements (D)-(E)	\$329,037,616	\$337,396,646	\$331,498,188	\$341,470,491	\$354,002,006	\$351,602,956	\$371,918,802	\$378,774,224	\$395,067,416

[1] Pension costs included in Fixed Expenses to FY2021.
 [2] Pension costs aggregated separately beginning FY2022.

TWWD Forecast Model Summary

Table 22
 Tuolumne Valley Water District
 2021-2023 Financial Plan
 45-year Rate Revenue, Coverage, and Reserves

	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029
Rate Revenue Forecast									
Overall Rate Revenue Increases	3.60%	9.50%	9.50%	3.90%	3.90%	3.90%	3.90%	3.90%	3.90%
Prorated Percent Impact of Increase	47.51%	47.51%	47.51%	47.51%	47.51%	47.51%	47.51%	47.51%	47.51%
Internal Revenue Growth	(0.41%)	0.44%	0.43%	0.42%	0.41%	0.40%	0.39%	0.38%	0.35%
Revenue Before Increase	\$68,822,796	\$71,617,195	\$78,760,910	\$86,608,039	\$90,356,869	\$94,257,993	\$98,317,143	\$102,540,246	\$106,912,421
Revenue from Increase	1,177,204	3,232,643	3,555,094	1,604,869	1,674,336	1,746,625	1,821,842	1,900,097	1,981,114
Total Rate Revenue	\$70,000,000	\$74,849,838	\$82,316,005	\$88,212,908	\$92,031,205	\$96,004,618	\$100,138,985	\$104,440,342	\$108,893,535
Debt Service Coverage Summary									
Net Revenue (incl. SDCs & interest earnings)	\$44,585,061	\$47,838,526	\$51,847,692	\$53,694,607	\$55,797,928	\$56,232,013	\$60,278,452	\$62,534,027	\$64,772,202
Debt Service	0	0	0	0	675,500	1,351,000	2,151,260	9,873,510	17,595,760
Debt Service Coverage	0.00	0.00	0.00	0.00	82.60	41.62	28.02	6.33	3.68
Cash & Investments Summary									
Beginning Fund Balance	\$112,925,000	\$63,747,856	\$31,188,858	\$33,800,891	\$41,847,702	\$46,347,823	\$43,220,808	\$67,760,005	\$86,248,556
Change in Cash Balance (net of interest earnings)	(49,177,144)	(32,558,998)	2,612,034	8,046,810	4,500,121	(3,127,015)	24,539,197	18,488,551	12,630,915
Ending Cash Balance	\$63,747,856	\$31,188,858	\$33,800,891	\$41,847,702	\$46,347,823	\$43,220,808	\$67,760,005	\$86,248,556	\$98,879,471
Debt Service Reserve	\$0	\$0	\$0	\$0	\$2,151,260	\$2,151,260	\$2,151,260	\$2,151,260	\$2,151,260
Total Year-End Reserves	\$63,747,856	\$31,188,858	\$33,800,891	\$41,847,702	\$48,499,083	\$45,372,068	\$69,911,265	\$88,399,816	\$101,030,731
Min. Ending Cash Balance	\$27,805,480	\$29,223,747	\$31,222,971	\$34,327,174	\$35,707,406	\$37,755,356	\$35,696,597	\$37,323,339	\$39,029,085

TWWD Forecast Model Summary

Table 22
 Tuolumne Valley Water District
 2021-2023 Financial Plan
45-year Rate Revenue, Coverage, and Reserves

	FY2030	FY2031	FY2032	FY2033	FY2034	FY2035	FY2036	FY2037	FY2038
Rate Revenue Forecast									
Overall Rate Revenue Increases	3.90%	3.90%	3.90%	3.90%	3.90%	3.90%	3.90%	3.90%	3.90%
Prorated Percent Impact of Increase	47.51%	47.51%	47.51%	47.51%	47.51%	47.51%	47.51%	47.51%	47.51%
Internal Revenue Growth	0.30%	0.25%	0.20%	0.15%	0.10%	0.05%	0.00%	0.00%	0.00%
Revenue Before Increase	\$111,415,418	\$116,050,142	\$120,817,330	\$125,717,547	\$130,751,173	\$135,918,400	\$141,219,218	\$146,726,767	\$152,449,111
Revenue from Increase	2,064,556	2,150,439	2,238,776	2,329,578	2,422,853	2,518,603	2,616,828	2,718,885	2,824,921
Total Rate Revenue	\$113,479,974	\$118,200,580	\$123,056,106	\$128,047,125	\$133,174,026	\$138,437,003	\$143,836,046	\$149,445,652	\$155,274,032
Debt Service Coverage Summary									
Net Revenue (incl. SDCs & interest earnings)	\$66,707,487	\$68,557,512	\$70,694,538	\$72,781,130	\$74,287,953	\$77,050,285	\$79,293,394	\$81,590,452	\$83,932,053
Debt Service	17,595,760	17,595,760	17,595,760	17,595,760	17,595,760	18,354,418	21,084,833	23,056,590	23,056,590
Debt Service Coverage	3.79	3.90	4.02	4.14	4.22	4.20	3.76	3.54	3.64
Cash & Investments Summary									
Beginning Fund Balance	\$98,879,471	\$87,215,397	\$84,768,765	\$81,815,100	\$60,686,180	\$55,297,007	\$54,407,389	\$62,728,058	\$59,995,583
Change in Cash Balance (net of interest earnings)	(11,664,074)	(2,446,633)	(2,953,665)	(21,128,920)	(5,389,173)	(889,618)	8,320,669	(2,732,475)	7,034,071
Ending Cash Balance	\$87,215,397	\$84,768,765	\$81,815,100	\$60,686,180	\$55,297,007	\$54,407,389	\$62,728,058	\$59,995,583	\$67,029,654
Debt Service Reserve	\$2,151,260	\$2,151,260	\$2,151,260	\$2,151,260	\$2,151,260	\$3,668,575	\$7,612,090	\$7,612,090	\$7,612,090
Total Year-End Reserves	\$89,366,657	\$86,920,025	\$83,966,360	\$62,837,440	\$57,448,267	\$58,075,964	\$70,340,148	\$67,607,674	\$74,641,744
Min. Ending Cash Balance	\$40,976,000	\$43,004,879	\$44,954,654	\$46,987,447	\$49,509,002	\$51,316,897	\$53,619,865	\$56,026,707	\$58,541,517

TWWD Forecast Model Summary

Table 22
 Tuolumne Valley Water District
 2021-2023 Financial Plan
 45-year Rate Revenue, Coverage, and Reserves

	FY2039	FY2040	FY2041	FY2042	FY2043	FY2044	FY2045	FY2046	FY2047
Rate Revenue Forecast									
Overall Rate Revenue Increases	3.90%	3.90%	3.90%	3.90%	3.90%	3.90%	3.90%	3.90%	3.90%
Prorated Percent Impact of Increase	47.51%	47.51%	47.51%	47.51%	47.51%	47.51%	47.51%	47.51%	47.51%
Internal Revenue Growth	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Revenue Before Increase	\$158,394,626	\$164,572,017	\$170,990,325	\$177,658,948	\$184,587,647	\$191,786,565	\$199,266,241	\$207,037,625	\$215,112,092
Revenue from Increase	2,995,093	3,049,562	3,168,494	3,292,066	3,420,456	3,559,854	3,692,454	3,836,460	3,986,082
Total Rate Revenue	\$161,329,719	\$167,621,578	\$174,158,820	\$180,951,014	\$188,008,103	\$195,346,419	\$202,958,696	\$210,874,085	\$219,098,174
Debt Service Coverage Summary									
Net Revenue (incl. SDCs & interest earnings)	\$86,353,111	\$88,909,431	\$91,501,936	\$94,106,995	\$96,787,202	\$98,718,787	\$102,402,971	\$105,346,797	\$108,479,124
Debt Service	23,436,261	25,385,776	26,955,619	26,955,619	26,955,619	26,955,619	27,423,973	30,952,859	36,282,627
Debt Service Coverage	3.68	3.50	3.39	3.49	3.59	3.66	3.73	3.40	2.99
Cash & Investments Summary									
Beginning Fund Balance	\$67,029,654	\$66,443,215	\$90,341,118	\$80,155,854	\$89,730,828	\$80,693,830	\$90,389,255	\$86,317,495	\$91,228,077
Change in Cash Balance (net of interest earnings)	(586,439)	23,897,903	(10,185,264)	9,574,974	(9,036,997)	9,695,424	(4,071,759)	4,910,581	22,973,219
Ending Cash Balance	\$66,443,215	\$90,341,118	\$80,155,854	\$89,730,828	\$80,693,830	\$90,389,255	\$86,317,495	\$91,228,077	\$114,201,296
Debt Service Reserve	\$8,371,432	\$11,511,119	\$11,511,119	\$11,511,119	\$11,511,119	\$11,511,119	\$12,451,827	\$18,564,891	\$23,111,363
Total Year-End Reserves	\$74,814,648	\$101,852,237	\$91,666,973	\$101,241,947	\$92,204,949	\$101,900,374	\$98,769,323	\$109,792,968	\$137,312,658
Min. Ending Cash Balance	\$61,169,079	\$63,915,079	\$66,784,267	\$69,782,795	\$72,915,764	\$76,755,726	\$79,610,231	\$83,184,579	\$86,919,985

TVWD Forecast Model Summary

Table 22
 Tuolumne Valley Water District
 2021-2023 Financial Plan
 45-year Rate Revenue, Coverage, and Reserves

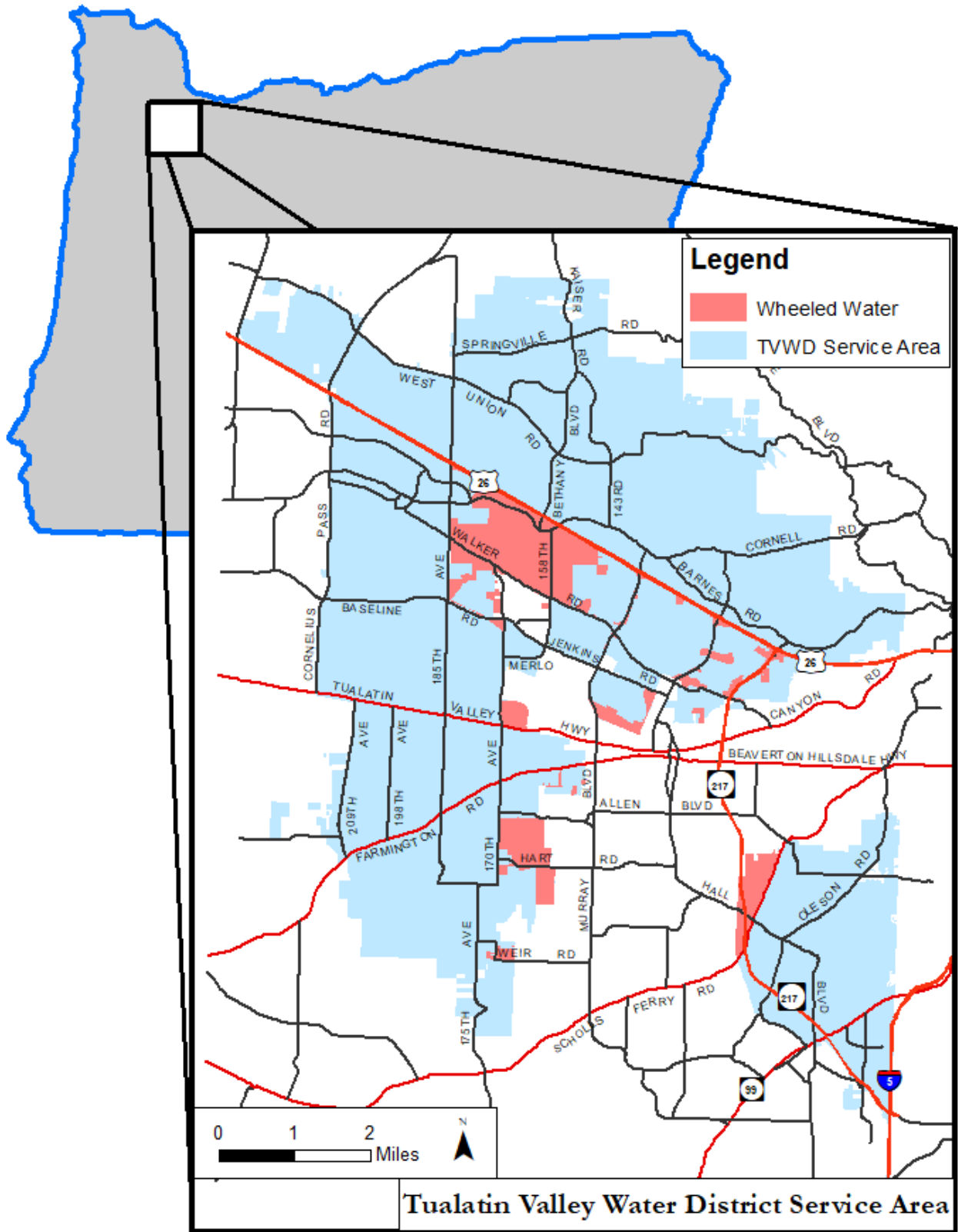
	FY2048	FY2049	FY2050	FY2051	FY2052	FY2053	FY2054	FY2055	FY2056
Rate Revenue Forecast									
Overall Rate Revenue Increases	3.90%	3.90%	3.90%	3.90%	4.75%	4.75%	4.75%	4.75%	3.30%
Prorated Percent Impact of Increase	47.51%	47.51%	47.51%	47.51%	47.51%	47.51%	47.51%	47.51%	47.51%
Internal Revenue Growth	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Revenue Before Increase	\$223,501,464	\$232,218,021	\$241,274,524	\$250,684,230	\$260,460,915	\$272,832,808	\$285,792,367	\$299,367,504	\$313,587,461
Revenue from Increase	4,141,559	4,303,059	4,470,879	4,645,243	5,878,317	6,157,537	6,450,020	6,756,396	4,916,878
Total Rate Revenue	\$227,643,003	\$236,521,080	\$245,745,402	\$255,329,473	\$266,339,232	\$278,990,345	\$292,242,387	\$306,123,900	\$318,504,339
Debt Service Coverage Summary									
Net Revenue (incl. SDCs & interest earnings)	\$111,850,761	\$115,772,382	\$119,420,015	\$121,934,148	\$126,830,545	\$133,090,165	\$139,659,985	\$146,555,388	\$151,632,071
Debt Service	40,829,269	45,375,912	47,649,148	47,649,148	47,649,148	47,649,148	47,649,148	46,573,518	45,497,888
Debt Service Coverage	2.74	2.55	2.51	2.56	2.66	2.79	2.93	3.15	3.33
Cash & Investments Summary									
Beginning Fund Balance	\$114,201,296	\$165,946,942	\$217,726,923	\$167,958,264	\$164,457,319	\$158,780,330	\$168,833,706	\$182,844,438	\$201,961,660
Change in Cash Balance (net of interest earnings)	51,745,646	51,779,981	(49,768,659)	(3,500,945)	(5,675,989)	10,953,376	14,010,732	19,117,222	(43,191,481)
Ending Cash Balance	\$165,946,942	\$217,726,923	\$167,958,264	\$164,457,319	\$158,780,330	\$168,833,706	\$182,844,438	\$201,961,660	\$158,770,179
Debt Service Reserve	\$27,658,176	\$32,204,648	\$32,204,648	\$32,204,648	\$32,204,648	\$32,204,648	\$32,204,648	\$30,053,388	\$30,053,388
Total Year-End Reserves	\$193,605,118	\$249,931,571	\$200,162,912	\$196,661,967	\$190,984,978	\$201,038,354	\$215,049,086	\$232,015,048	\$188,823,567
Min. Ending Cash Balance	\$90,822,835	\$94,892,305	\$98,144,693	\$103,587,643	\$108,229,693	\$113,079,766	\$118,147,185	\$123,441,689	\$128,973,454

TWWD Forecast Model Summary

Table 22
 Tuolumne Valley Water District
 2021-2023 Financial Plan
45-year Rate Revenue, Coverage, and Reserves

	FY2057	FY2058	FY2059	FY2060	FY2061	FY2062	FY2063	FY2064	FY2065
Rate Revenue Forecast									
Overall Rate Revenue Increases	3.30%	3.30%	3.30%	3.30%	3.30%	3.30%	3.30%	3.30%	3.30%
Prorated Percent Impact of Increase	47.51%	47.51%	47.51%	47.51%	47.51%	47.51%	47.51%	47.51%	47.51%
Internal Revenue Growth	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Revenue Before Increase	\$323,935,847	\$334,625,750	\$345,668,379	\$357,075,435	\$368,858,925	\$381,031,269	\$393,605,301	\$406,594,276	\$420,011,887
Revenue from Increase	5,079,135	5,246,746	5,419,889	5,598,745	5,783,504	5,974,360	6,171,514	6,375,173	6,585,554
Total Rate Revenue	\$329,014,982	\$339,872,476	\$351,088,268	\$362,674,181	\$374,642,429	\$387,005,629	\$399,776,815	\$412,969,450	\$426,597,442
Debt Service Coverage Summary									
Net Revenue (incl. SDCs & interest earnings)	\$154,506,936	\$157,381,602	\$160,251,811	\$163,112,976	\$165,960,156	\$168,788,042	\$171,590,933	\$174,362,710	\$177,096,818
Debt Service	45,497,888	45,497,888	45,497,888	45,497,888	45,497,888	30,053,388	30,053,388	30,053,388	29,294,730
Debt Service Coverage	3.40	3.46	3.52	3.59	3.65	5.62	5.71	5.80	6.05
Cash & Investments Summary									
Beginning Fund Balance	\$158,770,179	\$141,839,859	\$144,339,003	\$163,953,095	\$185,181,517	\$205,847,416	\$241,276,328	\$269,161,367	\$303,384,430
Change in Cash Balance (net of interest earnings)	(16,950,320)	2,499,143	19,614,092	21,228,423	20,665,898	35,428,913	27,885,039	34,223,063	30,041,382
Ending Cash Balance	\$141,839,859	\$144,339,003	\$163,953,095	\$185,181,517	\$205,847,416	\$241,276,328	\$269,161,367	\$303,384,430	\$333,425,812
Debt Service Reserve									
Total Year-End Reserves	\$171,893,247	\$174,392,391	\$194,006,483	\$215,234,905	\$235,900,804	\$271,329,716	\$299,214,755	\$333,437,818	\$361,961,884
Min. Ending Cash Balance	\$134,753,113	\$140,791,775	\$147,101,045	\$158,693,052	\$160,580,465	\$167,776,522	\$175,295,055	\$183,150,513	\$191,357,997

I. Map – Tualatin Valley Water District (Washington County, Oregon)





TUALATIN VALLEY

WATER DISTRICT

This is the first publication in a biennial series of financial communication tools:

2021-2023 Financial Plan (Issued May 2021)

2021-2023 Adopted Budget (Issued June 2021)

Comprehensive Annual Financial Report for the fiscal year ended June 30, 2021 (Planned for Fall 2021)

Comprehensive Annual Financial Report for the fiscal year ended June 30, 2022 (Planned for Fall 2022)

1850 SW 170th Ave., Beaverton, OR 97003

Phone: (503) 848-3000

www.TVWD.org

Tualatin Valley Water District



Delivering the Best Water Service Value

RESOLUTION NO. 05-21

A RESOLUTION TRANSFERRING GENERAL FUND GENERAL OPERATING CONTINGENCY APPROPRIATION TO WILLAMETTE INTAKE FACILITIES FUND MATERIALS AND SERVICES APPROPRIATION AND CAPITAL OUTLAY APPROPRIATION FOR THE BIENNIAL BUDGET PERIOD 2019-21.

WHEREAS, the Tualatin Valley Water District (TVWD) is the Managing Agency for the Willamette Intake Facilities (WIF) Commission; and

WHEREAS, as the Managing Agency, TVWD manages the budget and financial affairs of the WIF Commission; and

WHEREAS, TVWD's adopted biennial budget establishes the legal appropriations levels for the WIF Commission and is managed within the District's Willamette Intake Facilities Fund (Fund 44); and

WHEREAS, the WIF Commission annually adopts its work plan and budget and adopted the annual workplan and budget for the fiscal year ending June 30, 2021 at its regular meeting on April 27, 2020; and

WHEREAS, the combined actual spending of the WIF Commission in FY2020, and the amount authorized by the WIF Commission's annual budget and workplan for FY2021 could exceed the appropriations in TVWD's WIF Fund (Fund 44); and

WHEREAS, as the Managing Agency, TVWD is responsible for appropriating sufficient funds for the WIF Commission; and

WHEREAS, the Board of Commissioners finds the public is best served by transferring the appropriations from its General Fund General Operating Contingency to the WIF Fund to provide appropriations for materials and services and capital outlay.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COMMISSIONERS OF THE TUALATIN VALLEY WATER DISTRICT THAT:

Section 1: The General Fund (01) general operating contingency is reduced by \$629,358 and the interfund transfer appropriation for the General Fund is increased by \$629,358 for the 2019-21 biennial budget period.

Section 2: The Willamette Intake Facilities Fund (44) materials and services appropriation is increased by \$73,975 and its capital outlay appropriations is increased by \$555,383 for the 2019-21 biennial budget period.

Approved and adopted at a regular meeting held on the 19th day of May 2021.

Bernice Bagnall, President

Todd Sanders, Secretary

Tualatin Valley Water District



Delivering the Best Water Service Value

RESOLUTION NO. 06-21

A RESOLUTION ADOPTING THE BUDGET AND MAKING APPROPRIATIONS FOR THE TUALATIN VALLEY WATER DISTRICT FOR THE 2021-23 BIENNIUM.

WHEREAS, pursuant to the requirements of Oregon Revised Statutes (ORS) Chapter 294, the Board of Commissioners of the Tualatin Valley Water District is required to adopt a budget and make appropriations for the District for the 2021-23 biennium; and

WHEREAS, on May 25, 2021, following public notice and hearing thereon, the duly appointed and authorized Budget Committee unanimously approved the biennial budget proposed for 2021-23, now on file at the District office.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COMMISSIONERS OF THE TUALATIN VALLEY WATER DISTRICT THAT:

Section 1: In compliance with Oregon Local Budget Law under ORS 294, the Board of Commissioners of the Tualatin Valley Water District hereby adopts the biennial budget of the District as approved on May 25, 2021 by the Budget Committee of Tualatin Valley Water District.

Section 2: That the amounts for the biennium beginning July 1, 2021 and for the purposes shown are hereby appropriated as follows:

General Fund	
Appropriations	
Personnel Services	\$42,330,036
Materials & Services	47,640,836
Capital Outlay	705,950
Debt Service	0
Special Payments:	1,625,000
Transfers to Other Funds	83,500,000
General Operating Contingency	20,000,000
Total Appropriation	<u>\$195,801,822</u>
Capital Improvements Fund	
Appropriations	
Capital Outlay	\$379,582,670
Total Appropriation	<u>\$379,582,670</u>
Capital Reserve Fund	
Appropriations	
Transfers to Other Funds	\$376,262,670
Total Appropriation	<u>\$376,262,670</u>

Debt Proceeds Fund	
Appropriations	
Transfers to Other Funds	\$226,500,000
	<hr/>
Total Appropriation	\$226,500,000
Willamette River Water Coalition Fund	
Appropriations	
Materials & Services	\$114,300
General Operating Contingency	11,650
	<hr/>
Total Appropriation	\$125,950
Customer Emergency Assistance Fund	
Appropriations	
Materials & Services	\$531,035
	<hr/>
Total Appropriation	\$531,035
Water Intake Facilities Fund	
Appropriations	
Materials & Services	\$1,056,920
Capital Outlay	6,533,736
General Operating Contingency	107,000
	<hr/>
Total Appropriation	\$7,697,656
Willamette Water Supply System Fund	
Appropriations	
Materials & Services	\$2,343,405
Capital Outlay	452,289,650
General Operating Contingency	235,000
	<hr/>
Total Appropriation	\$454,868,055
Total Appropriations	\$1,641,369,858

Section 3: That the Budget Officer, in accordance with ORS 294.458(2), shall file with the Oregon Department of Revenue a true copy of this resolution and the Exhibit A Notice of Budget Hearing attached hereto and by this reference incorporated herein.

Approved and adopted at a regular meeting held on the 16th day of June 2021.

Bernice Bagnall, President

Todd Sanders, Secretary

Exhibit A: FORM LB-1

A public meeting of the Tualatin Valley Water District will be virtually held on June 16, 2021 at 6:00pm. The purpose of this meeting is to discuss the budget for the fiscal year beginning July 1, 2021 as approved by the Tualatin Valley Water District Budget Committee. A summary of the budget is presented below. A copy of the budget may be inspected at the Tualatin Valley Water District, between the hours of 9:00 a.m. and 4:30 p.m. or online at www.tvwd.org/budget. This budget is for a biennial budget period 2021-23. This budget was prepared on a basis of accounting that is the same as the preceding biennium.

Contact: Paul Matthews **Ph: (503) 848-3000** **Email: Paul.Matthews@tvwd.org**

FINANCIAL SUMMARY - RESOURCES			
TOTAL OF ALL FUNDS	Actual Amount Biennium 2017-19	Revised Budget This Biennium 2019-21	Approved Budget Next Biennium 2021-23
Beginning Fund Balance/Net Working Capital	209,944,383	132,950,815	93,893,898
Fees, Licenses, Permits, Fines, Assessments & Other Service Charges	133,180,525	149,248,486	158,826,968
Federal, State and All Other Grants, Gifts, Allocations and Donations	0	0	0
Revenue from Bonds and Other Debt	0	25,000,000	226,500,000
Interfund Transfers / Internal Service Reimbursements	172,476,060	293,208,559	696,985,290
All Other Resources Except Current Year Property Taxes	64,461,246	251,443,936	483,532,909
Current Year Property Taxes Estimated to be Received	0	0	0
Total Resources	580,062,214	851,851,796	1,659,739,065

FINANCIAL SUMMARY - REQUIREMENTS BY OBJECT CLASSIFICATION			
Personnel Services	34,688,179	43,536,651	42,330,036
Materials and Services	34,951,713	44,391,964	51,686,496
Capital Outlay	106,686,147	404,589,611	839,112,006
Debt Service	0	0	0
Interfund Transfers	163,505,599	283,013,943	686,262,670
Contingencies	0	15,209,000	20,353,650
Special Payments	336,823	21,446,000	1,625,000
Unappropriated Ending Balance and Reserved for Future Expenditure	239,893,753	39,664,627	18,369,207
Total Requirements	580,062,214	851,851,796	1,659,739,065

FINANCIAL SUMMARY - REQUIREMENTS AND FULL-TIME EQUIVALENT EMPLOYEES (FTE) BY ORGANIZATIONAL UNIT OR PROGRAM *			
Name of Organizational Unit or Program FTE for that unit or program			
Administrative Services Department	4,619,778	7,318,327	8,382,511
FTE	9	9	9
Customer Service Department	9,468,139	11,619,808	11,612,132
FTE	33	37	36
Engineering & Operations Department	20,778,778	25,024,595	27,038,499
FTE	60	59	61
Finance Department	7,473,185	7,113,877	8,545,344
FTE	14	14	14
Water Supply Program	2,971,415	4,870,901	4,084,042
FTE	13	15	12
Information Technology Services Department	4,535,010	5,567,941	6,491,370
FTE	10	10	10
Water Purchases (General Fund)	20,212,227	24,364,600	24,522,925
FTE	0	0	0
Capital Improvements Fund	29,866,781	179,522,721	379,582,670
FTE	0	0	0
Willamette Water Supply Program Fund	79,959,232	0	0
FTE	0	0	0
Capital Reserve Fund	207,483,416	207,101,734	377,164,545
FTE	0	0	0
Bond Construction Fund	0	0	0
FTE	0	0	0
Debt Proceeds Fund	0	25,000,000	226,500,000
FTE	0	0	0
Revenue Bond Debt Service Fund	0	0	0
FTE	0	0	0
Customer Emergency Assistance	38,061	45,805	531,035
FTE	0	0	0
Willamette River Water Coalition Fund	115,474	188,948	129,995
FTE	0	0	0
Willamette Intake Facilities Fund	2,518,332	7,976,440	7,697,656
FTE	0	0	0
Willamette Water Supply System Fund	0	219,184,019	454,868,055
FTE	0	0	0

Non-Departmental / Non-Program	185,547,665	126,979,683	122,588,287
FTE	0	0	0
Total Requirements	575,587,491	851,879,400	1,659,739,065
Total FTE	139	144	142

STATEMENT OF CHANGES IN ACTIVITIES and SOURCES OF FINANCING *

Total Approved 2021-23 Budget general fund operating expenditures increase 5.0% for the two-year period. The personnel services budget decreased by 2.8%, while the budget for materials and services increased by 13.1%.

Total capital outlay expenditures increase 207.4%, driven by the timing and scope of the District's participation in the Willamette River Water Supply Program (WWSP) and serving as managing agency for both the Willamette Water Supply System (WWSS) and Willamette Intake Facilities (WIF) joint ventures. Approved in-district capital improvements plan (CIP) expenditures continue to be planned for reservoir, pump station, and pipeline construction and upgrades. No debt service is included in the Approved 2021-23 Budget. In 2019, the District secured a Water Infrastructure Finance and Innovation Act loan through the US Environmental Protection Agency and is planning to draw \$265 million during the 2021-23 Biennium to finance its investment in the WWSS.

Transfers to other funds, although not an expenditure category, represents the second largest appropriation item in the Approved 2021-23 Budget at \$686.3 million. The District uses a capital reserve fund to hold substantially all current and future district reserves. This fund supports the in-district CIP and the District's share of the WWSS and WIF. Transfers to the capital reserve fund are initiated through the general fund and the debt proceeds fund, and during the biennium transfers out from the fund will support the District's capital project expenditures. General fund operating contingency is budgeted at \$20 million and contingencies of \$11,650, \$107,000, and \$235,000 are approved for the Willamette River Water Coalition, the WIF, and the WWSS Funds respectively. Contingency can only be accessed through approval by resolution by the District Board of Commissioners. Special payments decreased by 92.4% in the Approved 2021-23 Budget. The District budgeted \$20 million in the 2019-21 Budget to establish a PERS side account, which resulted in a reduction of future pension obligations.

Total Approved 2021-23 Budget resources, including transfers, debt proceeds, reserves and fund balance increase 94.8%. Primary revenues to support operating, WWSS, WIF and in-district CIP expenditures include water rates and service fees, contributed capital from WWSS and WIF partners, contract reimbursements for services provided to other entities, and meter and services installation fees paid by customers/developers. Water services charges and fees increase 6.4% based on projected rates and fees for services, projected water demand, and customer growth. System development charges are projected to decrease 16.2% based on development trends. WWSS and WIF partners pay their portion of water supply project expenditures. The Approved 2021-23 Budget includes \$462.6 million in contributed capital and reimbursements by WWSS/WIF partners.

PROPERTY TAX LEVIES

	Rate or Amount Imposed	Rate or Amount Imposed	Rate or Amount Approved
Permanent Rate Levy (rate limit _____ per \$1,000)	0	0	0
Local Option Levy	0	0	0
Levy For General Obligation Bonds	0	0	0

STATEMENT OF INDEBTEDNESS

LONG TERM DEBT	Estimated Debt Outstanding on July 1.	Estimated Debt Authorized, But Not Incurred on July 1
General Obligation Bonds	\$0	\$0
Other Bonds	\$0	\$0
Other Borrowings	\$0	\$0
Total	\$0	\$0

* If more space is needed to complete any section of this form, insert lines (rows) on this sheet or add sheets. You may delete unused lines.

Tualatin Valley Water District



Delivering the Best Water Service Value

RESOLUTION NO. 07-21

ACTING AS THE LOCAL CONTRACT REVIEW BOARD, A RESOLUTION DECLARING AN EXEMPTION FROM COMPETITIVE BIDDING FOR THE TAYLORS FERRY RESERVOIR REPLACEMENTS AND PUMP STATION PROJECT AND AUTHORIZE PROCEEDING WITH A CONSTRUCTION MANAGER/GENERAL CONTRACTOR CONTRACT.

WHEREAS, this matter came before the Board of Commissioners of the Tualatin Valley Water District, acting as the Local Contract Review Board, hereinafter referred to as the Board; and

WHEREAS, the District owns the property at 6501 SW Taylors Ferry Road which currently sites one concrete reservoir, one steel reservoir and the previous Metzger Water District Headquarters building. These facilities will be demolished in an appropriate manner to construct two new prestressed concrete reservoirs, a pump station, pressure reducing valve(s), a storage facility, yard piping, control systems and all associated civil improvements to serve the 643 and 498 pressure zones in the Metzger service area; and

WHEREAS, the District has included the funding for the Taylors Ferry Reservoir Replacements and Pump Station project in the District's existing Capital Improvement Program budget; and

WHEREAS, the District has evaluated four potential project delivery options, including Design-Bid-Build, Construction Management/General Contractor, Design-Build and Progressive Design-Build; and

WHEREAS, based on an evaluation, Construction Manager/General Contractor would bring the best value to the District and meet the District's requirements on the project cost and schedule; and

WHEREAS, the District has developed findings required by Oregon Revised Statute 297C.335 for an exemption from competitive bidding for the Taylors Ferry Reservoir Replacements and Pump Station project, as described in Exhibit 1, attached hereto and incorporated by reference, that the exemption is unlikely to encourage favoritism in the awarding of the contract or substantially diminish competition for the contract and that awarding a contract under the exemption will likely result in cost savings and other substantial benefits to the District; and

WHEREAS, the Local Contract Review Board has advertised for and conducted a public hearing under Oregon Revised Statute 297C.335 to provide opportunity for comments on the Findings as described in Exhibit 1.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COMMISSIONERS OF THE TUALATIN VALLEY WATER DISTRICT, ACTING AS THE LOCAL CONTRACT REVIEW BOARD, THAT:

Section 1: The Board hereby adopts the Findings attached as Exhibit 1 and grants the exemption from competitive bidding for the Taylors Ferry Reservoir Replacements and Pump Station project.

Section 2: The Board hereby directs and authorizes the Public Contracting Officer, to take all action to adopt the Construction Manager/General Contractor delivery method for the Taylors Ferry Reservoir Replacements and Pump Station.

Approved and adopted at a regular meeting held on the 16th of June 2021.

Bernice Bagnall, President

Todd Sanders, Secretary



EXHIBIT 1

FINDINGS FOR AN EXEMPTION FROM COMPETITIVE BIDDING

FOR TAYLORS FERRY RESERVOIR REPLACEMENTS AND PUMP STATION PROJECT

Oregon Revised Statutes (ORS) 279C.300 requires public improvement contracts be procured by a competitive bidding process unless an exemption is granted by the contracting agency's Local Contract Review Board (LCRB) under ORS 279C.335. To grant an exemption, ORS 279C.335 (2) requires the contracting agency to develop the findings that:

- a) The exemption is unlikely to encourage favoritism in awarding public improvement contracts or substantially diminish competition for public improvement contract; and
- b) Awarding a public improvement contract under the exemption will likely result in substantial cost savings and other substantial benefits to the contracting agency.

In making these findings, ORS 279C.335(2)(b) requires that the LCRB must consider the type, cost and amount of the contract and, to the extent applicable to the particular public improvement contract, the items under ORS 279C.335(2)(b)(A-N). The TVWD Board of Commissioners is the LCRB who must approve the exemption.

This document presents information the LCRB will consider in its finding to exempt the Taylors Ferry Reservoir Replacements and Pump Station project from competitive bidding and to use a Construction Manager/General Contractor (CMGC) method of delivery.

Project Background

TVWD is undertaking the Taylors Ferry Reservoir Replacements and Pump Station project to provide seismically resilient, reliable water supply to customers in the Metzger area. This project consists of proposed site improvements to include the replacement of both the existing steel and concrete reservoirs with new prestressed concrete reservoirs, a new pump station, a new District operations and equipment storage building, site piping upgrades, backup power and associated infrastructure improvements. The new reservoirs are planned to be 1.75 MG each to meet current and future demand for the 498-pressure zone. The tanks are sized to maximize the available constrained site space. The pump station is designed to pump water into the 643-pressure zone in anticipation of the WWSS coming online in 2026 and the City of Portland system not supplying water to the District. All onsite piping will be replaced as it was previously identified as being in very poor condition and is not seismically resilient. Several operating modes are anticipated to provide system flexibility for maintenance needs.

The site is on property located at 6501 SW Taylors Ferry Road, near the intersection of SW Taylors Ferry Road and SW 65th Avenue. The property is already owned by TVWD and is the current location of the old Metzger headquarters. The existing building will be demolished, and many of the existing pipe, fittings and other parts stored at the yard will need removed, stored or recycled. Both reservoirs are planned on being replaced at this time.

Construction of the Taylors Ferry Reservoir Replacements and Pump Station project will likely include the following:

- Clearing of the site at 6501 SW Taylors Ferry including removal of the onsite building and frontage improvements
- Constructing two 1.75 MG prestressed concrete reservoirs in sequence to continue to provide adequate storage to the existing pressure zones
- Construction of a new pump station capable of pumping approximately 1,700 gpm to the 643-pressure zone in the Metzger area
- PRV(s) as needed
- Water quality monitoring and equipment
- Site security
- Waterline installation to replace all onsite piping, and needed connections between the reservoirs and PRV(s)
- Improvements to the site and storm water management
- A new storage building
- Backup power, SCADA, security and other systems needed

Construction of the project is scheduled to be completed in June 2023 and is estimated to cost approximately \$12.6 million.

TVWD has evaluated four (4) potential project delivery options, including the Design-Bid-Build method and three alternative methods (Construction Management/General Contractor (CM/GC), Design-Build and Progressive Design-Build). The evaluation identifies CM/GC as the preferred delivery method to meet TVWD's requirements on this project, which include cost and schedule.

TVWD plans to select the CM/GC for the project through a one-step process, which will be a combination of qualification-based and price-driven selections.

TVWD is in process of selecting an Engineering Consultant for this project. The Engineering Consultant will advise TVWD on CM/GC matters. According to the current schedule, TVWD will advertise the project and select the CM/GC team in July 2021, immediately after the Engineering Consultant has been onboarded. The CM/GC team will have experience in similar projects and will have to be a licensed construction firm in good standing with the State of Oregon.

Summary of Findings

With regard to ORS 279C.335, the LCRB will consider the following findings in its decision to exempt the Project from competitive bidding and use the CM/GC method of delivery:

a) The exemption is unlikely to encourage favoritism in the awarding of the public improvement contract or substantially diminish competition for the public improvement contract.

The CM/GC team will be selected through a competitive one-step process that fosters competition and focuses on qualifications and delivering best value to TVWD. TVWD will issue a Request for Qualification (RFQ) in a manner that will attract a CM/GC team that has the specialized knowledge, capacity and skills for the project.

There are a sufficient number of firms that are qualified for the project and are available to respond to the RFQ. A solicitation of interest letter has been sent to potential respondents and a Request for Letters of Interest (RLOI) for the Taylors Ferry Reservoir and Pump Station project was also published in the Daily Journal of Commerce (DJC) on May 12, 2021 to attract firms that are unaware of the project. Ten firms responded to the interest letter or the RLOI and expressed interest in the project.

TVWD will use Water Design-Build Council (WDBC) guidance documents for the RFQ, assuring best industry practices are followed and to maintain interest in the project. The RFQ will be published in the DJC to attempt to notify all potential respondents.

TVWD will take measures to ensure open competition will occur. Strict adherence to predefined scoring criteria in the procurement document will be followed. Scoring criteria will include the experience of the CM/GC team and project personnel; understanding of the technical and work requirements for the project; approach for managing and minimizing project risks; ability to deliver the project according to the schedule; approach to safety; and consideration of design support costs or fees. Review of proposals and scoring will be performed by TVWD staff.

Findings: The pool of potential CM/GC teams and the selection process to be used by TVWD make the exemption unlikely to encourage favoritism in the awarding of the public improvement project or substantially diminish competition for the public improvement contract.

b) Awarding a public improvement contract under the exemption will likely result in substantial cost savings and other substantial benefits to TVWD

The CM/GC method allows contractor input and collaboration of the contractor in the early design phase of the project to provide innovative solutions, constructability opinions and realistic construction-pricing and scheduling. Along with value engineering through design reviews and design development, it gives TVWD opportunities to make cost-benefit decisions and to reduce project costs. The CM/GC team will secure some aspects of work (e.g., equipment such as pumps) through competitive bids potentially early in the project to avoid price escalation and schedule delays during the construction period. The CM/GC method also allows TVWD to award an early construction package and/or negotiate the Guaranteed Maximum Price (GMP) contract prior to completion of the overall design so that the CM/GC team can eliminate price uncertainty and/or mitigate some risk of future price escalation. The CM/GC team can utilize the process and construction narratives instead of detailed specifications for construction, which can reduce the project schedule and overall project cost.

The CM/GC delivery method can also provide cost savings for overall professional engineering services. By utilizing the CM/GC delivery method, preparation of final bidding documents and bidding services from the engineer is not required, and the level of detail in the design documents can be reduced due to close collaboration within the CM/GC team.

Additionally, a collaborative decision-making process in the CM/GC method gives the potential to reduce construction claims and minimize TVWD's risks. By contracting with the CM/GC early in design, constructability feedback will be received early allowing for reduction of risks associated with claims.

The collaborative approach and partnerships between TVWD, the Engineering Consultant and the CM/GC team also allows for additional focus on safety which can improve safety for TVWD, the CM/GC team, the public, as well as all other parties affected by the project. This collaborative approach brings the best value to TVWD.

Finding: Awarding the project under the exemption will likely provide great opportunities for cost savings and other substantial benefits to TVWD. The exemption provides a collaborative work approach between the engineer and contractor during the design and throughout the project under the CM/GC delivery method. This could result in substantial cost savings associated with cost-benefit decisions being made by the collaborative team and early construction or securing work earlier to avoid price escalation. Overall collaboration in the CM/GC delivery method could also reduce the project schedule and engineering design cost, minimize TVWD's risks and enhance safety to the public, CM/GC team and TVWD staff.

Responses to Items under ORS 279C.335(2)(b)

Pursuant to ORS 279C.335(2)(b), the LCRB must consider the type, cost and amount of the contract and, to the extent applicable to the particular public improvement contract. Findings to be considered by the LCRB for the Taylors Ferry Reservoir Replacements and Pump Station project are the items under ORS 279C.335(2)(b)(A-N) are as follows:

a) How many persons are available to bid?

TVWD will ensure maximum competition and fair opportunity for the project. A solicitation of interest letter will be sent to potential candidates for a role on the CM/GC project. TVWD will issue a Request for Qualification (RFQ) for the CM/GC team. The RFQ will be written in manner to attract a CM/GC team that has the specialized knowledge, capacity and skills for the project within the State of Oregon, the Pacific Northwest and nationally. The RFQ will be published in the DJC and posted in the TVWD's website to attempt to notify all potential respondents.

Potentially qualified firms that may respond to TVWD for the project or have expressed their interest are listed below. A CM/GC team can be a single contractor or a joint venture of contractors or team in different ways to respond to the RFQ. A solicitation of interest letter has been sent to 12 potential respondents and Request for Letters of Interest (RLOI) for the Taylors Ferry Reservoir Replacements and Pump Station project was also published in the DJC on May 12, 2021 to attract firms that are unaware of the project. The following 10 firms responded and expressed interest in the project.

1. Emery and Sons
2. Slayden
3. Moore Excavation
4. Landis and Landis
5. Prospect Construction
6. K&E Excavation
7. McClure and Sons
8. James W. Fowler Co.
9. Rotschy, Inc.

10. Ward-Henshaw

b) The construction budget and the projected operating costs for the completed project

The estimated construction cost for the project is approximately \$12.6 million. Operational costs for the project are estimated to be \$50,000 annually. Implementation of the project will not increase the need for TVWD operations staff as the existing site needs to be maintained and visited regularly. Through the “fast-track” process, the CM/GC method can reduce overall project schedule by reducing delays caused by long order times such as pumps and motor controlled valves. This reduces the capital cost by reducing time-related overhead charges.

c) Public benefits that may result from granting the exemption

A qualification-based selection in an alternative delivery method enables competition among the most qualified contractors and results in a high-quality project to better meet the public and TVWD’s needs.

Potential cost savings from the CM/GC method is a benefit to TVWD ratepayers. Public benefits can also be achieved from the shorter construction schedule. By utilizing the CM/GC method a new Taylors Ferry Reservoir Replacements and Pump Station can be delivered sooner to serve the area with a more reliable and resilient water supply. Along with a reduced construction schedule and collaborative work approach the CM/GC provides the potential to minimize the construction impact on the local community.

d) Whether value engineering techniques may decrease the cost of the project

The CM/GC method allows TVWD to utilize value engineering to potentially achieve greater cost savings during the design phase, before design decisions are finalized and before the Guaranteed Maximum Price (GMP) is established for construction. The value engineering approach is planned to be used throughout the design by including the CM/GC in design workshops. Formally, value engineering is planned to be performed at the 30% design milestone. The review will be performed by the Engineering Consultant, TVWD staff and may potentially utilize additional independent reviewers external to the project team, along with CM/GC team participation. Through the collaborative process, the CM/GC team will provide input on innovative solutions, constructability opinions and realistic construction-pricing that allows opportunities for TVWD to make cost-benefit decisions and reduce the overall project cost. It is anticipated that the selected CM/GC team will seek competition on various components of the work which may also assist in providing value and decreasing the overall cost of the project.

e) The cost and availability of specialized expertise that is necessary for the project

The project requires the specialized CM/GC team to have experience in design and construction of a prestressed concrete reservoir, a pump station and ductile iron pipeline and have knowledge of permitting requirements. In addition, the CM/GC team will understand the importance of coordinating the project construction work to meet TVWD operational needs and will be capable of

addressing geotechnical and construction issues. TVWD's overall project scope is to build proposed site improvements to include the replacement of both the existing steel and concrete reservoirs with two new prestressed concrete reservoirs, a new pump station, a new District operations and equipment storage building, site piping upgrades, backup power and associated infrastructure improvements. Major construction elements and equipment may be competitively bid with TVWD reviewing bids as part of the development of the GMP. This will ensure competitive costs for the project. The overall cost is expected to be similar to or lower than a Design-Bid-Build project total cost. Firms listed above will need to show that they possess the specialized expertise necessary for the project.

The cost and availability of specialized expertise won't affect the CM/GC method. Procurement of the CM/GC team based on qualifications, delivery approach, and initial pre-construction costs will enable TVWD to retain a well-qualified team and obtain competitive pricing.

f) Any likely increases in public safety

TVWD requires construction contractors performing the work with TVWD to have successful performance records for safety and protection of the contractors, neighbors, the owners and the public who will be affected by the project. In addition, clean and safe water supply from existing facilities, which will need to remain in operation, to the customers and the public must be assured during the construction and when the new pump station is being tested and placed in service.

The CM/GC method allows TVWD to evaluate the CM/GC team's safety record and to consider historical performance of the CM/GC teams in previous similar projects as a selection criterion. One evaluation criteria would be the Experience Modification Ratio (EMR) for the CM/GC team and key subcontractors. Using the CM/GC method, TVWD is able to work closely with the CM/GC team to ensure appropriate safety measures are embedded in the design and construction and all the TVWD and public safety concerns are addressed.

g) Whether granting the exemption may reduce risks to TVWD or the public that are related to the public improvement

The CM/GC method will put TVWD in a better position to complete the project on schedule while minimizing its risks, costs and reduced staff time compared to the DBB method.

The CM/GC method allows the contractor's input and collaboration of designer and contractor in the early design phase, which enables the contractor to understand the project from the beginning, to develop constructible solutions during the design and to reduce the potential conflicts, issues and disputes during construction. It also mitigates the risk of project uncertainty when design translates into construction and the risk of service interruption when the construction is underway.

The CM/GC method also allows TVWD to work closely with the CM/GC team to ensure public safety and reduce risks.

h) Whether granting the exemption will affect the sources of funding for the public project

The project is funded from the TVWD capital improvement fund which is supported by revenue generated from water sales. Granting the exemption will not affect the sources of funding. Additional funding sources such as grants and WIFIA loan funds are being pursued, and granting the exemption will not affect the source of the funding.

i) Whether granting the exemption will better enable TVWD to control the impact that market conditions may have on the cost of and time necessary to complete the project

Granting the exemption will better enable TVWD to control the impact of market conditions on costs. The current construction market for public projects has been impacted by the significant increase in commercial construction and the COVID-19 pandemic. There has been a substantial rise of labor and material costs in recent years and part and material availability due to pandemic restrictions. Compared with the DBB method, the CM/GC method provides TVWD with the flexibility to reduce the impact of market conditions, especially in the current price-increasing market coupled with delays related to the pandemic.

The CM/GC method allows the selected CM/GC team to secure some aspects of work (e.g., equipment, site civil) through competitive bids early on in the project, which can reduce price uncertainty and avoid price escalation during the construction period. The CM/GC method also permits TVWD to partner with the CM/GC team to award an early construction package prior to completion of the overall design. The CM/GC team intends to establish the GMP before the completion of the final design and TVWD can negotiate the GMP contract to have the CM/GC team to bear/share some risks of future price escalation. In addition, the CM/GC team can utilize the process and construction narratives instead of detailed specifications for construction if permitted by TVWD in its discretion, which can reduce the project schedule and lessen the impact of price increases.

j) Whether granting the exemption will better enable TVWD to address the size and technical complexity of the project

CM/GC can address the size and technical complexity of the project more effectively than the DBB method because of the qualification based selection of the CM/GC team and better collaboration between the designer and contractor. The technical complexity of the project is due primarily to the limited work area, operating the site while building on it, the project schedule and the criticality of the Taylors Ferry Reservoir Replacements and Pump Station and system components in the water distribution system. It requires the contractor to be capable of managing all of these complicated issues. The CM/GC method will allow TVWD to retain a highly qualified contractor with sufficient experience and knowledge to manage, supervise and perform the work to meet the project's needs.

k) Whether the project involves new construction or renovates or remodels an existing structure

The project will install a new pumping facility, new project piping, ancillary facilities, storage building and two new reservoirs. It will use an existing site which will be modified along with system piping for

this project. The bulk of the work required involves replacing existing infrastructure, the main exception being the new pump station.

l) Whether the project will be occupied or unoccupied during construction

The existing site must keep at least one reservoir online and operational at all times throughout the construction. This could be the existing steel reservoir or one of the new reservoirs. Additionally, all maintenance activities required to keep the reservoirs online and operational must continue throughout construction. The CM/GC team will need to coordinate with other agencies and TVWD for site access, safety of all and protection of existing utilities and ancillary facilities.

m) Whether the project will require a single phase of construction work or multiple phases of construction work to address specific project conditions

Construction of this project may be completed in a single phase or in several small phases. An advantage of CM/GC is the ability to bid multiple packages if it is beneficial to do so. TVWD has a schedule showing several phases of work that can deliver the project on time. These phases of work include ordering parts, tank construction and facility construction.

The CM/GC method allows the contracting team to lay out the project roadmap and develop the schedule early on to ensure that construction is being performed within TVWD's desired timeframe. This will also be beneficial when scheduling the work to connect to meet any operational changover needs for the tanks, or in the event the scope will need scaled back to meet budgetary restrictions or product delivery delays due to COVID-19.

n) Whether TVWD will use TVWD personnel, consultants and legal counsel that have the necessary expertise and substantial experience in alternative contracting methods to assist in developing the alternative contracting method that TVWD will use to award the project contract and to help negotiate, administer and enforce the terms of the project contract

TVWD staff are experienced using the CM/GC method to deliver prior projects. TVWD has completed a progressive design build project with great success, and is currently working on the Farmington Road Fluoride and Flow Control Facility project as a CM/GC project. An engineering consultant will be hired to prepare the overall project design and will be scoped to assist with the CM/GC process as a third-party with experience in alternative delivery. Legal assistance may be provided by TVWD in-house counsel or by an independent legal firm with the appropriate expertise in the event that it is needed.

Finding: The Board finds that the criteria of ORS 279C.335(2)(b)(A-N) are satisfied through the foregoing discussion.

RESOLUTION NO. 08-21

A RESOLUTION ESTABLISHING THE WATER RATE SETTING PROCESS FOR THE 2021-23 BIENNIUM.

WHEREAS, the Board of Commissioners (Board) of the Tualatin Valley Water District (District) adopted Resolution 04-21 on May 19, 2021 approving the District's 2021-23 Financial Plan (Financial Plan); and

WHEREAS, the District's Financial Plan includes increases in water rates to fund the District's capital investment and operating expenditures; and

WHEREAS, to implement the increases in water rates included in the Financial Plan, the Board desires to provide direction to management to establish an appropriate public process.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COMMISSIONERS OF THE TUALATIN VALLEY WATER DISTRICT THAT:

Section 1: Management is directed to schedule a public hearing for August 18, 2021 during the Board's regular meeting to consider changes in the District's water rates.

Section 2: Management is authorized to undertake those activities consistent with Oregon law to notify the public of the public hearing.

Section 3: Management is directed to provide an opportunity for the public to learn about the proposal to change the District's water rates in a series of virtual open houses held online on August 11, 2021, and August 21, 2021.

Section 4: Public comment received by the District on or after August 11, 2021, and before 4:00 pm on August 25, 2021, shall be included in the public record for consideration by the Board of Commissioners in its deliberations.

Approved and adopted at a regular meeting held on the 21st day of July 2021.

Todd Sanders, President

Jim Doane, Secretary

RESOLUTION NO. 09-21

A RESOLUTION OF THE BOARD OF COMMISSIONERS MANDATING COVID-19 VACCINATIONS FOR ALL DISTRICT EMPLOYEES EXCEPT THOSE EMPLOYEES WHO HAVE AN EXEMPTION FOR A DISABILITY OR RELIGIOUS BELIEFS AND DIRECTING THE CHIEF EXECUTIVE OFFICER TO IMPLEMENT A TESTING PROGRAM FOR EMPLOYEES.

WHEREAS, the Board of Commissioners (Board) recognizes the tremendous efforts of staff to continue the high level of operation, maintenance, capital construction and customer service for the District since March 2020, while under the constraints of COVID-19; and

WHEREAS, the Board lauds and supports the efforts of the Chief Executive Officer and staff to develop and implement safe workplace practices considering COVID-19 and variant conditions, unless employees had approval from their supervisor to work from home; and

WHEREAS, the Board is concerned that the advent of the Delta variant (and other variants) are rising nationwide and that Oregon and the tri-county area have followed this nationwide trend; and

WHEREAS, while the District has achieved an employee vaccination rate over 70%, the Board is concerned that the variants can infect vaccinated and unvaccinated people, that unvaccinated people are within the highest risk group for infection by variants and vaccinated people susceptible to infection or to be asymptomatic carriers who could spread infection; and

WHEREAS, the Board finds that the impact of the variants affects the health of all vaccinated and unvaccinated employees and, in addition to personal impacts, the unavailability of personnel could adversely impact District operations and functions; and

WHEREAS, the Board finds that the most prudent and effective method to minimize and mitigate this negative impact is for District employees to be vaccinated, except where an employee is in a protected exempt classification.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COMMISSIONERS OF THE TUALATIN VALLEY WATER DISTRICT THAT:

Section 1: The Board of Commissioners hereby mandates that all District employees shall be vaccinated against COVID-19, except those that are exempt by a disability or religious beliefs.

Section 2: Unless exempt, all employees shall provide proof of vaccination compliance by delivery of documentation acceptable to the District no later than October 20, 2021. Those employees seeking an exemption shall submit a request for exemption on forms approved by the District and have approval in place no later than October 20, 2021.

Section 3: The Chief Executive Officer is directed to immediately implement a testing program for all unvaccinated employees and vaccinated employees who have been exposed to COVID-19 at District expense.

Section 4: The Chief Executive Officer is directed to develop the method and process for employees to claim exempt status, determine the form of acceptable proof of vaccination and take all other steps necessary to implement this resolution.

Approved and adopted at a regular meeting held on the 18th day of August 2021.

Todd Sanders, President

Jim Doane, Secretary

Tualatin Valley Water District



Delivering the Best Water Service Value

RESOLUTION NO. 10-21

A RESOLUTION ESTABLISHING WATER RATES AND OTHER SERVICE CHARGES FOR THE TUALATIN VALLEY WATER DISTRICT WITH AN EFFECTIVE DATE OF NOVEMBER 1, 2021.

WHEREAS, a public hearing was held by the Board of Commissioners of the Tualatin Valley Water District on August 18, 2021 to consider increases in water rates and related fees to fund District operations, the purchase of water and capital improvements; and

WHEREAS, notice of the public hearing and its purpose was provided by mailing a notice of the hearing to the customers of the District in accordance with the requirement of Oregon Revised Statutes (ORS) 264.312; and

WHEREAS, based on the recommendations of the administrative staff of the District and the testimony heard, received and considered by the Board from the public hearing, the Board of Commissioners finds that:

- (1) It is necessary to adopt fixed and volume rates for water services provided by the District, and related fees and charges, to provide resources to fund the costs of operating the District, fund necessary capital improvements and support the development of new water supplies; and
- (2) The adopted budget for the 2021-2023 biennium, six-year capital improvement plan and District Financial Plan identify current and future resources needed to continue implementation of the Willamette Water Supply System and construct improvements to the District's water system infrastructure for seismic and system reliability purposes; and
- (3) The District purchases its water supply for distribution within the District from the City of Portland, Oregon, and, as a partner, from the Joint Water Commission.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COMMISSIONERS OF THE TUALATIN VALLEY WATER DISTRICT THAT:

Section 1: This resolution takes effect November 1, 2021. The rates and charges shown in Exhibit A and Exhibit B, attached hereto and by this reference incorporated herein, are hereby adopted by the District.

Section 2: The District hereby shall make a copy of this resolution available to the public at the office of the District and through other media.

Approved and adopted at a regular meeting held on the 15th day of September 2021.

Todd Sanders, President

Jim Doane, Secretary

**TUALATIN VALLEY WATER DISTRICT
EXHIBIT A - WATER RATES**

<u>VOLUME WATER CHARGE:</u>		<u>Effective 11/1/2021</u>	<u>Effective 11/1/2022</u>
<u>CLASS CODE 1</u>	<u>RESIDENTIAL</u>		
BLOCK 1	0-28 CCF (PER BI-MONTHLY BILLING PERIOD)	\$6.15	\$6.73
BLOCK 2	29 + (PER BI-MONTHLY BILLING PERIOD)	\$8.77	\$9.60
<u>CLASS CODE 2</u>	<u>MULTI-FAMILY</u>		
BLOCK 1	UP TO 1.4 TIMES 12-MONTH MOVING AVERAGE	\$6.15	\$6.73
BLOCK 2	OVER 1.4 TIMES 12-MONTH MOVING AVERAGE	\$8.77	\$9.60
<u>CLASS CODE 3</u>	<u>COMMERCIAL NON-PRODUCT</u>		
BLOCK 1	UP TO 1.4 TIMES 12-MONTH MOVING AVERAGE	\$6.15	\$6.73
BLOCK 2	OVER 1.4 TIMES 12-MONTH MOVING AVERAGE	\$8.77	\$9.60
<u>CLASS CODE 4</u>	<u>PRODUCTION PROCESSES</u>		
BLOCK 1	UP TO 1.4 TIMES 12-MONTH MOVING AVERAGE	\$6.15	\$6.73
BLOCK 2	OVER 1.4 TIMES 12-MONTH MOVING AVERAGE	\$8.77	\$9.60
<u>CLASS CODE 5</u>	<u>FIRELINE</u>		
BLOCK 1	ALL CONSUMPTION	\$6.15	\$6.73
<u>CLASS CODE 6</u>	<u>IRRIGATION</u>		
BLOCK 1	UP TO 1.4 TIMES 12-MONTH MOVING AVERAGE	\$6.15	\$6.73
BLOCK 2	OVER 1.4 TIMES 12-MONTH MOVING AVERAGE	\$8.77	\$9.60
<u>CLASS CODE 7</u>	<u>TEMPORARY IRRIGATION</u>		
BLOCK 1	UP TO 1.4 TIMES 12-MONTH MOVING AVERAGE	\$6.15	\$6.73
BLOCK 2	OVER 1.4 TIMES 12-MONTH MOVING AVERAGE	\$8.77	\$9.60
<u>CLASS CODE 8</u>	<u>LOCAL GOVERNMENT WATER PURVEYORS</u>		
	Volume charges shall be at contractual rates.		

<u>FIXED CHARGES (FOR ALL CLASS CODES):</u>		<u>Effective 11/1/2021</u>		<u>Effective 11/1/2022</u>	
<u>METER SIZE OR EQUIVALENT</u>	<u>SERVICE SIZE</u>	<u>BI-</u>		<u>BI-</u>	
		<u>MONTHLY</u>	<u>MONTHLY</u>	<u>MONTHLY</u>	<u>MONTHLY</u>
	5/8"	\$ 18.60	\$ 37.20	\$ 20.37	\$ 40.74
	3/4"	\$ 20.49	\$ 40.98	\$ 22.44	\$ 44.88
	1"	\$ 25.25	\$ 50.50	\$ 27.65	\$ 55.30
	1 1/2"	\$ 33.93	\$ 67.86	\$ 37.15	\$ 74.30
	2"	\$ 50.05	\$ 100.10	\$ 54.80	\$ 109.60
	3"	\$ 139.36	\$ 278.72	\$ 152.60	\$ 305.20
	4"	\$ 186.73	\$ 373.46	\$ 204.47	\$ 408.94
	6"	\$ 300.94	\$ 601.88	\$ 329.53	\$ 659.06
	8"	\$ 434.69	\$ 869.38	\$ 475.99	\$ 951.98
	10"	\$ 714.95	\$ 1,429.90	\$ 782.87	\$ 1,565.74

Note: If snowbird customers do not request a service turn-on from the District and there has been movement on the meter, the District will apply fixed charges for the entire 2-month billing cycle.

Private fire services are charged at the service size as determined by the nominal size of the backflow prevention assembly unless otherwise established by the District's Chief Engineer based on engineering equivalence. For service sizes not listed above, the next larger service size will be used.

TUALATIN VALLEY WATER DISTRICT
EXHIBIT B - OTHER SERVICES CHARGES & PENALTIES

Effective
11/1/2021

1. Water Service on or off at customer's or owner's request		
a. First call -- during office hours, Monday through Friday except for snowbird turn off.		N/C
b. Leaks or emergencies beyond customer control -- during office hours or after hours or weekends		N/C
c. Service on and off, second call during office hours		\$105
d. Service on and off, second call after hours (an additional)		\$90
e. All snowbird turn offs		\$100
2. Water Service on and off for non-payment		
a. Service on and off, during office hours, Monday through Friday		\$105
b. After hours or weekend service on and off (an additional)		\$90
c. Broken promise turn off		\$105
3. Additional charges, if necessary, to enforce payment of bill or charges		
a. Removal of meter		\$195
b. Reinstallation of meter		N/C
c. Installation or removal of locking device-first occurrence		\$105
d. Installation or removal of locking device-second occurrence		\$120
e. Installation or removal of locking device-third occurrence		\$230
	& meter pulled	
f. Repair of breakage/damage to locking mechanism (curb stops, etc.)	Time & Materials	
g. Service off water at main or reinstating service	Time & Materials	
h. Check returned by bank for non-payment (NSF)		\$34
i. Meter tampering and/or using water without authority		\$60
j. Penalty for incorrect financial institution account information		
First two times no charge. Charge per incident, third time and above.		\$25
4. Illegal use of water		\$150
	(plus water usage billed at current rates)	
5. Illegal use of fire line		
a. First occurrence		N/C
b. Second occurrence (plus estimated water usage billed at Block 1 rate)		\$150
c. Third occurrence (plus estimated water usage billed at Block 1 rate)		\$1,000
d. All subsequent occurrences subject to final remedies determined by CEO or designee on a case-by-case basis per District Rules and Regulations (plus estimated water usage billed at Block 1 rate)		
6. Decreasing or increasing size of meter	Time & Materials	
	(plus any applicable system development charges)	
7. Testing water meters at customer's or owner's request		
a. Testing on premises (5/8" – 3/4" – 1")		\$195
b. Removal of meter for testing (5/8" – 3/4" – 1")		\$420
c. Testing of meters larger than 1"	Time & Materials	
8. Usage of meter key		
a. Deposit refundable with key return		\$25 Deposit
9. Removal of meter during construction		
a. Removal of meter		\$195
b. Loss of meter (see Meter & Service Installation Charges)	Based on Meter Size	

TUALATIN VALLEY WATER DISTRICT
EXHIBIT B - OTHER SERVICES CHARGES & PENALTIES

Effective
11/1/2021

10. Fire hydrant fees		Time & Materials
a. Repair of breakage/damage		
12-month fire hydrant permits -- mandatory for fire hydrant usage:		
b. Hydrant permit (tanks ≤500 gallons)		\$235
c. Hydrant permit (tanks 501-1499 gallons)		\$685
d. Hydrant permit (tanks 1500-2999 gallons)		\$1,225
e. Hydrant permit (tanks ≥3000 gallons)		\$2,420
f. Off-site tank inspection (does not include permit)		\$100
g. Penalty for unauthorized hydrant use (within a 12-month period):		
First offense		\$1,000
Second offense		\$2,000
Third offense		\$4,000
h. Penalty for using non-approved (uninspected) tank (within a 12-month period)		\$2,000
Hydrant meter fees:		
i. Administrative Fee		\$535
j. Daily Fee for 1-inch meter		\$0.10
k. Daily Fee for 2-inch meter		\$0.20
l. Daily Fee for 3-inch meter		\$1.20
m. Hydrant meter deposit (refundable less damages):		
1-inch		\$500
2-inch		\$1,000
3-inch		\$2,000
Fire hydrant fees for Clean Water Services:		
n. 12-month fire hydrant permit (plus water usage billed at current Block 1 rate)		\$135
11. Backflow prevention device testing		
Device testing		
a. Initial test fee per device		\$110
b. All subsequent tests are the responsibility of the owner -- to be done annually by a State Certified Backflow Tester of their choice		
Gold plan		
Annual fee per device dependent on customer agreement to have the District schedule & perform required annual test. Test performed by District contractor & includes \$50 annually in minor repairs to existing device to achieve passing test.		\$35
Enforcement fee		
Annual fee per device. Applies if customer hasn't completed annual test by required date and is scheduled for shutoff. Test performed by District contractor in lieu of shutoff. Fee does not include cost of repairs that may be required.		\$50
Service on and off for non-compliance of annual testing and reporting.		
a. Service on and off, during office hours, Monday through Friday		\$105
b. After hours or weekend service on and off (an additional)		\$90

TUALATIN VALLEY WATER DISTRICT
EXHIBIT B - OTHER SERVICES CHARGES & PENALTIES

Effective
11/1/2021

12. Flow testing of fire hydrants	
a. Request for flow test, we have existing information within last 3 years, and no significant changes have occurred.	\$30
b. No existing fire flow information. Modeled fire flow is ok.	\$105
c. No existing information. Full test is requested.	\$585
d. Extended pressure test (if requested as part of full flow test).	\$720
e. Extended pressure test without an additional flow test.	\$485
13. SDC finance contract and recording fee	\$520
14. Temporary irrigation meter	\$2,355
15. Public records request fees	
a. Staff time - no cost for first half hour of staff time (rate per hour)	\$35
b. Staff time to transcribe a recording (rate per hour)	\$35
c. Attorney time for reviewing and redacting records (billed in tenths of an hour)	Actual cost
d. Certified copy service (rate per certification)	\$5
Photocopies:	
e. Black and white - 8 1/2" x 11" (price per sheet of paper)	\$0.02
f. Black and white - 8 1/2" x 14" and larger (price per sheet of paper)	\$0.05
g. Color - 8 1/2" x 11" (price per page)	\$0.05
h. Color - 8 1/2" x 14" and larger (price per page)	\$0.15
i. Data media (e.g., CD or DVD)	Actual cost
j. Mailing and postage supplies	Actual cost

Other billing charges

Any other services performed by District personnel for which there is not a fee specified in this Resolution shall be charged at the employee's salary plus the cost of other personnel expenses for the actual time spent on the service (minimum 0.25 hours); plus the cost for materials and District equipment used including overhead rates and any deposits required by the District.

Carrying charges

Bills issued by TVWD which remain unpaid for over thirty (30) days may be subject to a carrying charge at a rate of 9% per year on the unpaid balance.

Fee Waivers

The Chief Executive Officer (CEO) or designee may waive all or a portion of the Other Service Charges & Penalties in Exhibit B if the CEO or designee determines that it is in the equitable and best interest of the District considering the particular circumstances involved in each case.

TUALATIN VALLEY WATER DISTRICT
EXHIBIT B - METER AND SERVICE INSTALLATION CHARGES

Effective
11/1/2021

Meter and Service Installation Charges By Meter Size

METER SIZE	Subdivision		
	Service Install*	Refundable**	Meter Fee
5/8" } 3/4" } 1" } 1-1/2" } 2" }	\$965	\$220	\$315
1" Service Line			\$335
			\$395
			\$585
			\$715

* Per District water system standards all meters to 1" in size require a 1" service line.

** Amount refundable applies only if TVWD is able to install its services before other utilities.

METER SIZE	Dig-Ins		Banked Dig-Ins		
	Service Install*	Meter Fee	Banked Dig-in Fee	Meter Fee	
5/8" } 3/4" } 1" } 1-1/2" } 2" }	\$2,405	\$315	\$965	\$315	
1" Service Line		\$335		\$335	
		\$395		\$395	
		\$585		N/A	N/A
		\$715		N/A	N/A

* Per District water system standards all meters to 1" in size require a 1" service line.

All new meters include Automatic Meter Reading (AMR) capability.

Dig-ins are defined as a service tap in an existing main in an existing street.

Subdivisions are defined as undeveloped streets where mains will be installed.

Banked dig-ins are defined as one excavation with more than one service tap.

Fees for Banked Dig-Ins for meters larger than 1" will be determined on a case by case basis by the District's Engineering Department.

Tualatin Valley Water District



Delivering the Best Water Service Value

RESOLUTION NO. 11-21

A RESOLUTION OF THE BOARD OF COMMISSIONERS OF TUALATIN VALLEY WATER DISTRICT, OREGON, APPROVING THE APPLICATION FOR GRANT FUNDS THROUGH THE BUREAU OF RECLAMATION FOR THE WATERSMART: WATER AND ENERGY EFFICIENCY GRANTS FOR FISCAL YEAR 2022.

WHEREAS, the United States Department of Interior, Bureau of Reclamation has provided funds for the program shown above; and

WHEREAS, the Bureau of Reclamation has been delegated the responsibility for the administration of this grant program, establishing necessary procedures; and

WHEREAS, said procedures established by the Bureau of Reclamation require a resolution certifying the approval of application(s) by the applicant's governing board before submission of said application(s) to the federal government; and

WHEREAS, the Board of Commissioners of Tualatin Valley Water District, if selected, will enter into an agreement with the federal government to carry out the project.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COMMISSIONERS OF THE TUALATIN VALLEY WATER DISTRICT THAT:

Section 1: The District approves the filing of an application through the Bureau of Reclamation for the WaterSMART: Water and Energy Efficiency Grants for Calendar Year 2022 for the "TVWD Advanced Metering Infrastructure Project."

Section 2: District staff certifies that Tualatin Valley Water District, as the applicant, understands the assurances and certifications in the application.

Section 3: District staff certifies that Tualatin Valley Water District will have sufficient funds to operate and maintain the project consistent with grant requirements or will secure the resources to do so.

Section 4: District staff certifies that the project will comply with any laws and regulations including, but not limited to, legal requirements for building codes, health and safety codes, disabled access laws, environmental laws and, that prior to commencement of construction, all applicable permits will have been obtained.

Section 5: The Board of Commissioners appoints the CEO, or designee, as agent to conduct all negotiations, execute and submit all documents including, but not limited to applications, agreements, payments requests and so on, which may be necessary for the completion of the aforementioned project.

Approved and adopted at a regular meeting held on the 20th day of October 2021.

Todd Sanders, President

Jim Doane, Secretary



RESOLUTION NO. 12-21

A RESOLUTION ADOPTING REVISED POLICIES OF THE BOARD OF COMMISSIONERS.

WHEREAS, the Board of Commissioners (Board) has adopted Board Policies regarding the organization and conduct of Board proceedings and business; and

WHEREAS, the Board has periodically amended the Board Polices following review and recommendation by a subcommittee of the Board; and

WHEREAS, the Board reviewed the latest recommendations of the subcommittee at the work session on October 5, 2021, which are now attached to this Resolution as Exhibit A; and being fully advised.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COMMISSIONERS OF THE TUALATIN VALLEY WATER DISTRICT THAT:

Section 1: The Board Policies and revisions thereto attached hereto as Exhibit A and incorporated by reference, are hereby adopted.

Section 2: District staff is directed to incorporate the revisions into the Board Policies and perform other actions necessary to publish and implement the revisions.

Approved and adopted at a regular meeting held on the 20th day of October 2021.

Todd Sanders, President

Jim Doane, Secretary

Chapter 2 - Powers, Responsibilities and Conduct

The fundamental powers of the Board are set forth in Oregon Revised Statutes. The Board functions as a body, and individual Commissioners have no authority to act on the Board's behalf unless authorized by the majority of the Board.

1. District Oversight

- a. The Board will establish policy, organizational goals and objectives and provide the financial means to implement each.
- b. The Board will select a Chief Executive Officer, reserving all authority and responsibility not otherwise assigned to the CEO or others. The Board delegates to the CEO the responsibility of management of District operations and personnel as well as implementing Board policies. No Commissioner may direct the actions of individual staff members.
- c. The Board acts as the Local Contract Review Board for the District.
- d. The Board, along with five citizen members, serves on the Budget Committee for the District.
- e. The Board approves the selection of the independent external auditor, as determined through a request for proposals issued by the CEO.

2. Actions

- a. The Board establishes law by adopting ordinances. The majority of the ordinances adopted by the Board concern the District's Rules and Regulations, but the Board may adopt other ordinances regarding District operations.
- b. The Board exercises its administrative authority by adopting resolutions. Resolutions generally deal with matters of a special or temporary nature and can include establishing policies, setting fees, entering into intergovernmental agreements or considering real property transactions.
 - Real estate transactions greater than \$150,000 shall be subject to approval by the Board. The CEO has approval authority equal to or less than \$150,000.
 - All non-routine intergovernmental agreements and intergovernmental agreements related to routine joint improvement projects that cost greater than \$500,000 shall be subject to approval by the Board. The CEO has approval authority equal to or less

than \$500,000 unless the joint improvement project generates multiple agreements that taken together cost more than \$500,000.

- c. The Board can take action by motion or consensus without adopting an ordinance or a resolution. Such actions are in conformance with previously adopted ordinances and resolutions or operate within existing rules and policies and can include approving programs or making appointments.

3. Committees

- a. The Board may approve the creation of advisory committees as needed, outlining the purpose, duties and responsibilities of each committee at the time of creation.
- b. The Board will approve the appointments of all Commissioner or citizen members of each committee.
- c. All quorums of the Board and Board-appointed citizen advisory committees for the purpose of discussing District business will be considered public meetings, unless designated as executive sessions under public meetings law, and written minutes or meeting summaries will be considered public records.

4. Conduct

The Board recognizes that the manner in which Commissioners conduct themselves at all times has an impact on the community, the District and its employees. Commissioners are expected to:

- Maintain and cultivate positive relationships with the community, staff and agency partners;
- Set an example of ethical conduct;
- Distinguish between personal views and those of the District to avoid misrepresentation of the District;
- Refrain from disseminating or disclosing confidential, proprietary or sensitive information received in a Commissioner's official capacity; and
- Practice civility, professionalism and decorum in all discussions and debate.

5. Attendance

Commissioners are expected to attend all public Board-related meetings where District business is conducted having reviewed all meeting materials in advance. Following an absence, Commissioners are encouraged to contact the Board President and/or CEO to obtain a briefing

on meeting topics. Absence from meetings without prior notice, except in cases of emergency or illness, may result in censure.

6. Censure

- a. If a Commissioner substantially violates Board policy or state law, the Board may take action to protect Board integrity and may discipline the Commissioner with a public reprimand. Before issuing a reprimand, the Board must plainly state any concerns in writing or in an open public meeting, and the Commissioner must have a reasonable opportunity to respond. The Board may then investigate the actions of any Commissioner and meet in executive session to discuss any finding that reasonable grounds exist that a substantial violation has occurred. Under ORS 192.660(2)(b), the Commissioner under investigation may request an open hearing.
- b. Potential sanctions that may be imposed by the Board include:
 - Curtailment of District-paid conference or event attendance
 - Limitation on serving as a District representative on committees or other intergovernmental agencies or community groups
 - Removal from the office of Board President
 - Ineligibility to serve as Board President for a designated period of time

Chapter 3 – Officers

New Commissioners will have the opportunity to participate in a comprehensive orientation program led by the Chief Executive Officer.

The Board will approve annual appointments to the following positions at the first regular meeting of July.

1. President

- a. The President will review Board meeting agendas with the CEO prior to their finalization. The President will preside at all meetings and have the right to make motions, contribute to discussions and vote on any item. The President has the ability to call special meetings. The President serves as the Budget Committee chair pro tem until another committee member is selected as chair.
- b. The President will make committee appointments, subject to the approval of the majority of the Board.
- c. The President will sign ordinances, resolutions, minutes and other official and ceremonial Board documents on behalf of the Board. The CEO will sign all other Board-authorized documents.
- d. The President will represent the Board in deliberations with other boards, districts or agencies or assign an alternate Commissioner if necessary.
- e. No Commissioner may serve more than three consecutive one-year terms as President. If officer assignments change midyear, any period served in excess of six months will be considered a term.

2. Vice President

In the absence of the President, the Vice President will perform the duties and have the rights and obligations of the President.

3. Treasurer

The Treasurer will serve as Board liaison with staff on questions regarding financial policies. In the absence of both the President and Vice President, the Treasurer will perform the duties and have the rights and obligations of the President.

4. Secretary

The Secretary will countersign all ordinances, resolutions, minutes and other applicable official and ceremonial Board documents signed by the President.

5. Acting Secretary

In the absence of the Secretary, the Acting Secretary will countersign all ordinances, resolutions, minutes and other applicable official and ceremonial Board documents signed by the President.

Chapter 4 – Policy Creation, Amendment and Suspension

Proposals to create, amend or suspend a policy may be proposed by any Commissioner and will be reviewed by the Chief Executive Officer prior to Board consideration for action. All policy-related Board actions will be made by resolution.

The CEO must clearly state any known policy and budget implications when requesting Board action on an item.

1. Creation

- a. The Board will adopt written policies both to govern Board and District operations.
- b. The Board delegates the responsibility of approving administrative and personnel policies to the CEO. In the absence of written Board policy, the CEO will make decisions necessary for District operations.
- c. The Board may authorize reports and studies deemed necessary to monitor the execution of policies.

2. Amendment

The Board will review the policies governing Board operations on an annual basis. Any proposed amendments to Board policy will take place at a regular meeting.

3. Suspension

The Board may suspend or terminate any policy upon approval by a majority of the Board. Any policy found to be in conflict with state or federal law or the rules and regulations of a higher authority is automatically null and void without Board action. Staff will advise the Board of any such nullification.

Chapter 5 – Chief Executive Officer

The Board delegates to the CEO the responsibility of management of District operations and personnel as well as implementing Board policies. The Board reserves sole policy-making authority and exclusive control over entering into the majority of intergovernmental agreements as well as governing fiscal policy, budget and financial matters.

The CEO shall be bound by and administer the affairs of the District in accordance with state law and all the rules, regulations and policies now in existence or hereafter adopted by the Board.

1. Authority

The authority of the CEO shall include, but not be limited to:

- a. Functioning as the District's registered agent
- b. Overall management, administration and direction of District operations, functions, activities and programs
- c. The hiring, supervising, disciplining and discharging of District employees and volunteers necessary to carry out the business of the District
- d. The administration of employee retirement and benefits, including serving as trustee and overseeing the investment of funds
- e. The supervision of acquisition, maintenance, upkeep and sale of any facilities and equipment owned or maintained by the District
- f. The keeping and maintaining of proper fiscal records for the District and overseeing all banking and financial matters, investments, payments of obligations and debt
- g. Functioning as the District's public contracting officer
- h. The execution and administration of District policies [and programs](#) within budget appropriations according to District policy and pursuant to ordinance or resolution
- i. The awarding of contracts according to the District Local Contract Review Board Rules
- j. The execution of memoranda of understanding

- k. The giving of policy advice to the Board and open communication with the community so as to foster responsive and courteous public service
- l. The encouragement, but not requirement, to provide assistance or services to other units of government when within the District's purposes and objectives to the extent reasonable and practical
- m. Approving real estate transactions equal to or less than \$150,000
- n. Approving routine joint improvement intergovernmental agreements that cost equal to or less than \$500,000

2. Selection

The Board will facilitate the transfer of CEO command at least six months in advance, when possible, of a planned vacancy. The Board will consider the following:

- a. The timeline for the selection process
- b. The process for recruitment and selection
- c. The desired management skills, leadership characteristics, education and experience
- d. An analysis of internal and external compensation factors
- e. Obtaining input from stakeholders

3. Evaluation

The Board will conduct an annual performance evaluation of the CEO, [facilitated by a Board designee](#), according to the employment agreement.

Chapter 6 – Communication

All written and electronic communications related to District business are public records. Commissioners will use District-provided email addresses for all District-related electronic communications. If a Commissioner receives an email at a private email address, the Commissioner will forward the email to their District-provided email address.

1. Staff Communication to Board

- a. Staff, through the Chief Executive Officer, will keep Commissioners informed on all relevant information relative to District operations as well as applicable conferences, meetings and publications. The CEO will coordinate subscriptions to applicable trade publications for the Board.
- b. All written and electronic informational materials requested by Commissioners will be made available to the entire Board with a note stating who requested the information.

2. Board Communication to Staff

- a. Commissioners will not attempt to direct employees, including the CEO, regarding administrative matters; however, the sharing of ideas on such matters is appropriate.
- b. Commissioner communication with, and information requests of, staff will be directed to the CEO to allow coordination of workloads, work plans and resource requirements.

3. Board Communication with ~~External~~ Legal Counsel

~~External~~ Legal counsel will advise the Board and staff on specific legal problems submitted by the CEO. The CEO is authorized to seek ~~external~~ legal counsel. Commissioners are not authorized to seek ~~external~~ legal counsel, ~~but~~ in situations where the interests of the Board and CEO are adverse or potentially adverse, ~~external~~ legal counsel will at all times represent the Board.

4. Board Communication with Public/Press

Commissioners may publicly represent Board positions once a decision has been reached by the Board. Commissioners will not make statements on behalf of the District or Board without prior approval by the Board, unless the statement is already published and attributable to the District. In all other circumstances, Commissioners must be clear that statements are the individual position of the Commissioner and not the Board or the District.

5. Political Endorsement

The Board will comply with Oregon Revised Statute 260.432. Any District position regarding election measures will be made by resolution adopted by the Board. Staff involvement in such resolutions will be limited to reformatting and including the resolution in the Board meeting packet for consideration by the Board.

Chapter 7 – Education, Events and Reimbursement

1. Education

a. The District will maintain active memberships in the American Water Works Association (AWWA) and Special Districts Association of Oregon (SDAO) for the Board.

~~a-b.~~ The District supports education opportunities for Commissioners. Commissioners are encouraged to attend the annual conferences of AWWA or one other non-political national conference as well as the annual conferences of the Pacific Northwest Section of AWWA and SDAO. Commissioners will obtain Board approval prior to attending any ~~other~~ additional conferences and meetings that require an overnight stay.

~~b-c.~~ Commissioners will be compensated by the District for the actual and reasonable expenses incurred by Commissioners in performing official duties as provided in the District's travel policy. If the District reimburses a Commissioner for the expenses and costs of traveling, the time spent traveling will not be considered a meeting or event for which compensation for services can be claimed under the reimbursement process outlined below.

~~c-d.~~ Commissioners traveling on District-related business may receive traveler loyalty program accruals, including for flights, hotels and rental cars, as a benefit that is part of Board compensation. Commissioners are responsible for determining any personal income tax implications arising from their use of such benefits.

2. Reimbursement

a. Commissioners will be compensated at the rate of \$50 per meeting or event with a maximum reimbursement of \$50 per day. Reimbursements processed are considered public records.

~~a-b.~~ In adherence to Oregon local budget law, no Commissioner may receive any compensation for their services as a member of the Budget Committee, including reimbursement for attendance at Budget Committee workshops and meetings.

~~b-c.~~ Meetings or events are defined as:

- Public meetings of the District as defined in public meetings law
- Public meetings of other public bodies as defined in public meetings law where the Commissioner is requested or designated to attend by the Board
- Meetings with staff to consider issues affecting the District

- Meetings or events specifically approved by the Board
- Meetings with groups or entities of which the District is a member and the Commissioner has been requested to attend by the Board or is consistent with duties of Board committees and assignments, provided the meetings do not include issues on a current or upcoming election ballot or the host or sponsor does not advocate for candidates or measures.

~~e.d.~~ Events where a Commissioner has not been designated to officially represent the Board are not eligible for reimbursement.

e. At each regular Board meeting, Commissioners will provide a brief summary of meeting topics for meetings for which the Commissioner is requesting reimbursement unless the meeting is a District meeting or another Commissioner has already provided a meeting summary.

f. Commissioners have the discretion to claim or forego reimbursement for meetings attended. Any meetings a Commissioner includes on a monthly report of meetings attended that are not claimed for reimbursement are directed to the Customer Emergency Assistance Fund.

Chapter 8 – Board Meeting Agenda and Preparation

The dates of monthly Board meetings will be adopted by resolution at the end of each calendar year for the subsequent year.

1. Agenda

- a. The Chief Executive Officer will prepare the agenda after conferring with the Board President. The Board President may place any item on the agenda for Board consideration.
- b. A Commissioner may propose an agenda item for consideration by submitting a proposed Commissioner Topic in writing to the Board President prior to or at a Board meeting. The request should include the issue, the reason the issue is of concern to the District and what specific information is requested. After notifying the full Board, the Board President will forward the request to the CEO. Staff will prepare and distribute to the Board an abbreviated report prior to the next regular Board meeting. At that meeting, if a majority of the Board believes the matter should be considered as an action item, the request will be added to the agenda of a future meeting after allowing staff enough time to provide a comprehensive report to allow the Board to make an informed decision.
- c. Subject to change at the Board's discretion, the ~~The general~~ order of regular meeting agendas are as follows:
 - Call to Order
 - Public Hearings (if needed)
 - Reports by Management Staff
 - Commissioner Communications
 - Report of Meetings Attended
 - Commissioner Topics
 - Public Comment (for items not on the agenda)
 - Consent Agenda
 - Business Agenda
 - Informational Presentations (if needed)
 - Adjournment
- d. The Board meeting packet, including the agenda and all explanatory materials, will be distributed to the Board at least four calendar days prior to the meeting. Commissioners will review and evaluate the information prior to the meeting. Commissioners are encouraged to contact the CEO prior to the meeting with any questions on agenda items

to allow the CEO to provide a comprehensive answer to questions either before or during the meeting.

- e. Upon Commissioner request, a short recess may be taken during a Board meeting at the discretion of the Board President so as not to interrupt the flow of business.

2. Minutes

- a. Staff will prepare minutes with sufficient detail to meet their intended use. Verbatim minutes are not required.
- b. The Board may amend the minutes to more accurately reflect what transpired at a meeting. Additions or corrections will be submitted to the CEO prior to the Board meeting where the minutes are scheduled for approval. Under no circumstances may the minutes be changed following approval by the Board, unless the Board authorizes such change.
- c. A Commissioner may vote to approve minutes for a meeting at which he or she was not in attendance.

3. Executive Sessions

- a. Executive sessions will be scheduled as needed.
- b. Only news-gathering representatives of established institutional media who ordinarily report activities of the District will be allowed to attend Board executive sessions. The definition of institutional news media is limited to entities that are formally organized for the purpose of gathering and disseminating news. Media representatives include individuals who gather news and who have a formal affiliation, whether through employment, by contract or some other agency authorization from or with an institutional news media entity. A representative will be asked to provide appropriate credentialing prior to the executive session.
- c. Commissioners will keep all discussions and written materials provided to them on matters of confidentiality under law in complete confidence to ensure the District's position is not compromised. [Materials received electronically must be deleted at the end of the executive session.](#) Failure to do so may lead to censure.

Chapter 9 – Board Meeting Procedures

1. Parliamentary Procedures

- a. Board meetings will be governed by the District's below parliamentary procedures, which constitute a standing rule. Matters not covered by these procedures will be governed-guided by Robert's Rules of Order Newly Revised. Rules may be amended and the order of business may be suspended at any meeting by majority vote. The Board President or presiding officer, or designee, has the inherent authority to keep order and to impose any reasonable restrictions necessary for the efficient and orderly conduct of meetings.
- b. The Presiding Officer calls the Board meeting to order. The District Recorder will record the names of Commissioners present in the minutes.
- c. Commissioners will address the Presiding Officer and await recognition to be able to speak. No persons other than Commissioners and the person having the floor shall enter into any discussion without the permission of the Presiding Officer.
- d. Commissioners must clearly and concisely state a motion if it is not reflected in the agenda item language as read by the Presiding Officer. Motions will die if they do not receive a second. Types of motions include:
- Main motions – Their purpose is to introduce items to the Board for consideration.
 - Subsidiary motions – Their purpose is to change or affect how a main motion is handled and is voted on before a main motion (e.g., to postpone to a certain time or indefinitely, to amend a motion).
 - Miscellaneous motions – Their purpose is to bring up items that are urgent about special or important matters unrelated to pending business (e.g., to take a recess, to adjourn) or a means of questioning procedure concerning another motion and must be considered before the other motion (e.g., point of order, suspension of the rules).
- e. Any Commissioner may withdraw his or her motion prior to a second. Once a motion is seconded, the motion may not be withdrawn without consent of the Commissioner seconding it.
- a.f. The Presiding Officer will adjourn the meeting once all business has been considered or postponed.

b.g. _____ When considering an action item, the following order applies:

- Staff presentation
- Public comment, if any

- Additional staff comments, if needed
- Board discussion
- Motion and any final Board comments
- Vote

2. Public Comment

- In general, Commissioners are not expected or obligated to respond to comments made during the public comment time, except to ask clarifying questions.
- Any public requests for Board action will be referred to the Chief Executive Officer for review and coordination with the Board President before being placed on a future agenda.
- Excluding executive sessions, all Board meetings are accessible to the public for attendance in-person, if available, or by telephone, video or other electronic or virtual means. Public comment may be received in writing in advance of the meeting or during the meeting by in-person attendance, if available, or telephone, video or other electronic or virtual means.

3. Voting

- The President may call for a voice vote or a roll call vote at his or her discretion. The Commissioners may also request a roll call vote.
- All Commissioners are expected to vote on each motion unless a Commissioner is disqualified for a specific reason. Commissioners will declare a potential conflict of interest and *may* abstain from voting. Commissioners will declare an actual conflict of interest and *will* abstain from voting. A Commissioner who does not vote must state the basis for any conflict of interest or other disqualification.
- If only three Commissioners are present, a unanimous vote with no abstentions is required to approve a motion.
- A motion that receives a tie vote fails.
- Votes will be recorded.
- Any Commissioner may request a vote be changed if such request is made prior to consideration of the next order of business.

Chapter 10 – Board Communication Devices

Each Commissioner will be issued a communication device (such as a laptop computer or tablet), including necessary related equipment and hardware, peripherals and software to conduct District business, if requested by the Commissioner.

1. Ownership and Use

- a. The device remains the property of the District and information stored on the device is District property. Commissioners have no right or expectation of privacy on the device. Information on the device may be considered public records. The District reserves the right to access and audit any and all District business-related records, including content sent, received or stored on the device, and such records may be subject to public disclosure.
- b. Software applications, music, video files or other content will not be downloaded without consent of the Chief Executive Officer.
- c. The device will not be used for personal use except for emergencies and therefore such use is restricted to being brief and infrequent.

2. Training and Support

- a. Staff will provide Commissioners basic training on the use of the device and will provide technical support for the care and maintenance of the hardware and software. Additional training classes may be made available through external sources and will be paid for by the District.
- b. If using a personal device for District business, Commissioners will adhere to the following procedures and responsibilities:
 - Use a device with a camera, speakers and microphone for participating in Teams meetings.
 - Understand the device's features and settings.
 - Install and maintain active antivirus and antimalware software.
 - Update the device's operating system and application software on a regular basis.
 - Utilize and maintain an appropriate broadband Internet connection.
 - Install, maintain and know how to use appropriate applications (e.g., Microsoft Teams) or web browsers (e.g., Chrome, Edge) that are certified to work with Microsoft Teams meetings.

- c. District staff will provide the following support services for personal devices:
- Troubleshooting to help diagnose potential Internet connectivity problems
 - Guidance about which applications to use for specific purposes
 - Assistance about where to find and change application settings
 - Manual resets of District-managed passwords
- d. Due to the vast array of device, network and software options, District staff are unable to guarantee support for the following for personal devices:
- Home network or Internet Service Provider configuration or troubleshooting
 - Device-specific configuration or troubleshooting
 - Third-party software configuration
 - Resolving virus or malware infections
 - Personal account password issues
- d. Any public records or information stored on a personal device is District property. Commissioners have no right or expectation of privacy on a personal device containing public records or information. The District reserves the right to access and audit any and all District business-related records, including content sent, received or stored on the personal device, and such records may be subject to public disclosure.

3. Costs

- a. The District will be responsible for the cost of the maintenance or replacement of any defective equipment or software. If the device is damaged because of a negligent or intentional act, or other act for which the Commissioner is responsible, the Commissioner will be responsible for replacement costs.
- b. Each Commissioner is responsible for costs associated with home and local internet access. Upon Commissioner travel outside the Portland metropolitan area, the District will pay the reasonable cost of connection to the internet for the Commissioner to conduct District business. Commissioners will pay any internet usage costs for personal use for emergencies.

4. Device Decommissioning

At the end of a Commissioner's term, or when the device is deemed by the CEO to no longer be useful to the District, the Commissioner may either purchase the device or return it to the District within 30 days. If the Commissioner elects to purchase the device, it will be sold at the District's depreciated cost of purchase. The District has adopted a four-year straight line depreciation schedule for the device. The purchase will be 100% in year one and decrease to 25% in year four. In years five and beyond, the price will be set by the CEO, serving as the public

contracting officer, based on the market value of comparable devices in the Portland metropolitan area.

Chapter 11 – Annexation, Merger and Consolidation

1. Annexation

- a. Each proposed annexation will be individually reviewed and examined for economic, customer and operational impact.
- b. Unless addressed in an urban services agreement, the Board will oppose annexation by another governmental entity where the annexing entity proposes to withdraw the territory annexed and District infrastructure. The Board will not oppose annexation where the annexing entity negotiates with the District for continuation of District services within the territory proposed for annexation on terms acceptable to the Board.

2. Merger or Consolidation



The Board supports the concept of merger or consolidation with neighboring governmental entities providing water service if the action provides economic and efficient delivery of public services.

3. Purchase

The Board will not dispose of assets in violation of bond or other financial covenants.

Tualatin Valley Water District



Delivering the Best Water  Service  Value

RESOLUTION NO. 13-21

A RESOLUTION ESTABLISHING REGULAR MONTHLY MEETING DATES OF THE BOARD OF COMMISSIONERS FOR THE CALENDAR YEAR 2022.

WHEREAS, the Board of Commissioners annually sets its regular meeting calendar by resolution, and hereby being fully advised.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COMMISSIONERS OF THE TUALATIN VALLEY WATER DISTRICT THAT:

Section 1: The regular meetings shall be held the third Wednesday of each month at 6:00 p.m.

Section 2: Meeting dates may be changed by a motion of the Board.

Section 3: The meetings are to be held at the Tualatin Valley Water District, Administrative Office, located at 1850 SW 170th Avenue, Beaverton, Oregon 97003.

Section 4: In accordance with ORS 192.640, public notice requirements, all meetings will be advertised as required.



Approved and adopted at a regular meeting held on the 15th day of December 2021.

Todd Sanders, President

Jim Doane, Secretary

Tualatin Valley Water District



Delivering the Best Water  Service  Value

RESOLUTION NO. 14-21

A RESOLUTION RESTATING AND AMENDING RESOLUTION 10-21 TO ESTABLISH CIVIL PENALTIES, FINES AND OTHER CHARGES FOR THE TUALATIN VALLEY WATER DISTRICT EFFECTIVE JANUARY 15, 2022.

WHEREAS, the Board of Commissioners (Board) adopted Resolution 10-21 establishing water rates and other charges for water service with an effective date of November 1, 2021; and,

WHEREAS, the Board adopted Ordinance 01-21 on December 15, 2021, effective January 15, 2022, to provide for the imposition of civil penalties, fines and other charges for unauthorized work or tampering with the District's water system; and,

WHEREAS, the Board finds that the schedule of civil penalties should be part of the water rates, fees and charges most recently adopted in Resolution 10-21 and that Exhibits B and C, attached hereto should be adopted and incorporated into Resolution 10-21 and being advised.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COMMISSIONERS OF THE TUALATIN VALLEY WATER DISTRICT THAT:

Section 1: Exhibits B and C, attached hereto and incorporated by reference, are hereby adopted and made a part of Resolution 10-21.

Section 2: Staff is directed to attach these exhibits to Resolution 10-21 and make all other changes in the District records as necessary.

Section 3: The provisions of Exhibit C are effective on January 15, 2022.

Approved and adopted at a regular meeting held on the 15th day of December 2021.

Todd Sanders, President

Jim Doane, Secretary

**TUALATIN VALLEY WATER DISTRICT
EXHIBIT B - OTHER SERVICES CHARGES**

Effective
1/15/2022

1. Water Service on or off at customer's or owner's request	
a. First call -- during office hours, Monday through Friday except for snowbird turn off.	N/C
b. Leaks or emergencies beyond customer control -- during office hours or after hours or weekends	N/C
c. Service on and off, second call during office hours	\$105
d. Service on and off, second call after hours (an additional)	\$90
e. All snowbird turn offs	\$100
2. Water Service on and off for non-payment	
a. Service on and off, during office hours, Monday through Friday	\$105
b. After hours or weekend service on and off (an additional)	\$90
c. Broken promise turn off	\$105
3. Additional charges, if necessary, to enforce payment of bill or charges	
a. Removal of meter	\$195
b. Reinstallation of meter	N/C
c. Installation or removal of locking device-first occurrence	\$105
d. Installation or removal of locking device-second occurrence	\$120
e. Installation or removal of locking device-third occurrence	\$230
	& meter pulled
f. Repair of breakage/damage to locking mechanism (curb stops, etc.)	Time & Materials
g. Service off water at main or reinstating service	Time & Materials
h. Check returned by bank for non-payment (NSF)	\$34
i. Meter tampering and/or using water without authority	\$60
j. Penalty for incorrect financial institution account information	
First two times no charge. Charge per incident, third time and above.	\$25
3. Decreasing or increasing size of meter	Time & Materials (plus any applicable system development charges)
4. Testing water meters at customer's or owner's request	
a. Testing on premises (5/8" – 3/4" – 1")	\$195
b. Removal of meter for testing (5/8" – 3/4" – 1")	\$420
c. Testing of meters larger than 1"	Time & Materials
5. Usage of meter key	
a. Deposit refundable with key return	\$25 Deposit
6. Removal of meter during construction	
a. Removal of meter	\$195
b. Loss of meter (see Meter & Service Installation Charges)	Based on Meter Size

**TUALATIN VALLEY WATER DISTRICT
EXHIBIT B - OTHER SERVICES CHARGES**

Effective
1/15/2022

7. Fire hydrant fees

a. Repair of breakage/damage Time & Materials

12-month fire hydrant permits -- mandatory for fire hydrant usage:

b. Hydrant permit (tanks ≤500 gallons)	\$235
c. Hydrant permit (tanks 501-1499 gallons)	\$685
d. Hydrant permit (tanks 1500-2999 gallons)	\$1,225
e. Hydrant permit (tanks ≥3000 gallons)	\$2,420
f. Off-site tank inspection (does not include permit)	\$100

Hydrant meter fees:

i. Administrative Fee	\$535
j. Daily Fee for 1-inch meter	\$0.10
k. Daily Fee for 2-inch meter	\$0.20
l. Daily Fee for 3-inch meter	\$1.20
m. Hydrant meter deposit (refundable less damages):	
1-inch	\$500
2-inch	\$1,000
3-inch	\$2,000

Fire hydrant fees for Clean Water Services:

n. 12-month fire hydrant permit (plus water usage billed at current Block 1 rate)	\$135
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8. Backflow prevention device testing

Device testing

a. Initial test fee per device	\$110
b. All subsequent tests are the responsibility of the owner -- to be done annually by a State Certified Backflow Tester of their choice	

Gold plan

Annual fee per device dependent on customer agreement to have the District schedule & perform required annual test. Test performed by District contractor & includes \$50 annually in minor repairs to existing device to achieve passing test.	\$35
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Enforcement fee

Annual fee per device. Applies if customer hasn't completed annual test by required date and is scheduled for shutoff. Test performed by District contractor in lieu of shutoff. Fee does not include cost of repairs that may be required.	\$50
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Service on and off for non-compliance of annual testing and reporting.

a. Service on and off, during office hours, Monday through Friday	\$105
b. After hours or weekend service on and off (an additional)	\$90

**TUALATIN VALLEY WATER DISTRICT
EXHIBIT B - OTHER SERVICES CHARGES**

Effective
1/15/2022

9. Flow testing of fire hydrants		
a. Request for flow test, we have existing information within last 3 years, and no significant changes have occurred.		\$30
b. No existing fire flow information. Modeled fire flow is ok.		\$105
c. No existing information. Full test is requested.		\$585
d. Extended pressure test (if requested as part of full flow test).		\$720
e. Extended pressure test without an additional flow test.		\$485
10. SDC finance contract and recording fee		\$520
11. Temporary irrigation meter		\$2,355
12. Public records request fees		
a. Staff time - no cost for first half hour of staff time (rate per hour)		\$35
b. Staff time to transcribe a recording (rate per hour)		\$35
c. Attorney time for reviewing and redacting records (billed in tenths of an hour)	Actual cost	
d. Certified copy service (rate per certification)		\$5
Photocopies:		
e. Black and white - 8 1/2" x 11" (price per sheet of paper)		\$0.02
f. Black and white - 8 1/2" x 14" and larger (price per sheet of paper)		\$0.05
g. Color - 8 1/2" x 11" (price per page)		\$0.05
h. Color - 8 1/2" x 14" and larger (price per page)		\$0.15
i. Data media (e.g., CD or DVD)	Actual cost	
j. Mailing and postage supplies	Actual cost	

Other billing charges

Any other services performed by District personnel for which there is not a fee specified in this Resolution shall be charged at the employee's salary plus the cost of other personnel expenses for the actual time spent on the service (minimum 0.25 hours); plus the cost for materials and District equipment used including overhead rates and any deposits required by the District.

Carrying charges

Bills issued by TVWD which remain unpaid for over thirty (30) days may be subject to a carrying charge at a rate of 9% per year on the unpaid balance.

Fee Waivers

The Chief Executive Officer (CEO) or designee may waive all or a portion of the Other Service Charges & Penalties in Exhibit B if the CEO or designee determines that it is in the equitable and best interest of the District considering the particular circumstances involved in each case.

**TUALATIN VALLEY WATER DISTRICT
EXHIBIT B - OTHER SERVICE CHARGES**

Effective
1/15/2022

Meter and Service Installation Charges By Meter Size

METER SIZE	Subdivision		
	Service Install*	Refundable**	Meter Fee
5/8" } 3/4" } 1" } 1-1/2" } 2" }	\$965	\$220	\$315
1" Service Line			\$335
			\$395
			\$585
			\$715

* Per District water system standards all meters to 1" in size require a 1" service line.

** Amount refundable applies only if TVWD is able to install its services before other utilities.

METER SIZE	Dig-Ins		Banked Dig-Ins	
	Service Install*	Meter Fee	Banked Dig-in Fee	Meter Fee
5/8" } 3/4" } 1" } 1-1/2" } 2" }	\$2,405	\$315	\$965	\$315
1" Service Line		\$335		\$335
		\$395		\$395
		\$585	N/A	N/A
		\$715	N/A	N/A

* Per District water system standards all meters to 1" in size require a 1" service line.

All new meters include Automatic Meter Reading (AMR) capability.

Dig-ins are defined as a service tap in an existing main in an existing street.

Subdivisions are defined as undeveloped streets where mains will be installed.

Banked dig-ins are defined as one excavation with more than one service tap.

Fees for Banked Dig-Ins for meters larger than 1" will be determined on a case by case basis by the District's Engineering Department.

**TUALATIN VALLEY WATER DISTRICT
EXHIBIT C - CIVIL PENALTIES AND FINES**

**Effective
1/15/2022**

1. Illegal use of water	\$150 (plus water usage billed at current rates)
2. Illegal use of fire line	
a. First occurrence	N/C
b. Second occurrence (plus estimated water usage billed at Block 1 rate)	\$150
c. Third occurrence (plus estimated water usage billed at Block 1 rate)	\$1,000
d. All subsequent occurrences subject to final remedies determined by CEO or designee on a case-by-case basis per District Rules and Regulations (plus estimated water usage billed at Block 1 rate)	
3. Illegal use of fire hydrants	
a. Penalty for unauthorized hydrant use (within a 12-month period):	
First offense	\$1,000
Second offense	\$2,000
Third offense	\$4,000
b. Penalty for using non-approved tank or creating unprotected cross connection within a 12-month period (expired permit, uninspected tank, or other potential health hazard)	\$2,000
4. System tampering penalties	
a. Unauthorized alteration or manipulation of TVWD system	
1. Alteration or manipulation without causing impacts to customers	\$5,000 per occurrence (plus reimbursement of staff response)
2. Alteration or manipulation which causes impacts to customers (reduced pressure, loss of pressure, etc.)	\$10,000 per occurrence (plus reimbursement of staff response)
3. Additional infractions	Base fee listed above + \$10,000

Penalty and Fine Waivers

The Chief Executive Officer (CEO) or designee may waive all or a portion of the Penalties in Exhibit C if the CEO or designee determines that it is in the equitable and best interest of the District considering the particular circumstances involved in each case.