LONG RANGE
FINANCIAL PLAN REPORT
2021

moulton niguel
water district

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EXECUTIVE SUMMARY

The objective of the Long-Range Financial Plan (LRFP) is to identify strategies and actions to ensure sufficient financial resources are available for Moulton Niguel Water District (MNWD or District) to achieve its mission and to ensure those financial resources are utilized effectively. The LRFP forecasts operating budgets and incorporates the capital improvement program in order to determine future operating and capital needs and develop strategies to address those needs.

The LRFP projects financial and operational data of key aspects for the District such as: rate revenue, ad valorem property tax revenue, property leases, water purchases, utility costs, salaries and benefits, other revenues and expenses, capital expense cash flows, long-term investments, and debt service obligations. This detailed information is linked to a summarized pro-forma income statement and balance sheet to illustrate the impact of ongoing and future changes to MNWD's operating cash, assets, liabilities, and fund balances. The long-range financial planning model also monitors the impacts of changes in future financial plans on the key financial ratios that the District is required to maintain for debt covenants and credit-rating purposes.

District staff, in consultation with the Board of Directors and the District's Financial Advisor, inputs the broad-based planning parameters into the Long-Range Financial Planning model. The proprietary long-range financial planning model (also known as the Ten-Year Cash Flow Model or Model) is District built, owned, and operated. Updates are regularly made to the model to reflect changes in existing assumptions and future outlooks to create adaptive financial management strategies. The long-range planning and annual operating and capital budgeting processes are interrelated and form a single planning and budgeting system.

The availability of funds required to finance the capital construction and operations of the District is tracked through the model. Capital typically spans a long-time horizon; hence, a ten-year plan enables the District to project the financing needs for future capital expenditures and determine the District's ability to fund them through available cash balances, grants, state loans, revenues, or debt issuance. The key outputs of the LRFP is the schedule of rate revenue adjustments and projected bond issuances required to maintain the long-term financial health of the District. The report includes the detailed assumptions, analyses and plans driving these results.

The District has historically maintained a strong financial position based upon conservative planning and budgeting, maintenance of adequate unrestricted cash balances, reserves, and a solid debt service coverage ratio. A major objective of the LRFP is to ensure that this strong performance continues into the future through timely and thoughtful financial analysis, budgeting, and planning. As a result of the sound financial planning and Board implemented policies made possible by the LRFP, the District's debt obligations were reaffirmed at "AAA" by both, Fitch Ratings and S&P Global Ratings in November 2021.

INTRODUCTION

The Moulton Niguel Water District (MNWD) was formed on November 16, 1960, under the provisions of the California Water District Law, Division 13, of the Water Code of the State of California, commencing with Section 34000. Prior to the formation of the water district, the lands within the service area were primarily utilized for livestock grazing, with a small area devoted to citrus and field crop production. Limited by the lack of adequate local water supplies, the District was formed by local ranchers in order to secure a reliable water supply for their herds.

In 1961, the District entered into several agreements with surrounding water agencies to bring reliable supplies of water to the area. Among the agreements was one to bring treated water to the District from the East Orange County Feeder Number 2 and the Tri-Cities Transmission Main. The District sold its first waterworks bond for $6,700,000 to fund construction of the imported water pipelines. The construction of the transmission main was a joint project between the District, Tri-Cities Municipal Water District (dissolved in 2000 at which point South Coast Water District assumed operation of the pipelines and infrastructure on a contract basis for what is now identified as the Joint Regional Water Supply System), Irvine Ranch Water District (IRWD), and Orange County Water Works #4 (now the City of San Juan Capistrano). This transmission line was the District's only source of water for many years.

In 1964, an amendment to the California Water District Act was passed which granted water districts the power to provide sewage treatment and water reclamation services. As early as 1968, studies were authorized to consider the use of treated secondary wastewater effluent for use as irrigation for the El Niguel Golf Course. In 1976, the District's 3A treatment plant was the site for the pilot "Bullrush Project" undertaken in conjunction with the Biological Water Purification Company to perform advanced tertiary treatment of wastewater for use on landscapes. Water demand increased as the population continued to grow throughout the 1970s and 1980s.

The District has grown tremendously since its formation. Providing water service to a mere eight accounts when initially formed, the District now provides water, recycled water, and wastewater services to more than 170,000 people within a 37 square mile service area covering portions of six cities in southern Orange County.

As of July 2021, the District service area is largely built-out and includes the cities of Aliso Viejo, Laguna Niguel, Laguna Hills, and Mission Viejo, as well as portions of the Cities of Dana Point and San Juan Capistrano. Though its operations have evolved along with the growth of its service area, the District's primary focus has remained largely unchanged: ensuring ratepayers have a reliable, sustainable, and affordable water supply for the future, while providing for the collection, treatment, and disposal of wastewater in an environmentally responsible manner.
The District's current water needs are met by a combination of imported potable water and recycled water. The District's potable water supply is provided by Metropolitan Water District of Southern California (MWDSC) from two principal sources – the Colorado River via the Colorado Aqueduct and the Feather River Watershed/Lake Oroville in Northern California through the State Water Project (SWP). The recycled water supply is locally sourced and has steadily increased to account for more than 20% of the overall water supply in the District.

As part of the Board policy to improve water supply reliability for the service area, the District jointly participated in the construction of the Baker Water Treatment Plant (Baker), a 28.1 million gallon per day (MGD) potable water treatment facility that receives raw water from MWDSC via the Baker pipeline. The plant began operating in January 2017 and now provides a reliable local potable water supply in the event of emergency conditions or scheduled maintenance on the MWDSC treated water delivery system (Diemer Filtration Plant, Lower Feeder Pipeline, or Allen-McCullough Pipeline). The District owns 13 cubic feet per second of capacity in the plant, representing approximately 9,400 AF, annually. However, the District only budgets 95% capacity (8,930 AF) due to an annual projected 5% downtime for plant maintenance. Water from Baker is delivered through the South County Pipeline.

The District serves areas ranging in elevation from approximately 140 feet to 930 feet above mean sea level through various pressure zones. The District operates and maintains approximately 650 miles of potable water distribution pipelines. In addition, the District has 26 steel and 2 pre-stressed concrete operational storage reservoirs for a total potable water storage capacity within the District of approximately 70 million gallons. The District owns capacity rights in several adjoining water agencies' reservoirs and pipelines, such as: El Toro Water District R-6 Reservoir, Santa Margarita Water District (SMWD) Upper Chiquita Reservoir, Joint Transmission Main (a jointly owned pipeline between the District and other water agencies), Eastern Transmission Main (jointly owned by the District and the City of San Juan Capistrano) and the South County Pipeline, which conveys water from the AMP to several south county water agencies. The District also operates 24 pump stations to pump potable water from lower pressure zones to the higher-pressure zones and 16 pressure reducing stations and flow control facilities to convey water from high to low zones.

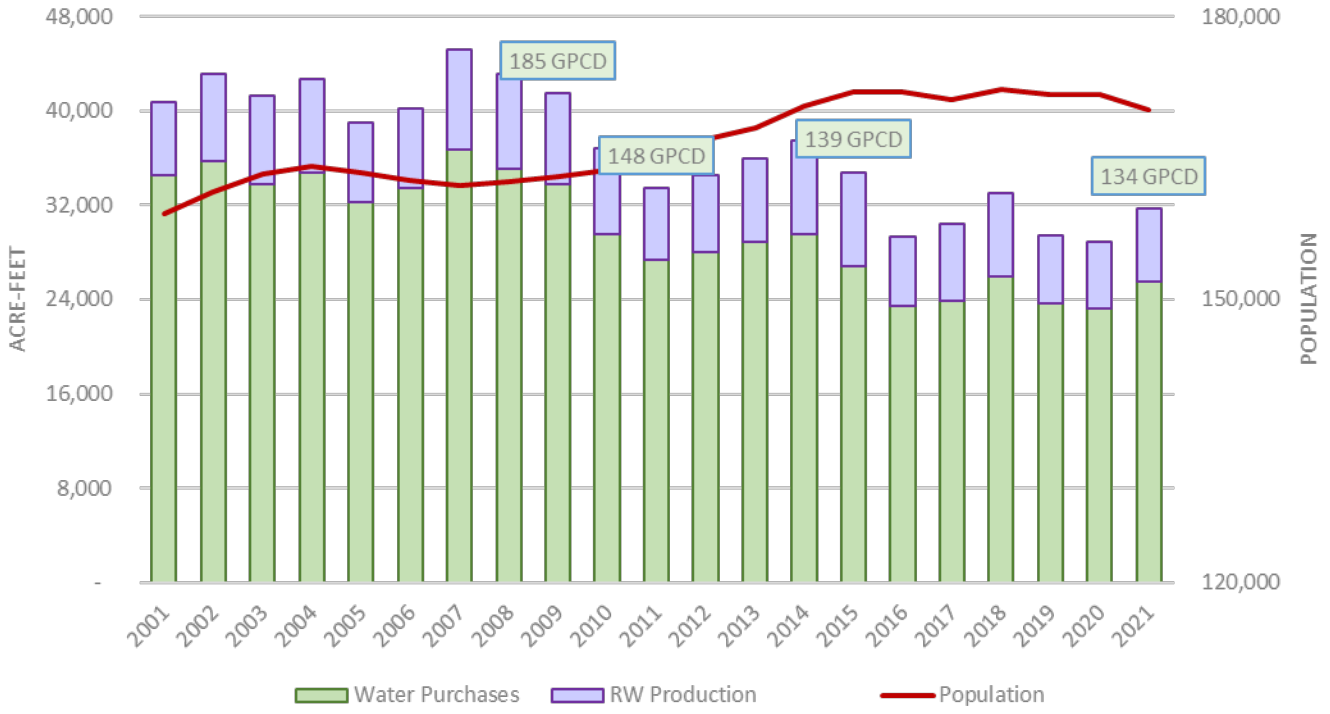
The District maintains approximately 500 miles of wastewater collection pipelines. The District's wastewater system has 17 lift stations that pump wastewater over ridge lines to the various treatment plants for treatment and recycling. The District is a member in the South Orange County Wastewater Authority (SOCWA), a joint powers authority comprised of ten governmental agencies, which operates three regional treatment plants and two ocean outfalls. The District also owns and operates a fourth wastewater treatment facility, Plant 3A.

In 1974, the District became one of the first water providers in Orange County to deliver recycled water for irrigation use. Today, the District owns capacity in two Advanced Wastewater Treatment (AWT) facilities which provide expansive recycled water service for landscaping. The District has constructed 150 miles of recycled water distribution pipelines with five pre-stressed concrete and six steel storage reservoirs to service the recycled water system. The District operates 10 recycled-water pump stations. In addition, the District owns 1,000 acre-feet of capacity rights in SMWD's Upper Oso recycled water reservoir. The projected annual demand of the recycled water system will increase over the next ten years at 50 acre-feet per year from 5,881 acre-feet in FY 2021-22. As a result, about three-fourths of all dedicated irrigation water use is estimated to be met with recycled water over the next ten years. The District continues to target cost effective recycled water conversions, consistent with the findings from the Recycled Water Master Plan.

Since FY 2001-02, MNWD's potable water purchases has averaged approximately 29,804 AF and recycled water production has averaged approximately 7,001 AF for a total annual average water usage of 36,767 AF. The current four-year average (FY 2017-18 to FY 2020-21) potable purchases are at 24,596 AF and 6,119 AF for recycled water production, totaling 30,716 AF average annual usage. This 16% decrease in total water usage is due to effective water efficiency programs and the District's water budget-based rate structure both of which encourage customers to use water efficiently and effectively.

As stewards of the water, wastewater, and recycled water systems and supplies our ratepayers have invested in over the last 61 years, it is our responsibility to ensure the continued reliability of those investments. Ensuring continued system reliability through reinvestment in the District's $2 billion critical infrastructure has remained a priority: nearly 85% of the $47 million in capital expenses budgeted for FY 2021-22 and 88% of the $435 million ten-year Capital Financing Plan can be attributed to the replacement or refurbishment of existing infrastructure. Figure 1 shows the District's water usage and supply as compared to population over the last 20 years.

Figure 1: Historical Water Supply



GOALS & POLICIES

The District is a community oriented, performance driven agency dedicated to serving its customers and the environment with reliable, affordable, and high-quality water and wastewater services. The LRFP furthers these goals by identifying a financial strategy to fund operations and capital investments while meeting the District's financial goals and policies that are detailed below.

Capital Financing Policy

The District shall utilize financing to achieve the following goals:

- Achieve an equitable allocation of operating and capital costs between current and future system users
- Continue to provide manageable rates in the near and medium term
- Minimize rate volatility
- Expedite critical infrastructure projects when needed

Capital financing shall include funding from the following sources: capital reserves, grants, general obligation bonds (historical), revenue bonds, certificates of participation, lease/purchase agreements, and other financing obligations permitted to be issued or incurred consistent with the Board adopted Debt Financing Policy and California law.

Revenues, net of all non-capital expenses should be maintained at a minimum of 175% of the maximum annual debt service for financial planning purposes. Annual adjustments to the District's rates are proposed as necessary to maintain at least the Board adopted 175% debt service coverage ratio. Setting the coverage ratio at this level is central to the District maintaining its strong credit rating, which in turn allows the District to issue bonds at the lowest interest rates. Moulton Niguel Water District is currently rated "AAA" by both S&P Global Ratings and Fitch Ratings.

Reserve Policies

The District has adopted reserves to mitigate potential revenue and expense volatility and reduce the risk of requiring unplanned, large rate adjustments. The reserve policies help to maintain the District's creditworthiness by adequately providing for:

- Economic uncertainties, extraordinary costs, and other financial impacts;
- Revenue uncertainties, such as loss of property tax receipts;
- Disasters or catastrophic events;
- Losses not covered by insurance;
- Compliance with bond covenants; and
- Funding designated infrastructure replacement and refurbishment.

Reserves

The District currently maintains the following reserves:

1. General Operating Reserve
2. Self-Insurance Reserve
3. Rate Stabilization Reserve
4. Emergency Reserve
5. Replacement and Refurbishment Reserve
6. Water Supply Reliability Reserve
7. Planning and Construction Reserve
8. Capital Facilities Restricted Reserve
9. Debt Service Reserves

General Reserves:

1. *General Operating Reserve*
   This reserve is used to provide sufficient liquidity for day-to-day operating expenses and District cashflow needs during normal operations due to normal delays between the payment of expenses and the receipt of revenues. The target balance in the General Operating Reserve is equal to three months of operating expenses, consistent with best practices in the industry for agencies with monthly rate revenue. The General Operating Reserve is maintained in the General Fund (Fund 1).

2. *Self-Insurance Reserve*
   This reserve is used to provide for expenses incurred by the District for the deductible amounts on insurance claims for repairs to facilities by outside contractors and expenses related to the State Unemployment Insurance for unemployment claims made against the District. The target level of the Self-Insurance Reserve is equal to five times the current Joint Powers Insurance Authority (JPIA) property insurance deductible (the current deductible is up to $50,000). The Self-Insurance Reserve is maintained in the Self-Insurance Fund (Fund 4).

3. *Rate Stabilization Reserve*
   This reserve is used to provide funds to smooth out potential fluctuations in water service rates of the District that may result from changes in wholesale water rates. The Rate Stabilization Reserve target level is set equal to 50% of the District's property tax revenue. The Rate Stabilization Reserve is maintained in the Rate Stabilization Fund (Fund 52).

Capital Improvement Reserves:

4. *Emergency Reserve*
   This reserve enables the District to quickly repair critical assets in the event of a natural disaster or facility failure. The target balance of the Emergency Reserve is equal to 2% of the replacement costs of the District's assets as outlined in current guidelines from the Federal Emergency Management Agency (FEMA). The Emergency Reserve is maintained in the General Fund (Fund 1).

5. *Replacement and Refurbishment (R&R) Reserve*
   The R&R Reserve was created to fund the ongoing costs related to the replacement and refurbishment of existing assets in conjunction with the District's Capital Improvement Plan. All amounts are maintained in a separate R&R Fund (Fund 7). Funding for the R&R Reserve will be from new debt issuances or fund transfers as part of the annual budget process.

6. *Water Supply Reliability Reserve*
   The Water Supply Reliability Reserve fund is used for the development of new water or recycled water supplies as identified in the District Capital Improvement Plan. All amounts are maintained in a separate Water Supply Reliability Fund (Fund 12). Funding for the Water Supply Reliability Reserve is from new debt issuances or fund transfers as part of the annual budget process.

7. *Planning and Construction Reserve*
   The Planning and Construction Reserve was created to fund the development of new capital facilities that do not result in new water or recycled water supplies as identified in the District Capital Improvement Plan. All amounts are maintained in a separate Planning and Construction Fund (Fund 14). Funding for the Planning and Construction Reserve will be from new debt issuances or fund transfers as part of the annual budget process.

8. *Capital Facilities Restricted Reserve*
   The Capital Facilities Restricted Reserve was created to fund the development of new district-wide capital facilities or replacement or refurbishment. Funding for the Capital Facilities Restricted Reserve will be from capacity fees charged to new developments or redevelopments to connect into existing assets or expansion of existing sites.

Debt Service Reserves:

9. *Debt Service Reserve*
   The District maintains Debt Service Reserves which are held in trust with a third-party trustee as provided for in bond covenants. Increases and decreases to these reserves will be consistent with bond covenants.

Table 1 presents FY 2021-22 MNWD reserve targets. Reserve targets are based on the District's FY 2021-22 budget. The Capital Improvement Reserves do not have targets but are instead funded annually based on budgeted project expenses.

Table 1. MNWD FY 2021-22 Reserve Targets

Type	Target	
General Operating	$	19,376,112
Self-Insurance	$	225,184
Rate Stabilization	$	15,553415
Emergency	$	35,300,000
Total Reserves	**$**	**70,454,712**

Financial Policies

The General Manager is authorized to implement the following Financial Policies to ensure the financial goals are being achieved in the District's day-to-day operations. Financial Policies are reviewed annually and updated as needed to provide timely updates as public agency laws or external conditions change.

Financial Reporting

All District's accounting and financial reporting systems will be maintained in conformance with all state and federal laws, Generally Accepted Accounting Principles (GAAP), standards of the Governmental Account Standards Board (GASB), and strives to meet the stringent requirements of the Government Finance Officers Association (GFOA) Award for Excellence in Financial Reporting requirements.

An Annual Audit will be performed by an independent public accounting firm; with an Audit Opinion to be included with the District's published Comprehensive Annual Financial Report.

Financial Plans

The District will continue to utilize internally developed short-term financial planning tools, while continuing to emphasize long-range planning and ongoing effective District management.

District Staff maintains a monthly cashflow model to forecast temporal distributions of cash inflows and outflows and ensure that there are sufficient liquid funds available for anticipated expenses as they are needed throughout the year. District finance staff receive monthly capital expense projections from the engineering department and update the monthly cashflow model to identify anticipated cashflow shortfalls and coordinate portfolio restructurings with the District's asset management group as needed. This regular and proactive communication between departments has allowed the District to maximize its investment earnings as cash reserves are drawn down between planned bond issuances.

The objective of the LRFP is to identify strategies and actions to ensure sufficient financial resources to enable the District to achieve its mission and to utilize those financial resources effectively. The plan projects the operating budget and incorporates the capital improvement program in order to determine the financial impact of future operating and capital needs and develops strategies to address those needs. Hence, the District's operating budget serves as a key input into the long-range financial outlook for the District. Additionally, the District's ten-year cashflow summary serves as key contextual information to aid in making near-term financial decisions.

The long-range financial planning model (also known as the Ten-Year Cash Flow Model or Model) is a working model that is regularly updated to reflect changes in existing assumptions and future outlooks to create adaptive financial management strategies. The long-range planning and annual operating and capital budgeting processes are interrelated and form a single planning and budgeting system.

Budget Appropriations

The District maintains a balanced operating budget for all funds with total ongoing revenues equal to, or greater than, total ongoing expenditures. At year-end, all funds will have a positive fund balance and the General Fund reserve balance is maintained as required.

Enterprise Funds - Rates

The District will set water, recycled water, and wastewater rates at levels which, in addition to other revenues and available cash balances, fully recover the total direct and indirect costs of providing these services – including operations and maintenance, capital outlay, reserve requirements, and cash flow and debt service requirements.

The District will review and adjust enterprise fees and rate structures as required to ensure that they remain appropriate, equitable and reflect the cost of service.

Article XIII D of Proposition 218 requires that fees for water and wastewater services meet strict cost of service requirements including:

1. Revenues for the fee cannot exceed the cost to provide the service
2. Revenues for the fee cannot be used for something other than what the fee was imposed for
3. Property owner must be able to use or have service immediately available to them

In addition to meeting the requirements of Prop. 218, the District's water budget-based rate structure is designed to encourage the beneficial uses of water and prevent the unreasonable use of water, consistent with California Constitution Article X Section 2: *"It is hereby declared that because of the conditions prevailing in this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare. […]."*

Capital Management – Infrastructure

The District will maintain a long-range fiscal perspective through the use of a Capital Improvement Plan (CIP) to maintain the reliability of its water and wastewater infrastructure. The purpose of a long-term CIP is to systematically plan, schedule, and finance capital projects to ensure cost-effectiveness, as well as conformance to established District policies. The CIP will be updated annually in conjunction with the District's budget preparation, including anticipated funding sources.

Risk Management

The District will identify and quantify all areas of financial and operating risk, and prepare contingencies for those risks, including legal liabilities, infrastructure maintenance, refurbishment and replacement of assets, emergency response, and contract and employee obligations.

Investments

Investments and cash management are the responsibility of the District Treasurer or designee. The District's primary investment objective is to achieve a reasonable rate of return while minimizing the potential for capital losses arising from market changes or issuer default. Accordingly, the following factors will be considered in determining individual investment placements: safety, liquidity, and yield. The priorities of these factors are further established by the adopted Statement of Investment Policy.

Procurement

The purchasing and procurement system will encourage transparency and sufficient fiscal controls on all purchases and sales to the extent required by law for Special Districts or by District policy competition. The District's Purchasing Policy was last updated in June of 2021.

MODELING ASSUMPTIONS

The District's Ten-Year Cash Flow Model uses the most recent financial information, contract terms and the Board adopted budget to serve as the basis for future year projections. The District's fiscal year (FY) starts July 1 of each year. For example, Fiscal Year 2021-22 goes from July 1, 2021 to June 30, 2022.

The Model employs assumptions to calculate future year revenues, expenses, and cash balances. Model assumptions are reviewed as necessary and each time the Model is significantly updated. Unless more appropriate sources exist, the District utilizes inflation projections from the California Department of Finance for the Los Angeles region.

Staff and consultants reviewed and revised the Model assumptions for the 2021 Long-Range Financial Plan. The water purchase cost assumptions are detailed later in Table 14.

Inflation Assumptions – Expenses

Table 2: Inflation Factors – Expenses

Inflation Factors	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31
General – Expenses	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	1.8%	1.8%	1.8%	1.8%
Salaries & Benefits										
Salaries	3.6%	5.7%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%
Benefits – Medical	5.2%	5.4%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%
Benefits – Dental	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%
Benefits – CalPERS	10.9%	4.5%	5.7%	6.6%	2.0%	1.6%	1.9%	1.6%	1.6%	1.9%
Benefits – Other	2.8%	4.3%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%
Insurance										
Insurance – District	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	1.8%	1.8%	1.8%	1.8%
Insurance – Personnel	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%
Operating Costs										
Operations – Utilities	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	3.6%	3.6%	3.6%	3.6%
Operations – SOCWA	3.3%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%
Capital Costs										
Capital – District	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

General - Expenses

General inflation factors used in the Model are shown in Table 2. Updated Consumer Price Index factors used are from data provided by the California Department of Finance with the most recent update in April 2021.

Salaries & Benefits

Salaries: costs are assumed to vary by year in the Model, consistent with the salary adjustment terms of the Memorandum of Understanding (MOU) with the Moulton Niguel Water District Employee Association. The MOU became effective June 24, 2017 and is based on historical employee performance. The 2017 MOU was extended for two years (FY 2021-22 and FY 2022-23) with the following increases:

- FY 2021-22 percent increase assumes a 2% Cost of Living Adjustment (COLA) and performance-based salary increases.
- FY 2022-23 percent increase assumes a 2% COLA and performance-based salary increases.

Salaries related costs are expected to increase 4.5% for the next 8 years or until a new MOU has been established. The District has been very proactive throughout the years to ensure that costs associated with salaries are appropriate to retain a quality work force while being fiscally prudent.

Benefits: there are four benefits cost categories in the Model, each with its own assumed rate of inflation. Benefits costs for FY 2021-22 have been updated based on actual plan elections by staff who were hired during FY 2020-21. Inflation rates for FY 2021-22 are shown to illustrate the recalibration of forecasting assumptions in the Model.

1. *Benefits – Medical:*
   The District's share of employee health care plan premiums. Initial health insurance increases proposed for the FY 2021-22 HMO and PPO plans was at 14.5%. The District responded to rising premiums by issuing a Request for Proposals to ensure its health insurance costs remain competitive. As a result of this process, health plan premiums will only increase an average of 5-6% above current rates. Per the terms of the MOU, employees and the District share future total plan cost increases on a 50/50 basis. An inflation rate of 5.5% has been assumed for all years: staff considers this to be a conservative estimate based on historical rate trends for District premiums, continued cost sharing of plan premium rate increases, uncertainty regarding future healthcare reform and legislation.

2. *Benefits – Dental:*
   The costs associated with dental plan premiums the District pays on behalf of its employees. All plan costs are paid entirely by the District. Baseline dental plan cost assumptions for FY 2021-22 have been adjusted upward to reflect current rates. An inflation rate of 5.5% has been assumed for all years: staff considers this to be a conservative estimate based on historical rate trends for District premiums, continued cost sharing of plan premium rate increases, uncertainty regarding future healthcare reform and legislation.

3. *Benefits – CalPERS:*
   The District's contribution to employee retirement plans, both the unfunded liability payment and normal cost payments are included. This fiscal year is the sixth year of full cost-sharing between the District and its employees. Based on recent CalPERS actuarial valuations, the District has a funded ratio of 74.3% of the present-value of its projected benefits. The District's current funding ratio is above average in the industry. Inflation assumptions for FY 2021-22 through FY 2022-23 are based on the terms of the MOU and future years are based on actuarial forecasts of annual contribution requirements over the next 30 years.

4. *Benefits – Other:*
   The benefits costs that do not fall into the other three categories or which may not require more specific assumptions.

Insurance

Inflation assumptions related to insurance have been grouped into two distinct categories to reflect the different nature of the underlying costs.

1. *Insurance – District:*
   Premiums the District pays to insure its facilities and assets against damage or other loss. The District maintains several broad insurance policies through its membership with Association of California Water Agencies Joint Powers Insurance Authority (ACWA/JPIA). To reflect the large risk-sharing pool and premiums-based incentives for reducing claims, inflation assumptions for all future years have been set equal to General – Expenses as any future rate increases would likely be tied to new asset purchases.

2. *Insurance – Personnel*:
   District's contribution to employee welfare and safety-net programs, such as: Workers' Compensation, Medicare, Federal Insurance Contributions Act (FICA), short and long-term disability, and State Unemployment Insurance. Workers Comp premiums for District employees are based on a formula that accounts for a number of operational factors that are intended to capture the relative claim risk among the ACWA/JPIA member agencies and allocates the total pool premium accordingly. The "Experience Modification Rate" or "E-Mod" reflects an agencies overall level of safety and is adjusted up or down annually based on the number and severity of claims. As the District has increased its emphasis on worksite safety and training for field staff, the number of claims the District has made have gone down and as a result, the District's E-Mod is 0.82, paying only 82% of the standard premium. All 10 years assume a 5.5% annual increase to maintain consistency with healthcare cost inflation assumptions.

Operations

1. Operations – Utilities:
   Electricity dominates the District's utility expenditures and utilities use the same factor as general inflation (based on Los Angeles-area CPI data). Over the past few years, recent electricity prices statewide and in southern California have remained stable or grown slowly with overall inflation. Escalating utilities at the rate of general inflation is therefore a conservative estimate for electricity.

2. Operations – SOCWA:
   Inflation factor assumptions related to South Orange County Wastewater Authority operations are based on annual cost estimates provided by SOCWA finance staff. Annual operating expense projections vary significantly from year to year, which greatly impairs the development of robust inflation assumptions for this major cost component. Due to the variety of expenses bundled into SOCWA's operating costs and method of allocating those costs to its member agencies, more consistent projections of annual costs are not available and inflation assumptions based on California Department of Finance estimates have not been sufficient to capture the substantial and frequent revisions that have been made to operating cost projections over the rate study period. Despite the significant probability of future revisions to annual SOCWA-related operating costs, staff does not recommend utilizing finance industry-standard assumptions as an alternative to SOCWA projections as there is no historical precedent which would warrant such a large assumption.

Capital

The Capital Improvement Plan inflation rate is assumed to be 0% in order to reflect both the uncertainty in future capital expenses and potential project cost savings.

Inflation Assumptions – Revenues

Table 3: Inflation Factors – Revenues

Inflation Factors	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31
Revenue Assumptions										
General – Revenue	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Property Tax	3.1%	3.0%	3.4%	3.8%	3.8%	3.63%	3.5%	3.5%	3.5%	3.5%
Investment Returns	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	2.0%	2.0%	2.0%	2.0%
Capacity Fees	-87.9%	238.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Property Lease Revenue	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.74	3.7%

General – Revenue

Non-rate related operating revenues are assumed not to increase above present values over the planning horizon of the Model. Staff considers this assumption both appropriate and conservative as the majority of these revenue sources are related to either: daily operations activity (e.g. sale of scrap metal or other materials), for which increases in revenue would likely be offset by increased cost of the underlying activity; or user fees related to customer service, which would only increase as a result of customer base growth or an active policy decision to increase the dollar amount of user fees.

Property Tax

Revenues from property tax are assumed to increase annually over the planning horizon of the Model. Property tax revenue for the District has continued to increase over the past four years. This has been a key component of the District's revenue base and has provided customers with some of the lowest water rates in South Orange County. Local property tax forecasts suggest about a 4% increase year over year; however, a more conservative estimate of future growth is assumed in the Model to reflect the use of property tax revenues in the development of the District's tiered rate structure. Also, the District maintains a Rate Stabilization Reserve which reduces the financial exposure resulting from a sudden reduction in property tax revenue that would otherwise warrant an even more conservative estimate of future revenue.

Investment Income

The District has adhered to the financial plan outlined in the 2017 Long-Range Financial Plan and has effectively leveraged its available unrestricted cash balances to minimize rate impacts to customers during the transition from infrequent to regular rate revenue adjustments. The planned spenddown of unrestricted cash balances has reduced the District's investment income; however, enhanced coordination between District departments has increased the accuracy of short and long-term cashflow forecasts, allowing the District's Investment Advisor to confidently restructure its investment portfolio to meet short-term liquidity needs and mid-term cash funded Capital Improvement Program costs, while maintaining long-term earnings. The assumed 1.75% factor was developed in coordination with the District's Investment Advisor and reflects realistic expectations of portfolio performance over the planning horizon.

Capacity Fees

Annual capacity fee inflation assumptions are based on development forecasts maintained by the District's private development group and reflect anticipated development within the service area over a ten-year period. The District's private development group actively works with the District's local cities to develop its ten-year forecast.

Property Lease Revenue

The main source of revenue is from cell site carriers placing antennas and equipment on reservoir properties and other District locations. These communications facilities are distributed among 17 sites. Many cell carriers are merging and no longer need duplicative sites. However, due to the changes in license fees, revenues are projected above historical levels at $2.0 million through FY 2030-31. The Model accounts for the contracted amounts from retained sites and the decommissioning of sites as the lease contracts expire.

Water Supply Assumptions

The water supply portfolio used to project the cost of the water is based on available water deliveries from Baker Water Treatment Plant (Baker) and Diemer Treatment Plant from Metropolitan Water District of Southern California (MWDSC). In addition, as a part of its Long-Range Water Reliability Plan, the District has evaluated other long-term projects to further reduce District demand of imported supplies. In FY 2016-17, Baker started operations and ramped up to full capacity in FY 2017-18. The Baker Water Treatment plant can provide the District with approximately 8,908 acre-feet annually from treating raw MWDSC water. The District projects a constant 7% for water losses (non-revenue water). Non-revenue water may consist of water used on District properties, water used for operational purposes such as hydrant flushing, or water loss due to leaks or meter inaccuracies. In an effort to reduce costs from non-revenue water, the District has implemented several water loss control programs. The Water Supply Portfolio differs slightly from the Urban Water Management Plan projections as a result of increase water loss efforts, such as dull-time water loss detection crew, regular meter testing, pressure reduction studies, and Advanced Metering Infrastructure-driven apparent loss detection.

The year-to-year, overall water demand is projected to remain relatively flat with potable water usage decreasing slightly, replaced by recycled water usage.

Table 4: Water Supply Portfolio

Water Supply Usage	**FY 2021-22**	**FY 2022-23**	**FY 2023-24**	**FY 2024-25**
Usage (AF)	21,723	21,673	21,623	21,573
Non-Revenue Water	7.00%	7.00%	7.00%	7.00%
Total Demand w/ Water Loss (AF)	23,358	23,304	23,250	23,197
Supply Portfolio				
Diemer Treatment Plant (AF)	14,450	14,396	14,342	14,289
Baker Treatment Plant (AF)	8,908	8,908	8,908	8,908

Table 5 below shows the projected supply cost rates with annual escalation factor between 3-5%. In the Management of Financial Risk section of this document, the Model evaluates an additional scenario at a maximum 10% annual increase. These scenarios provide bounds on how volatile cost trends could impact District operation, absent policy tools.

Table 5: Projected Rates and Charges

Projected Rates and Charges	**FY 2021-22**	**FY 2022-23**	**FY 2023-24**	**FY 2024-25**	**FY 2025-26**
MWD Treatment Variable Rate ($/AF)	$1,103.28	$1,155.63	$1,207.71	$1,257.48	$1,295.94
MWD Untreated Variable Rate ($/AF)	$766.93	$804.68	$846.98	$881.01	$914.06
Baker Variable Costs ($/AF)	$109.79	$111.99	$114.23	$116.51	$118.84
Baker Fixed Costs	$858,979	$876,159	$893,682	$911,556	$929,787
MWD Readiness-to-Serve Charge	$1,448,126	$1,448,126	$1,515,169	$1,583,420	$1,686,911
MWD Capacity Charge	$457,317	$457,317	$609,756	$615,176	$623,324
MWDOC Annual Connection Charge	$685,139	$702,564	$720,163	$737,929	$755,850

Table 5 (continued): Projected Rates and Charges

Projected Rates and Charges	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31
MWD Treatment Variable Rate ($/AF)	$1,327.26	$1,360.16	$1,395.36	$1,435.99	$1,484.60
MWD Untreated Variable Rate ($/AF)	$945.41	$978.35	$1,013.58	$1,054.24	$1,097.40
Baker Variable Costs ($/AF)	$121.22	$125.60	$130.14	$134.84	$139.71
Baker Fixed Costs	$948,383	$982,639	$1,018,133	$1,054,909	$1,093,014
MWD Readiness-to-Serve Charge	$1,717,959	$1,831,799	$1,852,498	$1,852,498	$1,926,598
MWD Capacity Charge	$651,842	$651,842	$651,842	$651,842	$677,916
MWDOC Annual Connection Charge	$773,918	$792,417	$811,357	$830,749	$850,603

Utilizing all the factors detailed above results in the annual operating revenue requirement projections shown in Table 6. FY 2022-23 and beyond are projected based on the costs in FY 2021-22.

Table 6: Revenue Requirements

Projected Revenue Requirements	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Water – Imports & Production	$28,143,825	$29,240,558	$30,588,087	$31,677,550	$32,629,286
O&M – General	$25,702,212	$26,158,477	$26,498,506	$27,162,486	$27,475,588
Staffing Resources	$22,901,953	$23,949,051	$25,308,448	$26,776,525	$27,902,843
Projected Revenue Requirements	**FY 2026-27**	**FY 2027-28**	**FY 2028-29**	**FY 2029-30**	**FY 2030-31**
Water – Imports & Production	$33,408,387	$34,306,741	$35,164,161	$36,124,751	$37,318,271
O&M – General	$28,112,988	$28,514,384	$29,242,038	$29,623,092	$30,331,017
Staffing Resources	$29,064,149	$30,290,686	$31,557,712	$32,880,850	$34,277,195

Debt Financing Assumptions

In evaluating future financing needs, the Model makes assumptions on the initial and ongoing costs associated with issuing debt. Below in Table 7 are the projected terms for debt issuance mechanisms the District has historically implemented. These are based on conservative estimates of long-term trends. The District will work with its Financial Advisor and financing team to secure the optimum rates and terms at the time of issuance.

Table 7: Debt Mechanism

Debt Mechanism	Interest Rate	Term (Years)	Issuance Cost
Certificate of Participation	3.5%	30	$250,000

REVENUE REQUIREMENTS & CURRENT REVENUE

Revenue Requirements

The revenue requirements for the District are composed of three components:

1. Annual operating costs that rise in proportion to specific inflators, outlined in Figure 2;
2. Capital costs that are one-time expenses, such as new infrastructure; and,
3. Debt Service Payments.

Figure 2 below shows combined operating and capital revenue requirements for FY 2021-22, the first year of the model while Table 8 shows the summary of district-wide revenues, proposed debt issuances, and revenue requirements.

Figure 2: Current Revenue Requirements

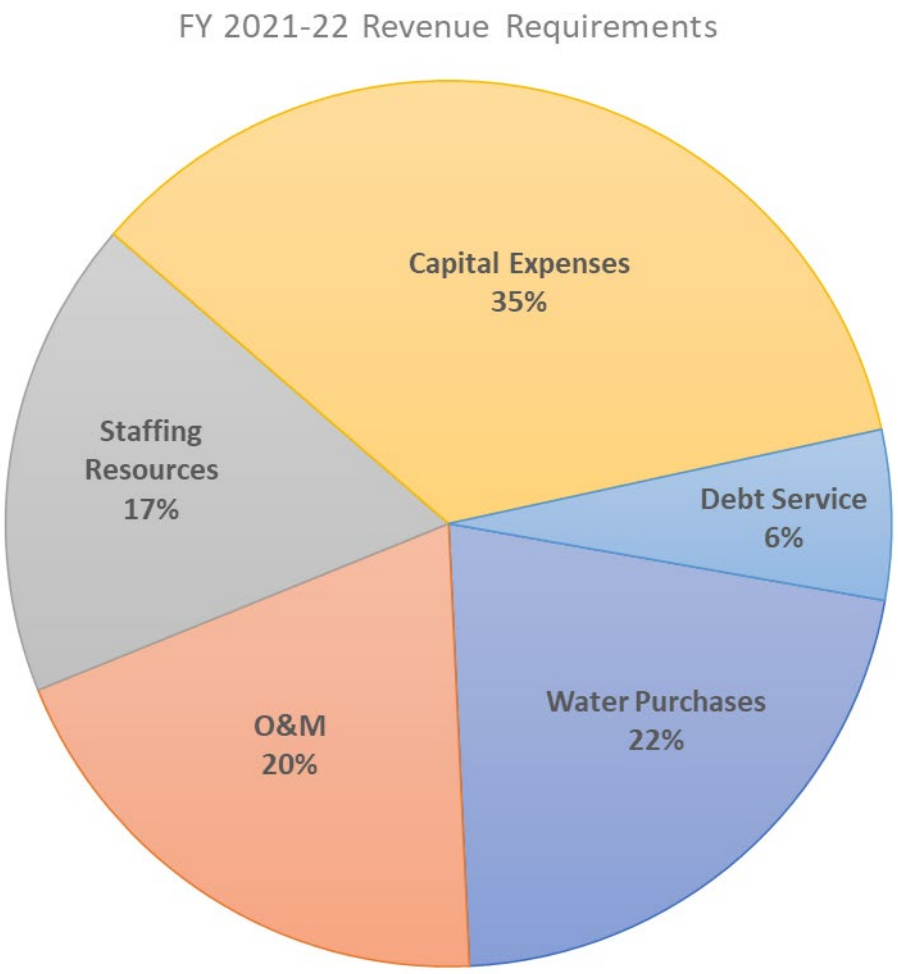


Table 8: Current Revenue and Revenue Requirements

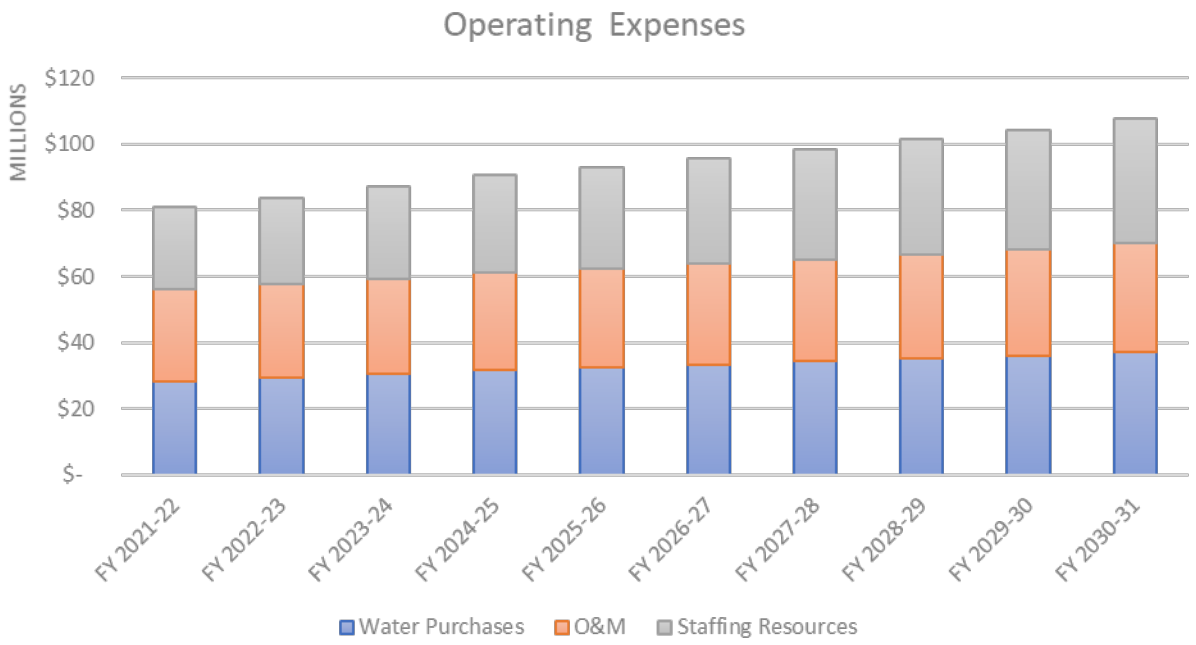
	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Current Rate Revenue	$63,609,952	$65,340,092	$67,135,011	$68,997,432	$70,930,205
Proposed Adjustments	$2,565,708	$2,632,913	$2,702,843	$2,775,623	$2,851,384
Non-Rate Revenue	$36,882,540	$37,995,254	$38,574,548	$40,199,979	$41,902,706
Bond Issuance	$60,000,000	-	-	$75,000,000	-
Debt Service	$8,114,435	$11,171,162	$11,167,237	$10,809,737	$14,880,337
Operating Expenses	$76,747,991	$79,348,085	$82,395,041	$85,616,560	$88,007,717
Capital Expenses	$45,801,141	$59,271,430	$40,671,636	$36,042,792	$37,766,373

	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31
Revenue					
Current Rate Revenue	$72,936,308	$75,018,858	$77,181,116	$79,426,495	$81,758,563
Proposed Adjustments	$2,930,263	$3,012,403	$3,097,957	$3,187,083	$3,279,946
Non-Rate Revenue	$42,862,642	$44,780,701	$46,559,832	$47,639,002	$48,811,563
Bond Issuance	-	$83,000,000	-	-	-
Revenue Requirements					
Debt Service	$14,879,212	$14,873,712	$19,386,157	$19,375,532	$19,374,157
Operating Expenses	$90,585,524	$93,111,810	$95,963,911	$98,628,692	$101,926,483
Capital Expenses	$44,771,052	$45,383,406	$40,858,841	$38,477,822	$30,316,924

The following figures and charts will break down the overall revenues and revenue requirements into their components and the next section will show the plan moving forward. Operations and maintenance expenses in the Long-Range Financial Plan use actual FY 2020-21 expenses and budgeted expenses for FY 2021-22. Operating expenses for FY 2022-23 through FY 2030-31 are projected based on the inflation factors discussed in Modeling Assumptions.

Figure 3 depicts a breakdown of operating costs over the next 10 years into their major components.

Figure 3: Operating Expenses



The largest operating expense is water purchases, projected to increase 33% by FY 2030-31. Currently, the District purchases all its potable water supply from MWDSC via MWDOC. In 2016, the regional Baker Water Treatment Plant came online and met 36% of FY 2020-21 potable water demand. Over the next ten years, Baker is estimated to meet approximately 38% of potable water demand. In FY 2021-22, Recycled water production is estimated to meet 25% of total water demand and is projected to grow at a rate of 50 AF until FY 2029-30 and remain constant thereafter.

Operations and maintenance of all three systems increases 17.6% by FY 2030-31. Given the significant annual financial contributions to wastewater treatment, there is a growing need to ensure the District's ratepayers receive high-quality and cost-effective wastewater treatment services from its contract service providers. It is imperative that the treatment of wastewater be closely monitored to ensure compliance with all regulations, protection of public health and the local environment, and financial accountability and transparency for the benefit of all the District's ratepayers. As the projected costs for wastewater treatment continue to increase, the District intends to review opportunities to identify the most effective ways to treat wastewater and managing costs to do so.

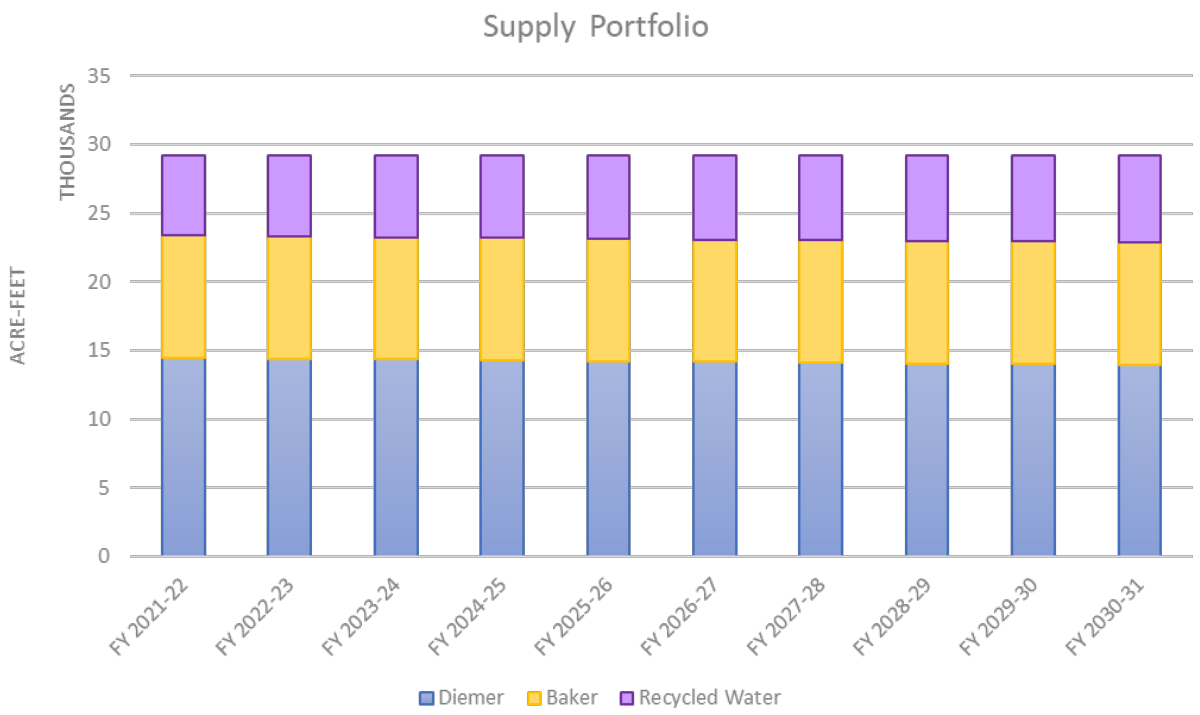
Lastly, staffing resources, which includes salaries and benefits will increase 50% by FY 2030-31, but may vary depending on the terms of future MOUs and necessary staffing resources.

The Model has the capability to analyze the financial impacts of a mixed portfolio with specified supply allocations based on projects such as expanded recycled water deliveries, emergency interconnections, or groundwater exchange programs (the District anticipates spending approximately $750,000 on a study for a joint project with Orange County Water District), as well as potential for direct portable reuse.

The supply portfolio presented below is the base case used unless specified in a given scenario. For example, if the groundwater exchange program can provide additional supplies.

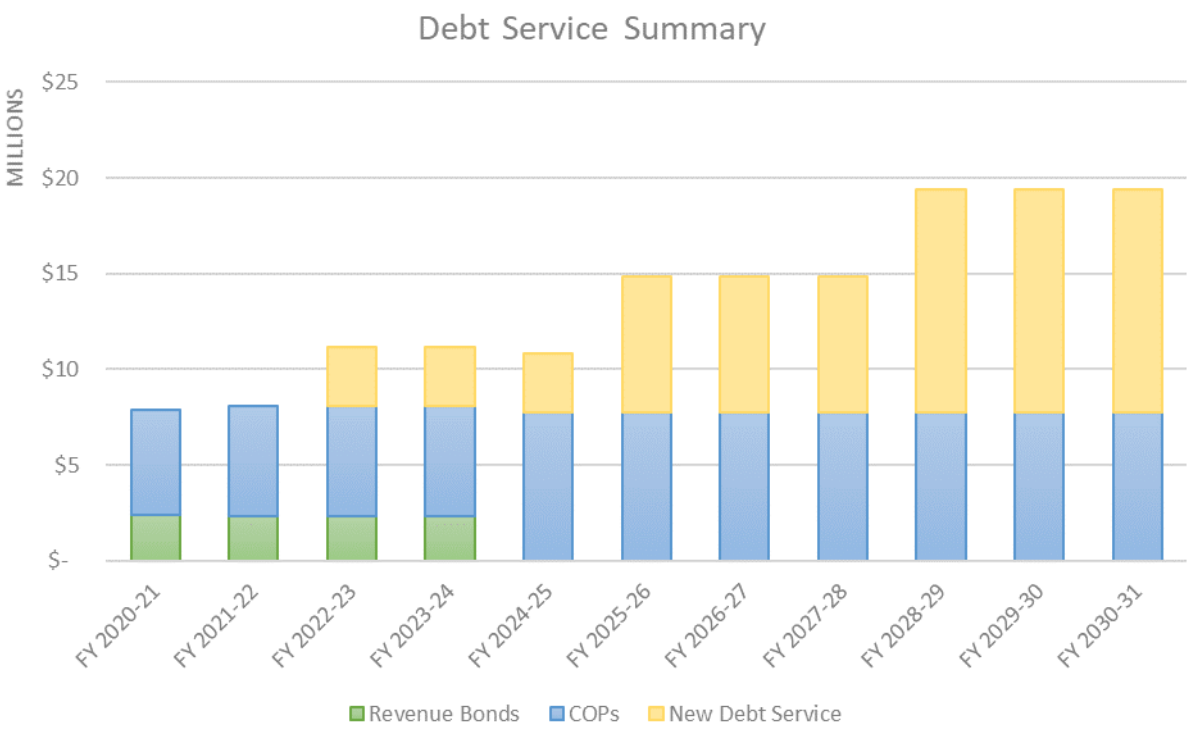
Figure 4 shows the base case forecast water supply portfolio. The overall demand will remain consistent at 30,000 acre-feet.

Figure 4: Supply Portfolio



The financial plan includes the existing debt service schedules and projected issuances intended to smooth out large, expected capital project costs over the life of the assets. Figure 5 provides a breakdown of existing debt service by issuance type and projected debt issuances of $60 million in FY 2021-22, $75 million in FY 2024-25, and $83 million in FY 2027-28 to fund capital expenditures and smooth rate adjustments in the term.

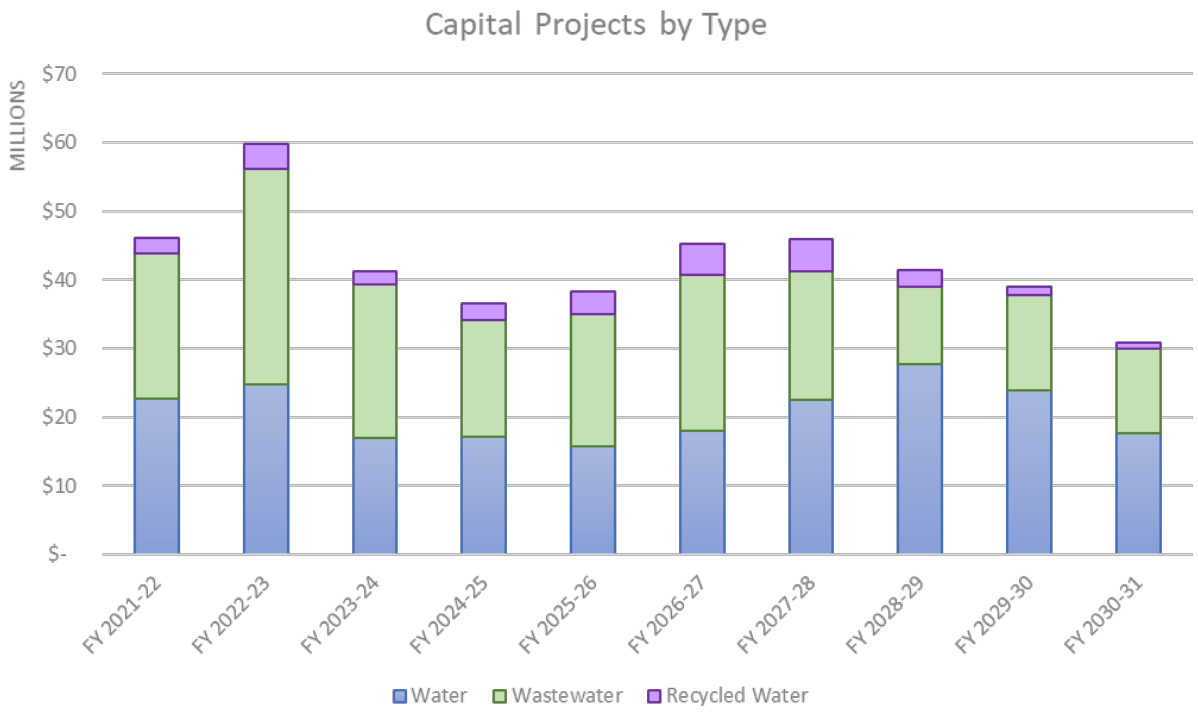
Figure 5: Debt Service Summary



Capital expenses projected for Fiscal Years 2021-22 through 2030-31 are from the District's Capital Financing Plan. Due to forecasted replacement and rehabilitation as well as large regional capital projects, the District has an expected CIP of approximately $611 million over the next 10 years. While the District reviews its 10 Year CIP annually, on-going operations, maintenance, and regular condition assessments of the District's infrastructure may require updates to the CIP which may necessitate changes in the schedule of investments.

Figure 6 provides a summary of the major capital expenses in the District's 2021 Capital Financing Plan.

Figure 6: Capital Projects Summary



Current Revenues

The two largest sources of revenue are rate revenues from the three systems (water, recycled water, and wastewater) and ad valorem property tax. Rate revenues for both water and wastewater are composed of fixed and variable charges (except Fire Protection, which is fixed charge only). Each type and class are defined below.

Water Rates

The fixed fee for providing water service to customers is based on the size of the water meter. Table 9 lists the fixed, monthly service charge for all account class in 2021.

Table 9: Fixed Monthly Water Service Charges Effective January 1, 2021 ($/Meter)

	Single-family Residential	Multi-family Residential	Commercial	Potable Irrigation	Recycled Irrigation	Fire Protection*
5/8”	$9.77	$10.26	$3.71	$15.72	$15.72	$4.69
3/4"	$9.77	$10.26	$3.71	$15.72	$15.72	$4.69
1”	$9.77	$10.26	$3.71	$15.72	$15.72	$4.69
1.5”	$32.56	$22.45	$12.36	$52.41	$52.41	$15.64
2”	$52.10	$32.90	$19.77	$83.86	$83.86	$25.02
2.5”	-	-	-	-	-	$39.88
3”	$113.98	$66.00	$43.25	$183.45	$183.45	$54.75
4”	$195.39	$109.55	$74.14	$314.48	$314.48	$93.85
6”	$407.06	$222.78	$154.46	$655.16	$655.16	$195.51
8”	$586.16	$318.59	$222.42	$943.43	$943.43	$281.54
10”	$944.36	$510.22	$358.35	$1,519.98	$1,519.98	$453.59

*Fire Protection Water Service Charges are only assessed a fixed charge, based on connection size.

The variable fee is based on the amount of water used by the class type.

1. **Residential: Single Family and Multi-Family**
   The current water volumetric rate structure is composed of five tiers. Table 10 shows the tiered rates for residential accounts, effective January 1, 2021.

Table 10: Residential Tier Width Rates Effective January 1, 2021 ($/hcf)

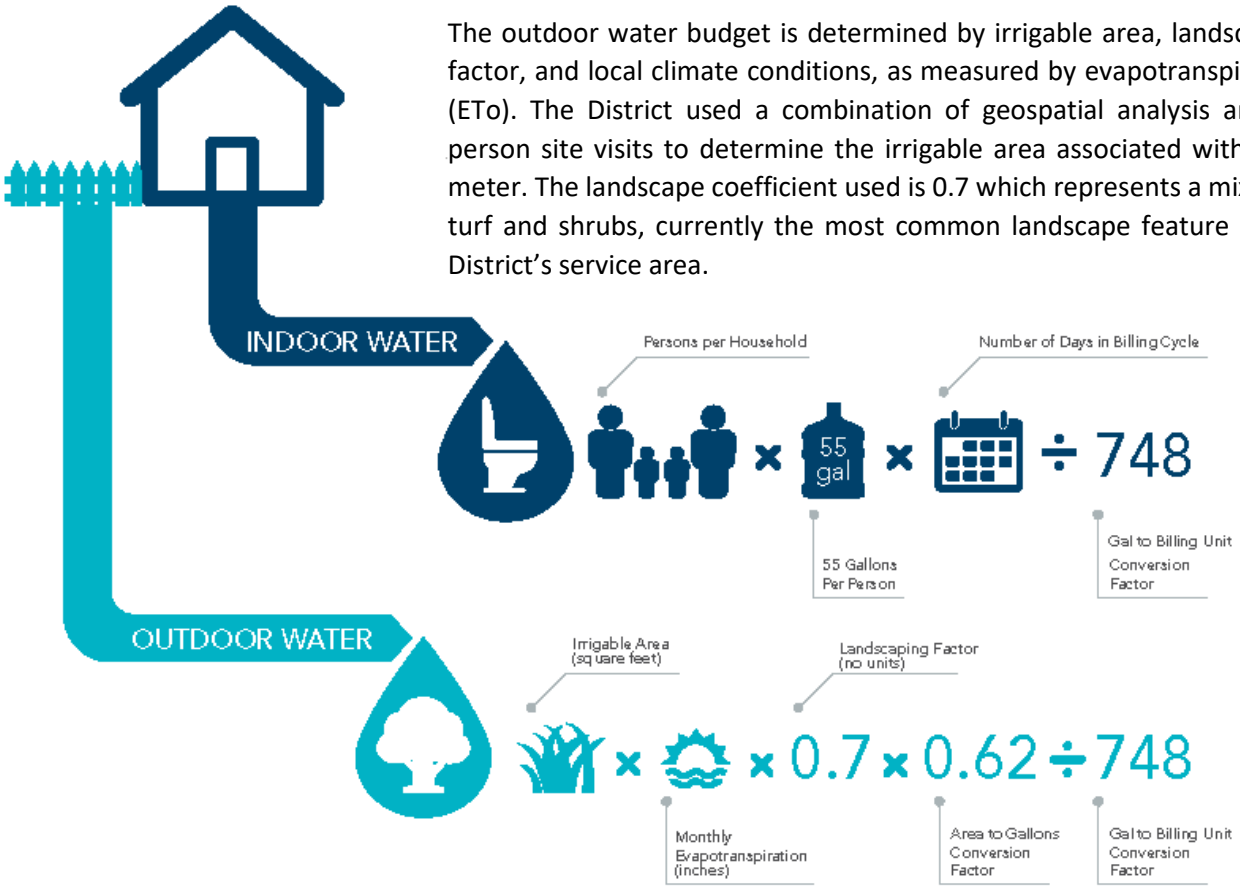
Tier	Allocation	Rate (per hcf)
1	Indoor Water Budget	$2.08
2	Outdoor Water Budget	$2.42
3	101-125% Total Water Budget	$3.59
4	126-150% Total Water Budget	$5.39
5	Over 150% Total Water Budget	$9.86

Tier 1 = Indoor Water Budget

The indoor water budget is determined by first allocating 55 gallons per capita per day (GPCD) for efficient indoor use, multiplying that allocation by the number of days in the billing cycle and the number of people in the household. The conversion factor converts from gallons to hundred cubic feet (hcf), which is the billing unit (BU). Customers report the number of people in their household when activating an account, but the median household are 4 people for single family and 2-3 people for multi-family housing.

Tier 2 = Outdoor Water Budget

The outdoor water budget is determined by irrigable area, landscaping factor, and local climate conditions, as measured by evapotranspiration (ETo). The District used a combination of geospatial analysis and in-person site visits to determine the irrigable area associated with each meter. The landscape coefficient used is 0.7 which represents a mixed of turf and shrubs, currently the most common landscape feature in the District's service area.



2. Commercial & Irrigation

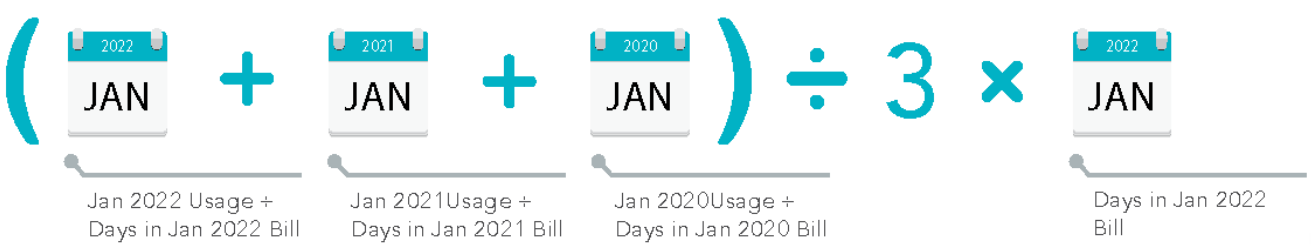
The current water volumetric rate structure for commercial and irrigation is composed of four tiers. Table 11 shows the tiered rates for commercial and irrigation accounts, effective January 1, 2021.

Table 11: Commercial and Irrigation Tier Width Rates Effective January 1, 2021 ($/hcf)

		Commercial	Potable Irrigation	Recycled Irrigation
Tier	**Allocation**			
1	Total Water Budget	$2.42	$2.42	$1.63
2	101-125% Total Water Budget	$3.59	$3.59	$3.05
3	126-150% Total Water Budget	$5.39	$5.39	$4.85
4	Over 150% Total Water Budget	$9.86	$9.86	$9.32

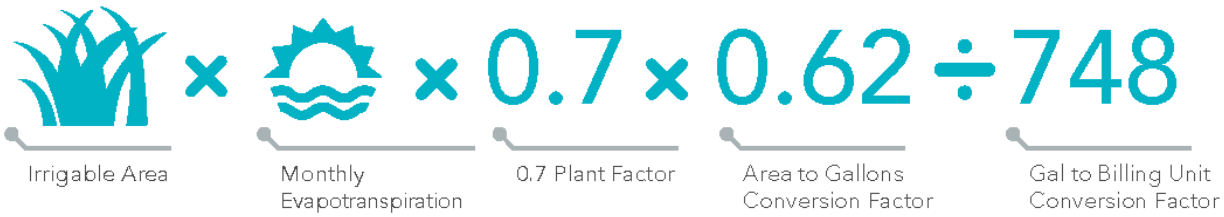
Commercial Accounts

To determine the total water budget for commercial meters, the District uses a rolling average of the current month's usage and the respective monthly usage from the past two years to determine the total water budget (with a minimum budget of one billing unit). This 3-year rolling monthly average accounts for typical monthly usage for commercial customers as well as for potential increases in business activity or recent efficiency improvements that may have occurred within the current month.



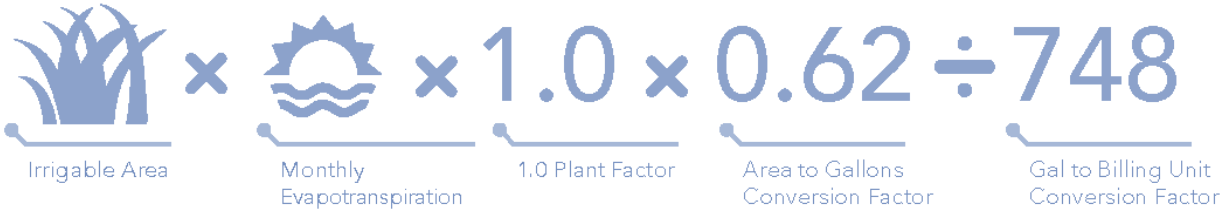
Irrigation Accounts (Potable and Recycled Water)

For all **potable water** irrigation meters, total water budget is calculated as follows:



Total water budgets for areas irrigated with **recycled water** are calculated similarly to potable irrigation budgets; however, budgets for recycled irrigation have a higher landscape factor to account for the additional salinity of recycled water.

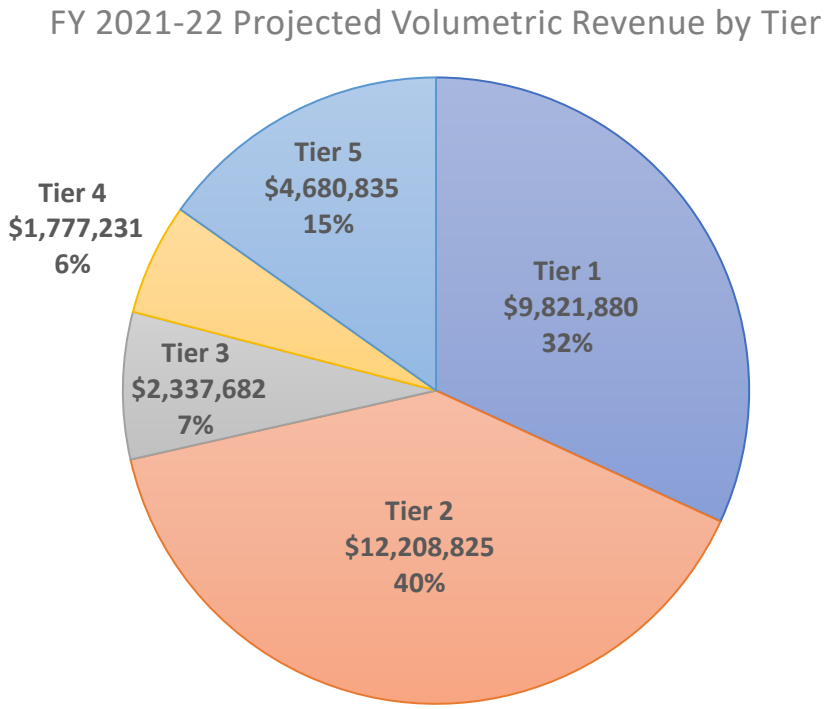
The same calculation applies to total water budgets for potable water **and** recycled water for areas defined as public spaces which includes public parks, but with a landscape factor of 1.0.

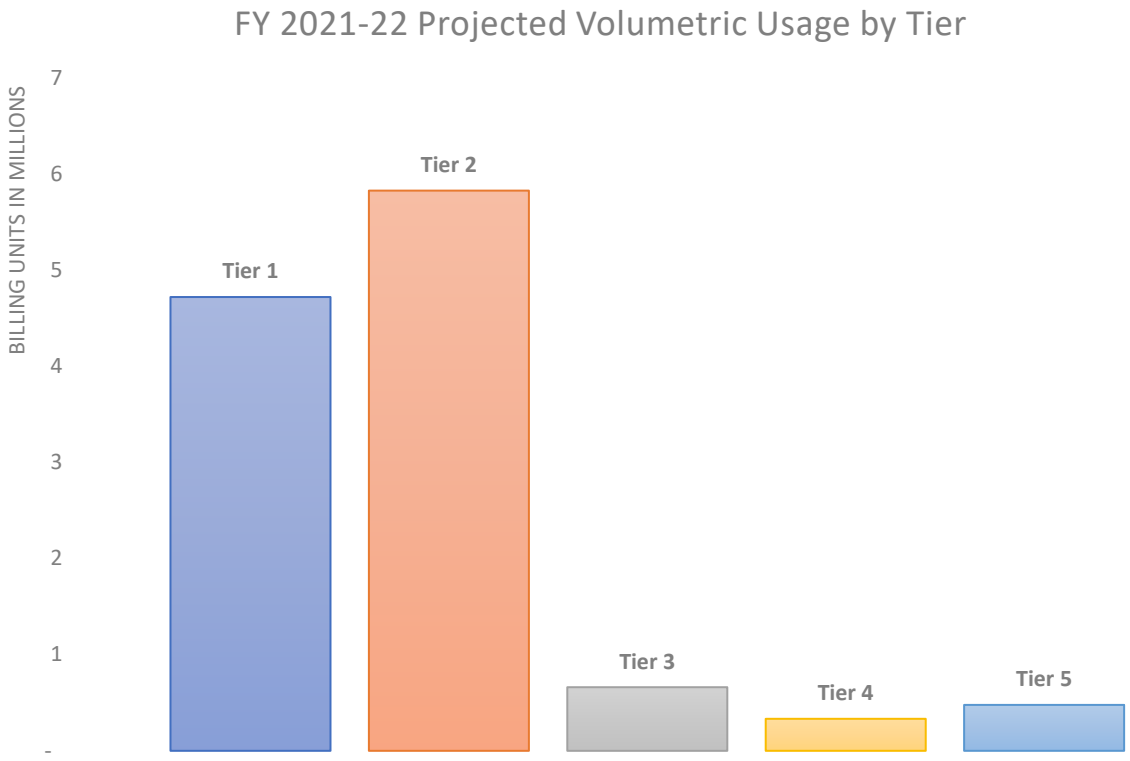


Using water in excess of a customer's individually calculated water budget results in higher rates, increasing up to $9.86 per hcf in the highest tier. For Recycled customers, usage above the basic use allocation results in an increase up to $9.32 in the highest tier. The revenue derived from out-of-budget usage goes to fund conservation and water efficiency programs, education, outreach, and program administration. In addition, the water efficiency revenue can be used to study and/or construct new water supply projects.

Figure 7 presents the projected revenue share and usage for FY 2021-22 that will be received from each of the water budget tiers based on FY 2020-21 baseline usage levels and no assumed rate structure changes.

Figure 7: Projected Volumetric Revenue and Usage by Tier





Wastewater Rates

The wastewater system has two customer groupings: residential customers and commercial customers. Residential customers are billed per person and a monthly charge of $16.86 and multi-family customers are billed based on meter size as shown in Table 12.

Table 12: Monthly Wastewater Service Charges Effective January 1, 2021 ($/Meter)

	Residential	Multi-Family	Commercial 1	Commercial 2	Commercial 3	Commercial 4
Per Person	$5.06	$5.06	-	-	-	-
5/8”	$16.86	$19.89	$24.47	$58.62	$126.64	$138.53
3/4"		$19.89	$24.47	$58.62	$126.64	$138.53
1”		$19.89	$24.47	$58.62	$126.64	$138.53
1.5”		$60.33	$75.62	$189.42	$416.15	$455.78
2”		$95.00	$119.46	$301.55	$664.33	$727.74
3”		$204.81	$258.31	$656.68	$1,450.33	$1,589.06
4”		$349.27	$440.98	$1,123.88	$2,484.39	$2,722.20
6”		$724.88	$915.96	$2,338.67	$5,173.08	$5,668.52
8”		$1,042.70	$1,317.85	$3,366.53	$7,448.06	$8,161.49
10”		$1,678.35	$2,121.66	$5,422.32	$11,998.13	$13,147.55

Commercial customers are assigned to one of the four classes below based on the type of commercial activity and the strength of the wastewater that they discharge into the system. Typical users within the four subclasses generally include, but are not limited to, the following:

COMMERCIAL CLASS 1	COMMERCIAL CLASS 2
banks, car washes, churches, department & retail stores, laundromats, professional offices, schools and colleges	beauty and barber shops, hospital and convalescent facilities, repair shops, service stations and veterinary hospitals

COMMERCIAL CLASS 3	COMMERCIAL CLASS 4
hotels with dining facilities, markets with garbage disposals, mortuaries, and fast-food restaurants	restaurants, automobile steam-cleaning facilities, and bakeries

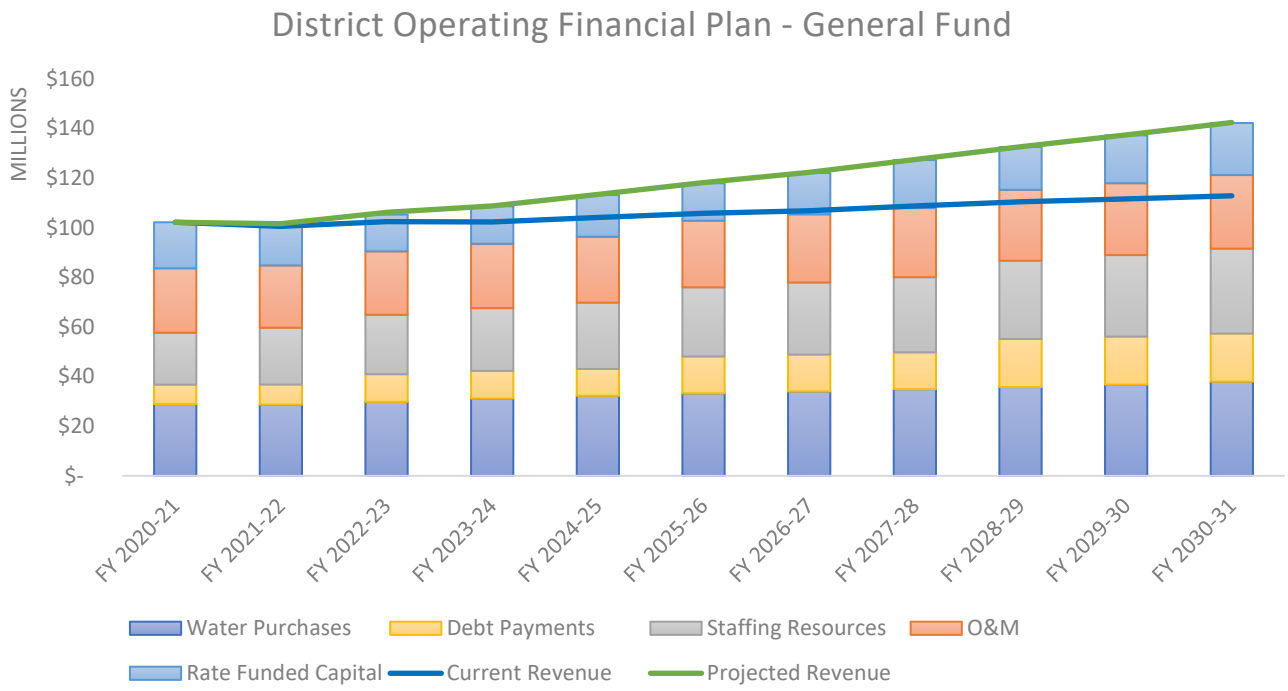
PROPOSED FINANCIAL PLAN

The LRFP incorporates both the test year (FY 2021-22) revenue requirements and assumed inflationary factors for projecting future operating costs. The District is currently planning to draw down cash reserves to target reserve levels adopted in the District's Reserve Policy in order to fund capital improvement projects in the near future (77% of FY 2022-23's CIP Budget is cash) while structuring rate adjustments and debt financing to maintain cash balances at targeted reserve levels in the future.

General Fund Summary

Figure 8 is the operating financial plan that breaks down the major component costs and compares the proposed revenue stream to the status quo.

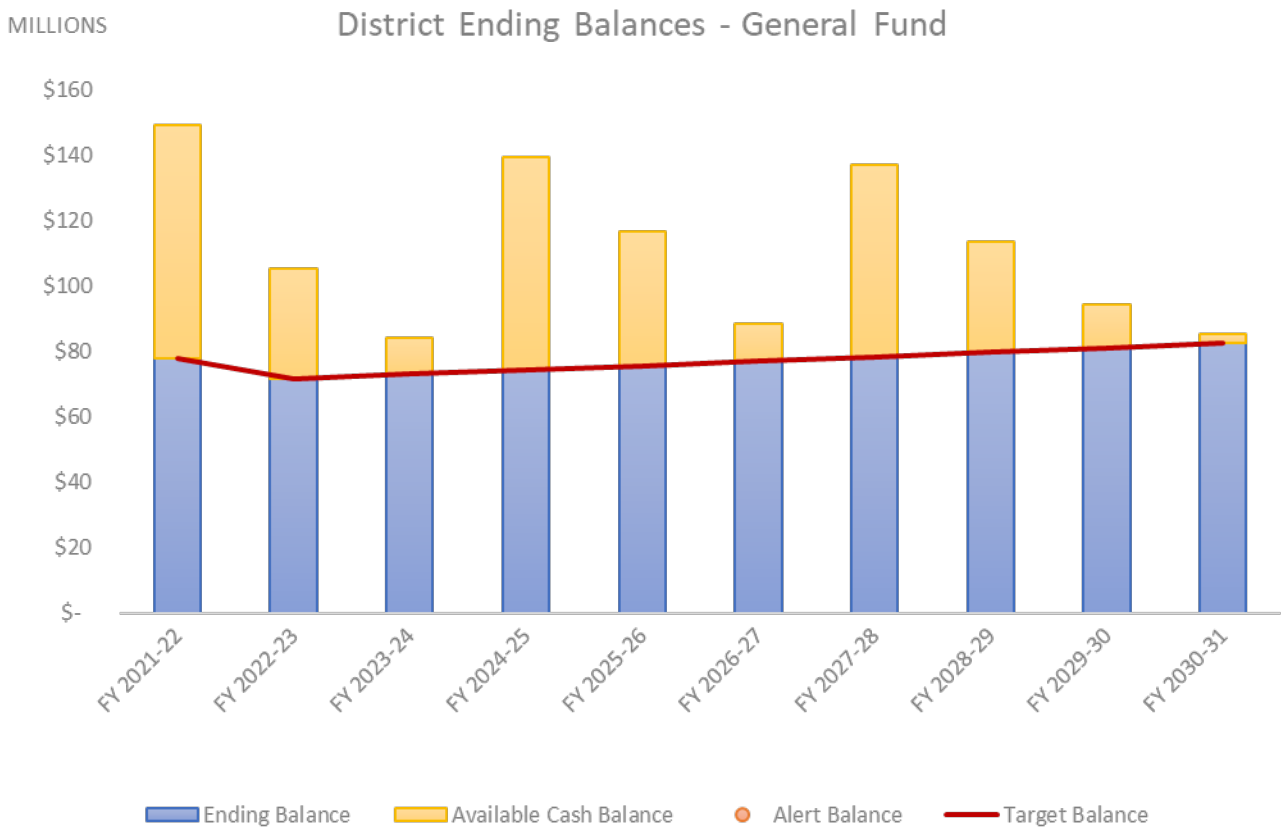
Figure 8: General Fund – District Operating Plan



Rate Funded Capital is total revenue, net of operating and debt-service related expenses that is largely used to cash-fund the Capital Improvement Plan. These funds can also be used to replenish reserve funds if they drop below target levels, either because the reserves were utilized, or the reserve targets were increased. The proposed revenue requirements equate to a 4% revenue adjustment on January 1 of each year. If the proposed revenue adjustments are not implemented, current revenue would fail to meet operating costs by FY 2023-24. When structuring future rate adjustments and debt issuance, the District should be cognizant of the impacts to the debt coverage ratio relative to the Board-adopted policy minimum of 1.75x.

In addition, the proposed rate revenue adjustments along with proposed bond issuances provide adequate cash balances to meet the current reserve policy cash requirements. Projected available cash balances and reserve cash balances are shown in Figure 9. Available cash balances will be used to cash fund capital projects and provide additional policy options and the ability to meet unforeseen risks.

Figure 9: Gen. Fund – District Ending Balances



As shown in Figure 10, timing anticipated debt issuances driven by the construction of various capital projects and historic low interest rates (i.e., FY 2021-22 issuance), presents a unique opportunity for the District to minimize financing costs over the life of the issuance.

The proposed 2021 financial plan maintains the 4% annual rate adjustments identified in the 2017 Long-Range Financial Plan, while providing for inter-generational equity amongst today's customers and the rate payers of tomorrow. The District also maintain debt coverage ratios above the Board approved 1.75x for all ten years.

Figure 10: Gen. Fund – District Revenue Adjustments

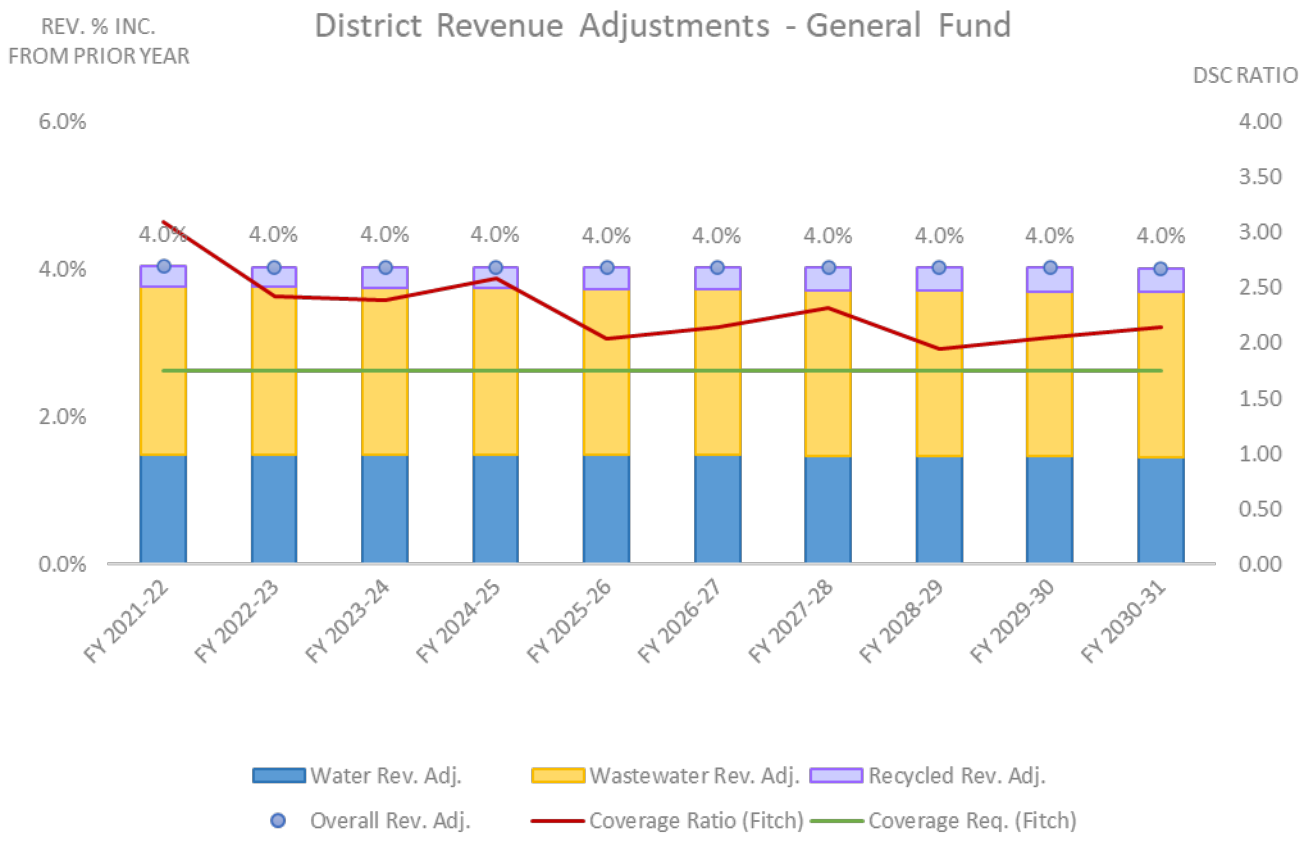


Table 13 below, the Pro-Forma, shows the overall revenues, operating expenses, debt service, capital expenses, and fund balances for the General Fund. Ending cash balances are broken down by funds allocated to meet specific reserve requirements per the District's reserve policy and available cash for capital projects.

Table 13: Proforma

MNWD Overall General Fund Pro-Forma - 2021 LRFP Report

Potable Water Sales	$ 31,853,739	$ 32,827,327	$ 33,725,395	$ 34,625,535	$ 35,526,395	$ 36,426,519	$ 37,348,678	$ 38,293,382	$ 39,261,155	$ 40,252,530
Sewer Sales	$ 26,778,489	$ 28,425,310	$ 30,038,129	$ 31,742,371	$ 33,543,214	$ 35,446,130	$ 37,456,898	$ 39,581,626	$ 41,826,767	$ 44,199,139
Recycled Water Sales	$ 5,832,960	$ 6,084,747	$ 6,352,693	$ 6,653,507	$ 6,989,588	$ 7,363,469	$ 7,753,493	$ 8,160,291	$ 8,584,519	$ 9,026,856
Other Operating Revenue	$ 479,275	$ 603,100	$ 603,100	$ 603,100	$ 603,100	$ 603,100	$ 603,100	$ 603,100	$ 603,100	$ 603,100
Property Tax	$ 31,671,356	$ 32,621,422	$ 33,736,691	$ 35,028,007	$ 36,368,749	$ 37,688,935	$ 39,008,047	$ 40,373,329	$ 41,786,396	$ 43,248,919
Investment Income	$ 2,317,628	$ 2,188,385	$ 1,572,514	$ 1,823,708	$ 2,099,629	$ 1,650,055	$ 2,156,550	$ 2,474,442	$ 2,040,933	$ 1,748,873
Property Lease	$ 2,016,093	$ 2,091,040	$ 2,168,860	$ 2,249,665	$ 2,333,568	$ 2,420,691	$ 2,511,159	$ 2,605,100	$ 2,702,650	$ 2,702,650
Misc. Non-Operating Revenue	$ 352,557	$ 354,592	$ 356,668	$ 358,785	$ 360,944	$ 363,147	$ 365,131	$ 367,146	$ 369,210	$ 371,306
Connection Fees	$ 45,630	$ 136,715	$ 136,715	$ 136,715	$ 136,715	$ 136,715	$ 136,715	$ 136,715	$ 136,715	$ 136,715
Total Revenues	**$ 101,347,728**	**$ 105,332,637**	**$ 108,690,764**	**$ 113,221,391**	**$ 117,961,902**	**$ 122,098,761**	**$ 127,339,770**	**$ 132,595,130**	**$ 137,311,442**	**$ 142,290,087**
District General Fund Revenue Requirements										
Operating Expenses										
Water - Imports & Production	$ 28,143,825	$ 29,240,558	$ 30,588,087	$ 31,677,550	$ 32,629,286	$ 33,408,387	$ 34,306,741	$ 35,164,161	$ 36,124,751	$ 37,318,271
Water - Storage & Facilities	$ 563,200	$ 574,464	$ 585,953	$ 597,672	$ 609,626	$ 621,818	$ 632,798	$ 643,955	$ 655,376	$ 666,983
O&M - General	$ 15,631,541	$ 16,071,087	$ 16,246,772	$ 16,743,721	$ 16,887,063	$ 17,351,928	$ 17,579,426	$ 18,130,386	$ 18,331,822	$ 18,857,241
Salaries	$ 15,729,998	$ 16,271,719	$ 17,181,522	$ 18,110,654	$ 18,925,633	$ 19,777,287	$ 20,667,265	$ 21,597,292	$ 22,569,170	$ 23,584,782
Benefits	$ 7,171,956	$ 7,677,332	$ 8,126,926	$ 8,665,871	$ 8,977,210	$ 9,286,862	$ 9,623,421	$ 9,960,421	$ 10,311,680	$ 10,692,413
SOCWA/WW	$ 9,507,471	$ 9,512,926	$ 9,665,781	$ 9,821,092	$ 9,978,899	$ 10,139,241	$ 10,302,160	$ 10,467,697	$ 10,635,893	$ 10,806,792
Subtotal O&M Expense	**$ 76,747,991**	**$ 79,348,085**	**$ 82,395,041**	**$ 85,616,560**	**$ 88,007,717**	**$ 90,585,524**	**$ 93,111,810**	**$ 95,963,911**	**$ 98,628,692**	**$ 101,926,483**
Debt Service										
Existing	$ 8,114,435	$ 8,110,007	$ 8,106,081	$ 7,748,581	$ 7,741,331	$ 7,740,206	$ 7,734,706	$ 7,734,331	$ 7,723,706	$ 7,722,331
Proposed	$ -	$ 3,061,156	$ 3,061,156	$ 3,061,156	$ 7,139,005	$ 7,139,005	$ 7,139,005	$ 11,651,826	$ 11,651,826	$ 11,651,826
Subtotal Debt Service Expense	**$ 8,114,435**	**$ 11,171,162**	**$ 11,167,237**	**$ 10,809,737**	**$ 14,880,337**	**$ 14,879,212**	**$ 14,873,712**	**$ 19,386,157**	**$ 19,375,532**	**$ 19,374,157**
Total Revenue Requirement (Non-CIP)	**$ 84,862,426**	**$ 90,519,248**	**$ 93,562,278**	**$ 96,426,297**	**$ 102,888,054**	**$ 105,464,735**	**$ 107,985,522**	**$ 115,350,068**	**$ 118,004,225**	**$ 121,300,640**
Net Change in General Fund before CIP	**$ 16,485,302**	**$ 14,813,390**	**$ 15,128,486**	**$ 16,795,094**	**$ 15,073,849**	**$ 16,634,026**	**$ 19,354,248**	**$ 17,245,062**	**$ 19,307,218**	**$ 20,989,446**
Capital and Ending Balances										
Capital Expenses (CIP + Outlays)	$ 46,177,141	$ 59,771,430	$ 41,171,636	$ 36,542,792	$ 38,266,373	$ 45,271,052	$ 45,883,406	$ 41,358,841	$ 38,977,822	$ 30,816,924
Bond Proceeds	$ 59,750,000	$ -	$ -	$ 74,750,000	$ -	$ -	$ 82,750,000	$ -	$ -	$ -
Beginning Balance	$ 118,565,630	$ 148,623,791	$ 103,665,750	$ 77,622,600	$ 132,624,902	$ 109,432,377	$ 80,795,351	$ 137,016,193	$ 112,902,414	$ 93,231,809
Ending Balance (Includes Interest)	$ 148,623,791	$ 103,665,750	$ 77,622,600	$ 132,624,902	$ 109,432,377	$ 80,795,351	$ 137,016,193	$ 112,902,414	$ 93,231,809	$ 83,404,332
Reserve Balance	$ 70,454,712	$ 71,697,732	$ 73,017,106	$ 74,468,144	$ 75,736,304	$ 77,040,848	$ 78,331,976	$ 79,727,642	$ 81,100,371	$ 82,656,081
Future Capital Improvement Projects	$ 78,169,079	$ 31,968,018	$ 4,605,494	$ 58,156,758	$ 33,696,074	$ 3,754,503	$ 58,684,216	$ 33,174,772	$ 12,131,439	$ 748,251
Debt Coverage Ratio	3.03	2.33	2.35	2.55	2.01	2.12	2.30	1.89	2.00	2.08

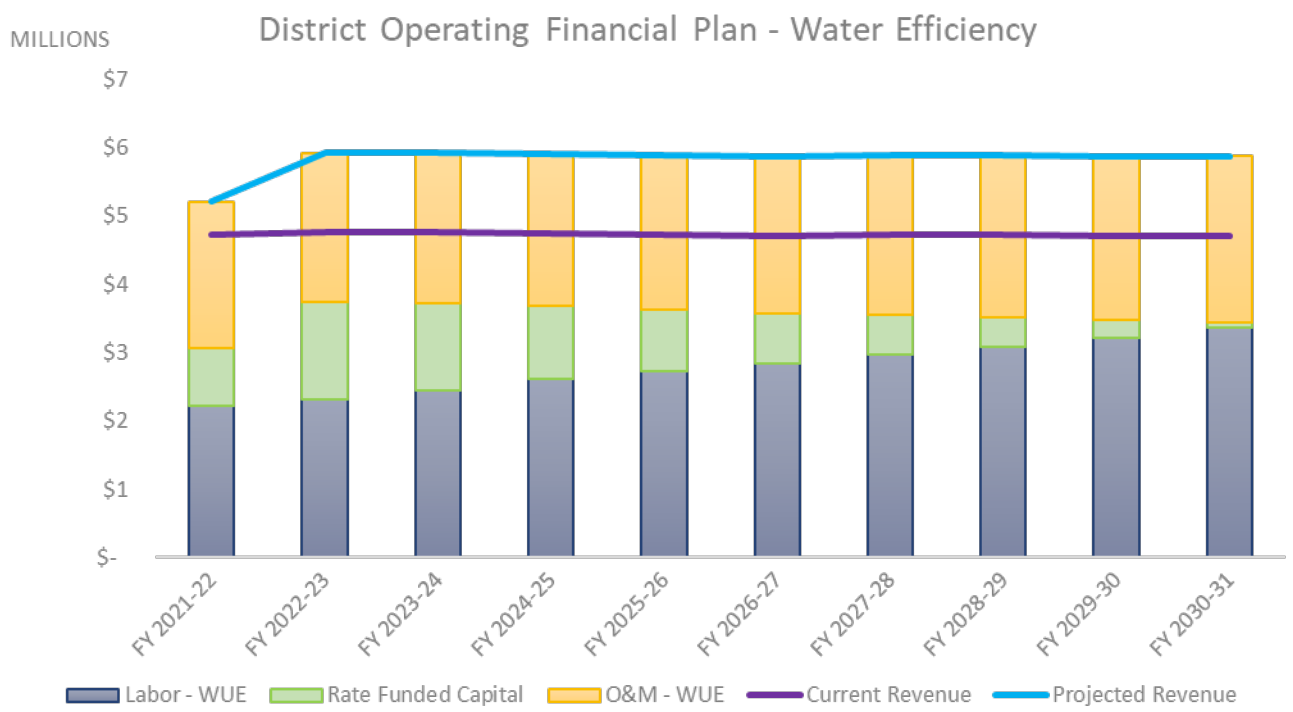
Water Efficiency (WE) Fund Summary

Since its implementation in 2011, the District's water budget-based rate structure has served as a critical component of its demand management efforts and ultimately its expanded supply reliability. The underlying rationale of any water budget-based rate structure is that customers who use water inefficiently (i.e., in excess of their calculated water budgets) place greater demands on the District's water and recycled water systems and supplies than those customers who use water efficiently (i.e., within their calculated water budgets). Due to the higher demand, and consequently higher cost, that inefficient usage places on the District's water and recycled water systems, water usage in excess of a customer's allocated budget is subject to higher rates. The District maintains a strong cost nexus between increasing marginal supply costs and increasing rates by investing the incremental rate difference in alternative water supply programs, rebates, water conservation, and demand management measures to increase efficient uses of water and offset supply reliability impacts from inefficient water use.

By establishing the Water Efficiency Fund (Fund 6), the District is able to clearly delineate the costs associated with providing continued service to its customers from those costs that could have otherwise been avoided had all customers stayed within budget. The resulting tiered rate structure creates a strong price signal to customers who may have inadvertently exceeded their budgets, and any revenues collected are immediately reinvested in programs and rebates to help those same customers get back into budget. Throughout historic droughts, the District has maintained that "it's not about using less water, it's about wasting less water", and customers have responded not only by conserving, but also by an unprecedented level of rebate program participation. District staff seeks to build upon this historic level of interest in efficiency by expanding rebate program participation beyond early adopters by actively seeking out candidates for current and future programs.

Figure 11 below is the Water Efficiency operating financial plan that breaks down the major cost components and compares the proposed revenue stream to the status quo.

Figure 11: WE – District Operating Plan

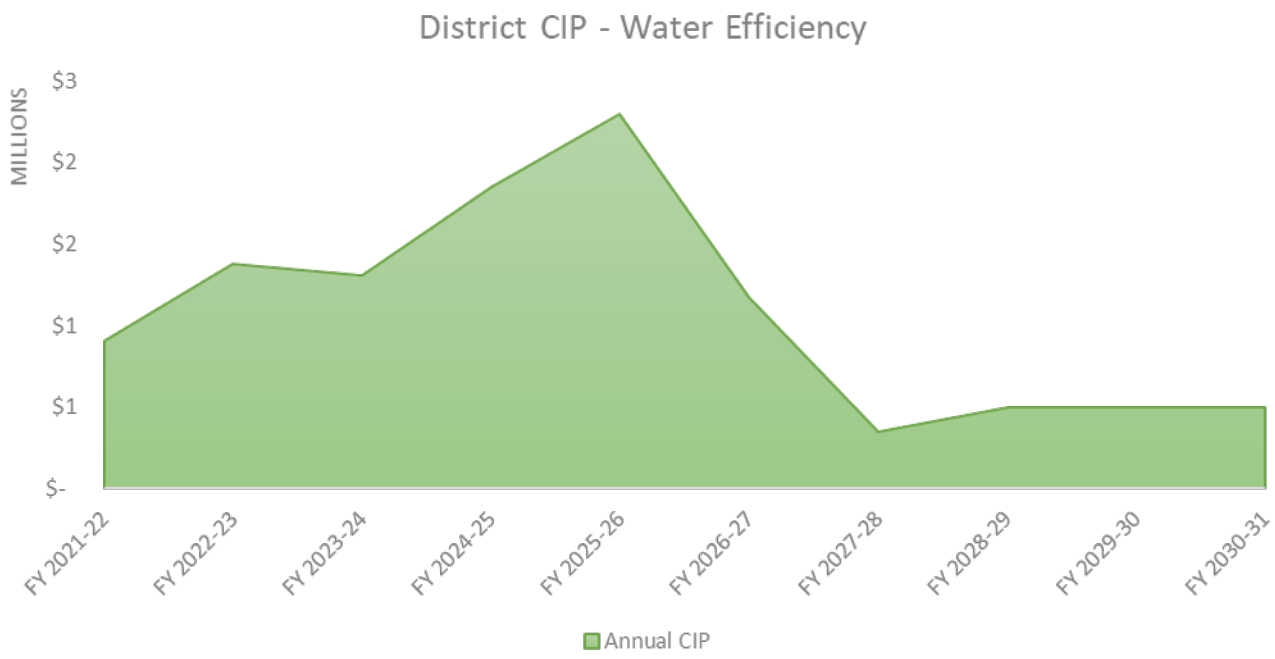


In addition to the costs associated with the ongoing management of the District's water efficiency and conservation programs, a portion of the capital costs associated with future water supply reliability enhancement projects have been allocated to the Water Efficiency Fund. There is a natural nexus between efficient water use and long-term supply reliability, as any reductions in inefficient water use decrease the size, and ultimately cost, of future supply reliability projects. Conversely, continued inefficient water use would otherwise necessitate more costly reliability projects: the costs of which should be recovered from inefficient usage. The District has identified $11 million in total capital projects costs in the next ten years, including:

- Advanced Metering Infrastructure, Phase 3
- Low Resolution Meter Replacement
- La Paz Road Bridge Crossing – Recycled Water Pipeline
- Recycled Water Retrofit Program

Figure 12 provides the timeline for water efficiency capital projects.

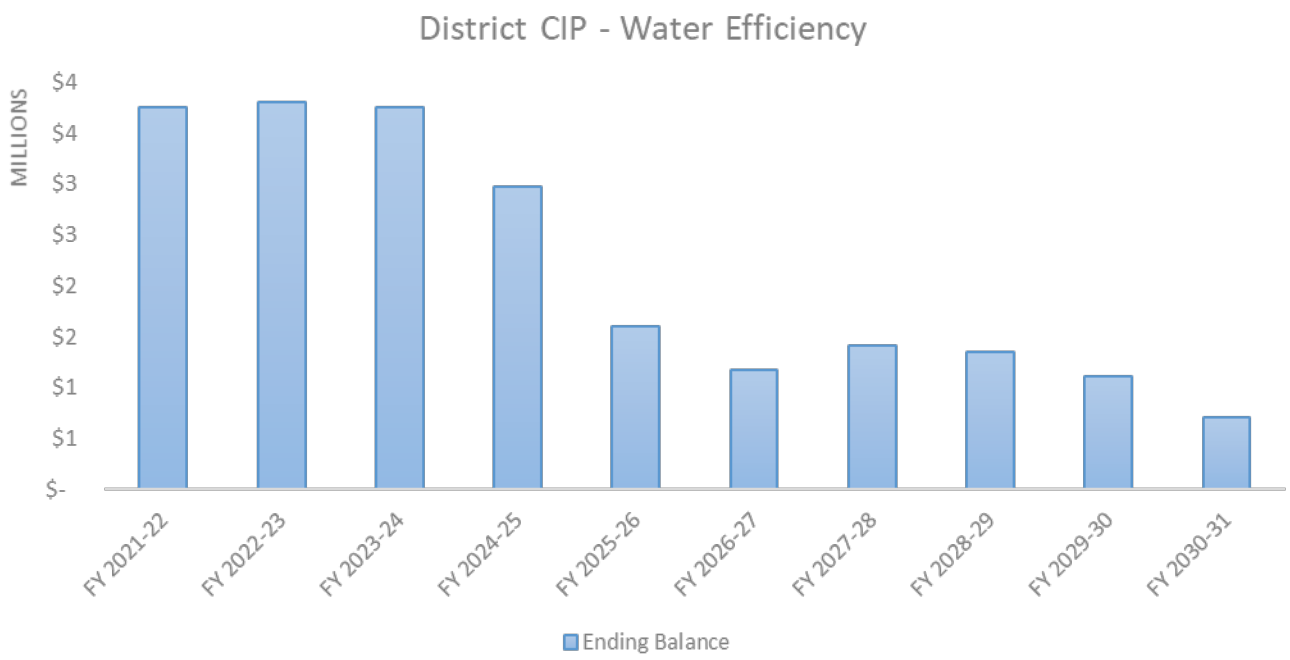
Figure 12: WE - 10-Year CIP



The District's continued investment in conservation efforts and rebate programs and its future supply reliability investments will draw down current Water Efficiency fund balances within three years without an adjustment in rate revenue or a new bond issuance. Based on the revenue requirements and increased spenddown rate of Water efficiency fund balances, District staff is proposing a one-time adjustment to its Water Efficiency surcharges as part of the recommended four-year rate structure, specifically a total annual increase of ~$0.5 million in additional revenue requirements.

Staff considers the proposed funding strategy optimal as FY 2024-25 would coincide with the District's 2025 Long-Range Financial Plan at which point Fund 6 revenue requirements would be re-evaluated. The proposed plan addresses program changes that have occurred since the development of the 2017 Long-Range Financial Plan.

Figure 13: WE – District Ending Balances



MANAGEMENT OF FINANCIAL RISK

In evaluating the robustness of the District's proposed financial plan, the Model may be used to test the sensitivity of the key assumptions. Two assumptions were tested:

- Scenario 1:
  Increase the assumption on expected MWD rate increases to 10% up from a projected 3.29% average compound annual growth rate for Tier 1 Treated Water, and a 4.11% average compound annual growth for Tier 1 Untreated Water.

- Scenario 2:
  Incorporate proposed expense escalation factors performed by consultant, Robert D. Niehaus, Inc.

Scenario 1: Increased Cost of Water

Table 14 assumes MWD's estimated annual rate increase on wholesale water supply cost is 10% (annually compounded) for Tier 1 Treated and Untreated supplies:

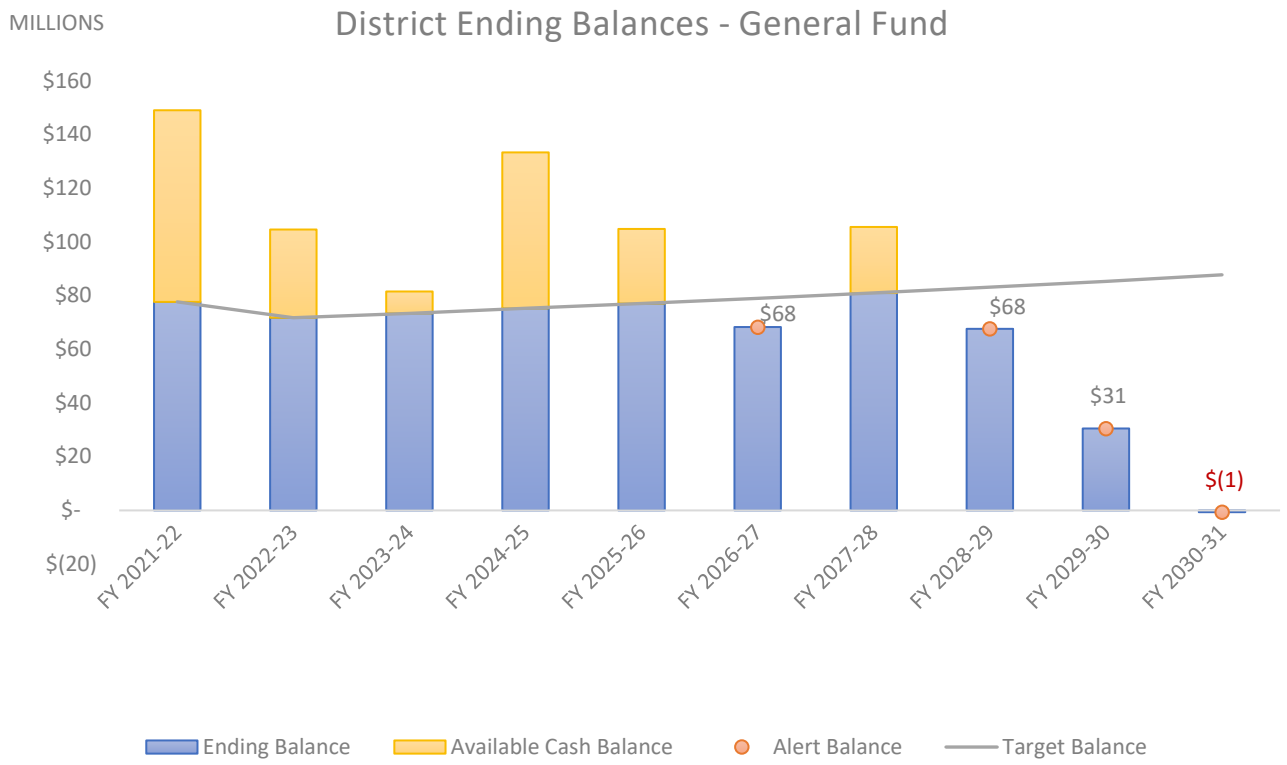
Table 14: Current and Assumed Cost of Water Rate Increases

	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31
Category										
Tier 1 Treated: Current	3.53%	4.56%	4.45%	3.78%	2.30%	2.54%	2.41%	2.78%	3.05%	3.74%
Tier 1 Treated: Assumed	**3.53%**	**10.0%**	**10.0%**	**10.0%**	**10.0%**	**10.0%**	**10.0%**	**10.0%**	**10.0%**	**10.0%**
Tier 1 Untreated: Current	2.83%	6.63%	3.84%	4.20%	3.28%	3.59%	3.37%	3.85%	4.18%	4.00%
Tier 1 Untreated: Assumed	**2.83%**	**10.0%**	**10.0%**	**10.0%**	**10.0%**	**10.0%**	**10.0%**	**10.0%**	**10.0%**	**10.0%**

Supply costs by FY 2030-31 increases to $58.5 million, up from the baseline scenario of FY 2030-31 supply costs at $37.9 million. The net effect is devastating with a baseline ending balance in FY 2030-31 from $85.3 million to negative $655,000. To account for this increase in supply costs, the District must effectively offset the extra expense with an increase in revenues. One option that would make the District's LRFP more robust to fluctuations in supply costs, is for the Board of Directors to re-adopt the pass-through provision currently in place to account for any MWDSC rate increases or newly imposed charges in excess of those currently forecasted. AB 3030 allows water and wastewater agencies to adjust rates based on changes to wholesale or inflation in future years outside of the Prop. 218 process, subject to 30 days of notice to all customers.

A second option is that the District could wait and address the unexpected supply cost increases as part of the next rate study. However, it is worth noting that any delay in adjusting rates to meet the increased supply costs would result in a larger than expected rate adjustment to make up for the difference in revenue and expenses. Figure 14 shows the rapid decline of ending balance in this scenario.

Figure 14: General Fund – District Ending Balances (Increased Supply Costs)



This shortfall could potentially be offset by the use of the District's rate stabilization reserve, though doing so would reduce the District's ability to respond to other unexpected crises.

Scenario 2: Incorporate Consultant-proposed Expense Escalation Factors

A key aspect of the District's LRFP is long-term financial modeling. In order to project future expenses, escalation factors need to be appropriately applied to individual expense items; however, staff does not overestimate factors as it could unduly burden ratepayers, but it is important to understand potential exposure and strategies for mitigating risk if they come to pass. In their peer review of the District's Model and 2021 Cost of Service analysis, Robert D. Niehaus, Inc. (RDN) identified several factors to conduct sensitivity analysis given potential future volatility.

Table 15: Current and Proposed Escalation Factors

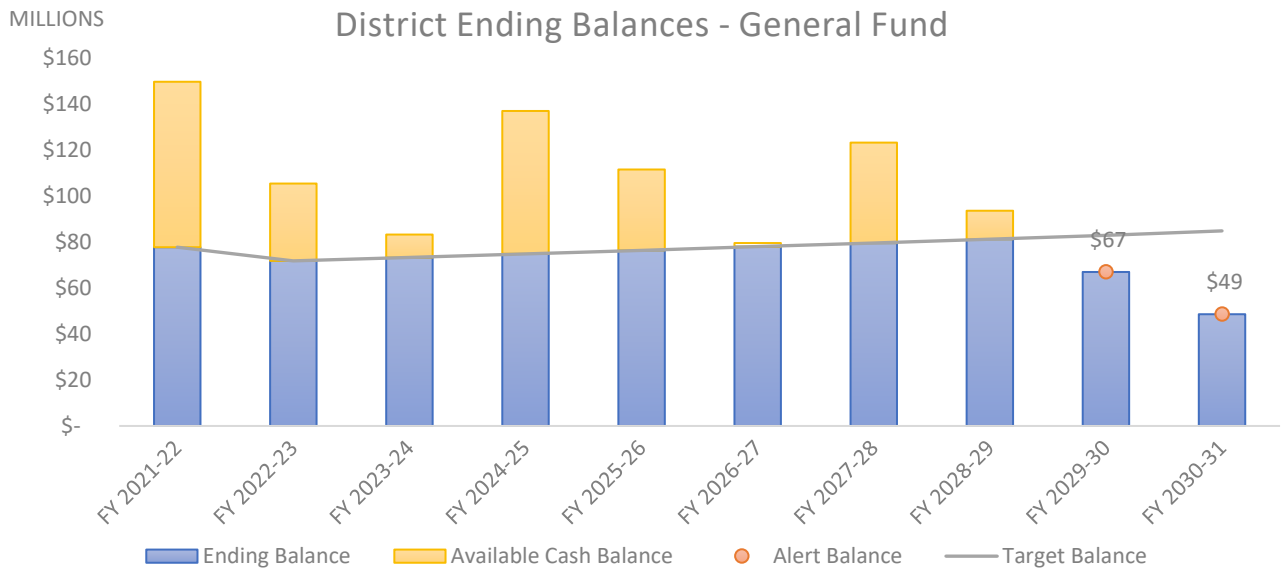
Category	Current Escalation (District)	Proposed Escalation (RDN)	Difference
Salaries	4.50%	7.80%	3.30%
Operations – Utilities	2.00%	4.63%	2.63%
Operations – SOCWA	3.27%	3.27%	-
Operations – Chemicals	2.00%	4.85%	2.85%
Insurance – Personnel	5.50%	5.50%	-
Insurance – District	2.00%	8.40%	6.40%
General – Training	0.40%	0.70%	0.30%
General – Expenses	2.00%	2.50%	0.50%
Capital – Contractor	3.00%	5.90%	2.90%
Benefits – Other	5.50%	5.50%	-
Benefits – Medical	5.50%	5.50%	-
Benefits - Dental	5.50%	5.50%	-

The District's projections for benefits were based on the historical escalation of costs and two-year extension of the current MOU to FY 2022-23. RDN concurs with the use of 5.5% for Benefit categories and Insurance – Personnel. The other categories were increased based on the following:

- *Salaries: t*he current financial planning model projects salaries to increase 4.5%, assuming existing staff levels, per year through the planning period; however, according the 2019-20 Audited Financial Statements, a 3.00% salary increase is projected for OPEB accounting. If the previous budget actuals reflect the typical increases in staffing costs for the upcoming years, an annual increase of 7.8% should be used. The 7.8% includes a projection of typical increases in the number of staff through time as well as an average cost per staff. Between FY 2013-14 and FY 2021-22, 56 new positions have been authorized within the District. Using a linear regression, annual staff increases were expected to range between 7-8 per year with an average aggregate salary increase of $38,613 per new employee. It was determined during this analysis that if there are no planned staff increases, an annual escalation factor for salaries should be 3.6%, which reflects the actual historical increases in salaries. Therefore, 4.5% is the midpoint should the District decide to increase staffing level.

- *Operations – Utilities:* electricity dominates the District's utility expenditures and utilities use a factor derived from US BLS 20-year average of Fuels and Utilities, Energy CPI Los Angeles-Riverside-Orange County, not seasonally adjusted and California Department of Finance monthly (by expenditure detail) from 2000 to 2021, Fuels and Utilities, Los Angeles.
- *Operations – Chemical:* inflation was calculated using data from the Federal Reserve Bank of St. Louis Economic Research Division and reflects the 20-year average of the Producer Price Index for Chemicals. The proposed inflation factor for the study period is 4.85%.
- *Insurance – District:* Utilizing budget actuals starting in FY 2015-16, it was determined that the District's liability insurance expenses (Insurance – District) have increased approximately 8.40% per year.
- *General – Training:* the escalation factor was adjusted to reflect budget actuals between FY 2015-16. The annual inflation for General-Training during that period was 0.70%.
- *General – Expenses:* the general inflation assumption, 2.50% per year, is based on US Bureau of Labor Statistics (BLS) 20-year average of All Items CPI Los Angeles-Riverside-Orange County, not seasonally adjusted and California Department of Finance Monthly (by expenditure detail) from 2000. 20-year average, all items, Los Angeles.
- *Capital – Contractor:* due to recent developments stemming from the COVID supply chain issues, Capital Costs are projected to be slightly higher for the study period, 5.90%. The projection is based on Engineering News Record (ENR) 5-year average of the Construction Cost Index for Los Angeles, the closest major metropolitan area which is indexed. A 5-year timeframe was chosen because it better reflects the current cost escalations, whereas a longer timeframe smooths the recent spike in costs.

Figure 15: General Fund – District Ending Balances (Increased Escalation Factors)



At the end of the 2021 Rate Study (FY 2025-26), the increase in escalation factors will result in a 2.1% increase in expenditures and the ending balance would fall from $116,529,871 to $111,475,413. As shown in Figure 15, the proposed 2021 financial plan could sustain these escalated factors. However, beyond the term of the 2021 rate study, the District would not meet its minimum debt coverage ratio by FY 2028-29 and miss its target ending balance by FY 2029-30 without additional adjustments. This case scenario will be re-evaluated during the 2025 rate study.

FINANCIAL MANAGEMENT TOOLS

The District has several tools that it may utilize when considering revenue requirements and the need to periodically adjust rate revenues. Each of the components, outlined below, are reviewed on a periodic basis and updated, if necessary, to reflect changes to District operations, the economy, or the environment.

Financial Policies
The District proactively manages its financial policies as part of its ongoing fiduciary responsibility. Any revision to current financial policies will change the District's cash and investments portfolios which will result in adjustments to future revenue requirements.

Operational Efficiencies
The District is continually looking for ways to create operational efficiencies while maintaining a high level of service. Historically, the District utilized consulting firms to conduct planning and analytical tasks, but the District has moved to utilizing in-house staff to perform these functions with the assistance of outside expertise. Maintenance of in-house expertise will enable the District to perform this analysis on a more frequent basis.

Options available to the District includes outsourcing/contracting certain services or continuing to develop more efficient processes to achieve current operations. As each opportunity is assessed, the District evaluates the cost of internally maintaining the operation compared to outsourcing/contracting the services. Each evaluation also includes the comparison of quality of work product and service provided in addition to a cost analysis.

Cooperative Agreements
The District continually looks for ways to save rate payers money by mitigating the effects of future cost increases. This can be achieved in part by seeking out cooperative agreement opportunities for both capital and operational needs. The District coordinates with neighboring agencies on capital projects that may bring additional regional water reliability benefits and cost sharing. The District also looks to find operational cost savings by participating in shared service opportunities with other local agencies.

Outside Funding Sources
The District is continually monitoring markets and the industry to identify any applicable outside funding sources that may be relevant to District capital improvements or operations, such as grant funding opportunities or low-rate debt. The District is also frequently monitoring economic markets to realize savings on current debt obligations.

Rates And Fees
The District can use its rate structure to determine if sufficient revenues are generated from each system and if cost recovery from variable or fixed revenue components remains aligned with variable or fixed costs. In addition to system rate revenue the District will also periodically review its miscellaneous fees and charges to determine applicability and adjustments needed to recover the cost of operation applicable to the fees.

District Owned Property
The District owns several properties that house its facilities as well as properties that are no longer utilized. The District can evaluate future projected needs for each property and aspire to achieve the maximum value possible from each asset. Property management options include expanding operations, leasing land, or exchange/sale of District owned land to maximize potential revenue streams from those sources.

CONCLUSIONS & RECOMMENDATIONS

As the District transitions its focus from developing infrastructure to maintaining and replacing infrastructure, the LRFP, in conjunction with other long-term planning efforts, identifies future resource needs and provides a roadmap for actions that can be taken to meet those needs. Currently, the District is evaluating the rate structures for all three enterprise systems, implementing an aggressive Capital Improvement Plan, evaluating local and regional supply reliability based on projects in the Long-Range Water Reliability Plan and Recycled Water Master Plan. The updated Model provides the ability to evaluate the outputs of these planning processes in addition to changes in financial determinants such as usage. By integrating the multitude of long-term planning efforts with current financial information, the Model serves as a tool for the District to create adaptive management strategies as major assumptions fluctuate.

In order to maintain District financial stability based on expected future expenditures and revenues, the following overall adjustments to General Fund rate revenue are suggested in Table 14:

Table 14: Gen. Fund Revenue Adjustments

General Fund Revenue Adjustments		
Implementation Day & Month	**Implementation Year**	**Revenue Adjustment**
February 1	FY 2021-22	4%
January 1	FY 2022-23	4%
January 1	FY 2023-24	4%
January 1	FY 2024-25	4%
January 1	*FY 2025-26 – FY 2030-31*	*4%**

*Projected adjustment outside of the 2021 Cost of Service Rate Study period (FY2021-22 to FY2024-25)

The revenue adjustments in Table 14 represent needed additional revenues to collect through rates; however, these adjustments could be offset by growth in non-rate revenues beyond baseline assumptions. The District will diligently monitor the major variables that impact recommendations such as Capital Improvement Plan (budgeting and spending), credit markets, water usage (distribution and conservation), and MWDSC and MWDOC wholesale rate adjustments.

The proposed revenue adjustments maintain the District's debt coverage ratio above the Board-adopted 1.75x coverage ratio target. In addition, the generated revenue meets funding requirements of the Ten-Year Capital Financing Plan with the caveat that the Financial Plan assumes a $60 million debt issuance in FY 2021-22, a $75 million issuance in FY 2024-25, and a $83 million issuance in FY 2027-28. Lastly, the Financial Plan fully fund reserves at target levels and maintains available cash balances to hedge risk exposure for the District.