moulton niguel water district

LONG RANGE FINANCIAL PLAN REPORT 2017

Long Range Financial Plan Report

Table of Contents

EXECUTIVE SUMMARY

The objective of the Long-Range Financial Plan ("LRFP") is to identify strategies and actions to ensure sufficient financial resources to enable the Moulton Niguel Water District ("MNWD" or "District") to achieve its mission and to utilize those financial resources effectively. The plan forecasts 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.

The LRFP projects financial and operational data of key aspects of the District such as: rate revenue, 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. This detailed information is linked to a summarized pro-forma income statement and balance sheet to enable the District to review 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 for the Long-Range Financial Planning model. The proprietary long-range financial planning model (also known as the "Ten-Year Cash Flow 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 across a long time horizon; hence, a ten-year plan enables the District to project the financing needs for future capital expenditures and determine the ability of the District to fund them through available cash balances, grants, state loans, revenues or the issuance of debt. The key output of the long range financial plan is the identification of projected rate revenue adjustments 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 Fitch Ratings in 2017 and has maintained a Stable Rating Outlook and a "AA+" rating by S&P from 2015.

1 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 initially 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 including an agreement to bring treated water to the District from East Orange County Feeder Number 2 through 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 enter into sewage treatment and water reclamation activities. 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 do advanced "tertiary" treatment of wastewater for use on landscapes. Water demands 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 service 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 2017, the District service area is largely built-out and includes portions of the cities of Aliso Viejo, Laguna Niguel, Laguna Hills, Mission Viejo, San Juan Capistrano, and Dana Point. 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 ensuring 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 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 almost 25 percent of the overall water supply in the District. In an average year, approximately 43 percent of the District's imported water

supply is delivered via the State Water Project and the remaining 57 percent is delivered via the Colorado River Aqueduct.

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 MWD 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. Water from the Baker Water Treatment Plant is delivered through the South County Pipeline.

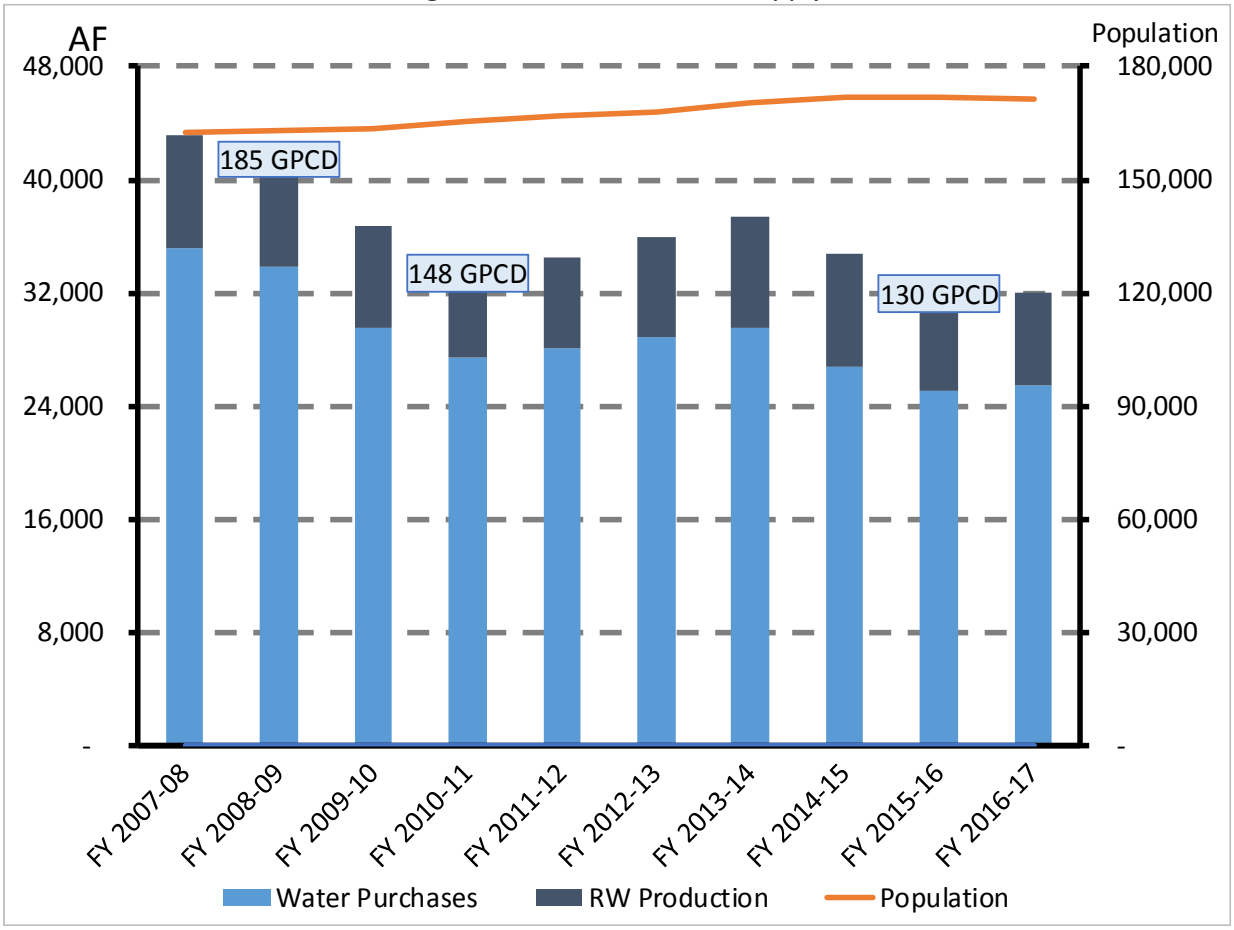
The District serves areas ranging in elevation from approximately 140 feet above mean sea level (ASL) to approximately 930 feet ASL through pressure zones. The District has 35 pump stations to pump water from the lower pressure zones to the higher-pressure zones.

The District operates and maintains approximately 663 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 joint powers agreement 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 25 pump stations to pump potable water from lower pressure zones to the higher pressure zones and 20 pressure reducing stations and flow control facilities to convey water from high to low zones.

The District maintains approximately 504 miles of wastewater collection pipelines. The District's wastewater system has 16 lift stations that pump wastewater over the 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 agency comprised of ten governmental agencies, which operates three regional treatment plants which the District owns capacity in and two ocean outfalls. The District also owns a fourth wastewater treatment plant, Plant 3A. MNWD has title to the 3A facilities and Santa Margarita Water District (SMWD) is the contract operator that runs and manages the facilities by agreement.

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 two Advanced Wastewater Treatment (AWT) facilities which provide expansive recycled water service for landscaping. The District has constructed approximately 140 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 the Upper Oso recycled water reservoir, owned by Santa Margarita Water District. The projected annual demand of the recycled water system will increase over the next ten years at 50 acre feet per year from 6,113 acre feet in FY 2017-18. 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 plans to continue to target cost effective recycled water conversions consistent with the findings of Recycled Water Master Plan.

Figure 1: Historical Water Supply



Since FY 2007-08, MNWD potable water sales have averaged approximately 28,948 AF and recycled water sales have averaged approximately 7,187 AF. The current five year average potable sales are at 27,136 AF with each of the last three years below the five year average due to aggressive water efficiency programs and the water budget based rate structure. The current five year average (FY 2012-13 to FY 2016-17) recycled water sales are 7,281 AF which is a 3% increase from the previous five year average (FY 2007-08 to FY 2011-12).

As stewards of the water, wastewater, and recycled water systems and supplies our ratepayers have invested in over the last 57 years, it is our responsibility to ensure the continued reliability of those investments. Ensuring continued system reliability through reinvestment in the District's two billion dollar critical infrastructure has remained a priority: nearly 59% of the $49 million in capital expenses budgeted for FY 2017-18 and 75% of the $295 million ten-year CIP can be attributed to the replacement or refurbishment of existing infrastructure. In addition to the ongoing reservoir maintenance, and valve replacement programs that have been outlined in the past budgets, the 10-year CIP includes improvements to the District's recycled water pump stations per the recently completed Recycled Water Master Plan and investment in future water reliability projects.

2 DISTRICT STRATEGIC GOALS & POLICIES

Moulton Niguel Water District's vision is to "lead the way, work together, and provide excellence in service". 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 service. The LRFP furthers these goals by developing a financial strategy to implement needed capital investments while meeting the District's financial goals and policies, detailed in this section.

2.1 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 revenues: capital reserves, grants, general obligation bonds, revenue bonds, certificates of participation, lease/purchase agreements, and other financing obligations permitted to be issued or incurred under California law.

Revenues net of all non-capital expenses should be maintained at a minimum 175 percent (%) of the maximum annual debt service for financial planning purposes. Annual adjustments to the District's rates are proposed as necessary to maintain a minimum 175% debt service coverage ratio. Setting the coverage ratio at this level is central to the District maintaining a very strong credit rating, which in turn allows the District easy access to capital markets and to borrow at low interest rates. Historically the District has maintained debt service coverages in excess of 200%. Moulton Niguel Water District is currently rated AA+ by Standard and Poor's and AAA by Fitch Ratings.

2.2 RESERVE POLICIES

The District has created reserves in order 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 credit-worthiness by adequately providing for:

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

2.3 RESERVES

The District currently maintains the following reserves: a General Operating Reserve, a Self-Insurance Reserve, a Rate Stabilization Reserve, an Emergency Reserve, a Replacement and Refurbishment Reserve, a Water Supply Reliability Reserve, a Planning and Construction Reserve, a Capital Facilities Restricted Reserve, and Debt Service Reserves.

General Reserves:

General Operating Reserve - The District maintains a General Operating Reserve in order to provide sufficient liquidity for funding the 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. Sufficient funding for General Operating Reserve is identified at the beginning of each fiscal year and maintained within Fund 1.

Self - Insurance Reserve - The District maintains a Self-Insurance Reserve to provide for expenses incurred to 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).

Rate Stabilization Reserve - Since one of the biggest risks and impacts on rates would be a loss of property tax revenues and due to the timing in the receipt of property tax, to avoid large fluctuations in customer water and sewer rates, the District will fund a Rate Stabilization Reserve to provide for losses of revenue, significant increases in water purchase costs, and other extraordinary financial impacts to revenues and expenses. The target balance of the Rate Stabilization Reserve will be set equal to fifty percent of the District's budgeted ad valorem property tax revenue. The Rate Stabilization Reserve is maintained in the Rate Stabilization Fund (Fund 52).

Capital Improvement Reserves:

Emergency Reserve - The Emergency Reserve was created to provide funds to enable 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 within the General Fund (Fund1).

Replacement and Refurbishment 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.

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.

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.

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. All amounts are maintained in a separate Capital Facilities Restricted Reserve Fund (Fund 15) and transferred to Funds 7, 12, or 14 as part of the annual budget process. Funding for the Capital Facilities Restricted Reserve will be from capacity fees charged to new developments or redevelopments to buy into existing assets or expansion of existing sites.

Debt Service Reserves:

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. The District's accounting records show these amounts in various debt funds.

Table 1 presents FY 2017-18 MNWD reserve targets.

Table 1. MNWD FY 2017-18 Reserve Targets

Type		Target
General Operating	$	16,883,932
Self-Insurance	$	250,000
Rate Stabilization	$	14,500,430
Emergency	$	35,300,000
Total Reserves	$	66,934,362

Note: Reserve Targets are based on the District's FY 2017-18 budget. The Capital Improvement Reserves do not have targets, but are instead funded annually based on budgeted project expenses.

2.4 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.

2.4.1 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 (CAFR).

2.4.2 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.

2.4.3 Budget Appropriations

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

2.4.4 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 cover the total direct and indirect costs – 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 will be designed to encourage the beneficial uses of water and prevent the unreasonable use of water, consistent with California Constitution Article X Section 2.

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. […]."*

2.4.5 Capital Management – Infrastructure

The District will maintain a long-range fiscal perspective through the use of Capital Improvement Plan (CIP) to maintain the quality of District 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 Plan will be updated annually in conjunction with the District's budget preparation, including anticipated funding sources.

2.4.6 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, emergency response, contract and employee obligations.

2.4.7 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: 1.) Safety, 2.) Liquidity, and 3.) Yield. The priorities of these factors are further established by the adopted Statement of Investment Policy.

2.4.8 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 2017.

3 MODELING ASSUMPTIONS

The District's 10 Year Cash Flow Model ("Model") uses the most recent audited financial information, contract terms and Board adopted budgets for the applicable years in the Model. The District's fiscal year (FY) starts July 1 of each year. For example, Fiscal Year 2017-18 runs from July 1, 2017 to June 30, 2018.

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 by the California Department of Finance for the Los Angeles region.

Staff and consultants reviewed and revised the Model assumptions for the July 2017 Long Range Financial Plan.

3.1 Inflation Assumptions – Expenses

- General - Expenses: general inflation factors used in the Model are shown in Table 2. Updated CPI factors used are from data provided by the California Department of Finance with most recent update on May 11, 2017.
- Salaries & Benefits
    - Salaries: costs are assumed to vary by year in the Model consistent with the salary adjustments terms of the four year Memorandum of Understanding with the Moulton Niguel Water District Employee Association ("MOU"), which became effective June 24, 2017 and based on historical employee performance. Salaries related costs are expected to increase 13.6% for FY 2017-18, 6.0% for FY 2018-19, 8.1% for FY 2019-20, 5.2% for FY 2020-21, and 4.5% thereafter. The percent increase for FY 2017-18 reflects performance based salary increases as well as implementation of the new MOU terms, which include: an increase in the rate for standby pay, a 3% compensation structure adjustment and a 2% Cost of Living Adjustment (COLA). FY 2018-19 percent increase assumes a 2% COLA as well as performance based salary increases. FY 2019-20 percent increase assumes a 3% compensation structure adjustment, 2% COLA, and performance based salary increases. FY 2019-20 percent increase assumes a 2% COLA as well as performance based salary increases. FY 2020-21 percent increase assumes a 3% compensation structure adjustment, 2% COLA, and performance based salary increases. The remaining six years reflect the average annual increases for performance based salary increases. 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 2017-18 have been updated based on actual plan elections by staff who were hired during FY 2016-17. Inflation rates for FY 2017-18 are shown to illustrate the recalibration of forecasting assumptions in the Model.
        - Benefits – Medical represents the District's share of employee health care plan premiums. The first four years of the Model percentages represent staff's estimate at this time of what health and retirement increases could be over the term of the four year MOU. Per the terms of the MOU, employees and the District share future total plan cost increases for the HMO and PPO health plans on a 50/50 basis. Baseline medical cost assumptions for FY 2017-18 have been adjusted downward to reflect the plan elections by staff that were hired in FY 2016-17. An inflation rate of 5.5% has been assumed for all years beyond FY 2017-18: 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.

        - Benefits – Dental represents 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 2017-18 have been adjusted upward to reflect current rates. An inflation rate of 5.5% has been assumed for all years beyond FY 2017-18: 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.
        - Benefits – CalPERS represents the District's contribution to employee retirement plans, both the unfunded liability payment and normal cost payments are included. Inflation assumptions have been updated to reflect the December 2016 decision by the CalPERS Board of Administration to reduce the discount rate used by CalPERS actuaries from 7.5 percent to 7 percent over the next three years. Historically, and incorporated into the current MOU, the District has been industry leading in apportioning the pension liabilities between the employee and the employer. Currently, all District employees contribute their full share of pension liability. Inflation assumptions for FY 2017-18 through FY 2020-21 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.
        - Benefits – Other represents 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.
    - Insurance – District: represents the 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.
    - Insurance – Personnel: represents the 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. Insurance - Personnel related costs are expected to decrease 16.0% for FY 2017-18, increase by 7.24% for FY 2018-19, 9.86% for FY 2019-20, 7.2% for FY 2020-21, and 5.5% thereafter. The percent decrease for FY 2017-18 reflects decreased premiums for Workers' Compensation. 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 Factor" 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 has been reduced from 1.03 to 0.6 (i.e. from paying three percent more than the standard premium to paying only 60 percent of the standard premium). The fluctuating increases in FY 2018-19 through FY 2020-21 reflect the changes in the underlying compensation structure per the terms of the MOU discussed in the Salaries section. Years four through ten assume a 5.5% annual increase to maintain consistency with healthcare cost inflation assumptions.

- Operations
    - Operations – Utilities: utilities use the same factor as general inflation (based on Los Angeles-area CPI data). Electricity dominates the District's utility expenditures. Over the past few years, recent electricity prices statewide and in southern California have remained stable or grown slower than overall inflation. Escalating utilities at the rate of general inflation is therefore a conservative estimate for electricity.
    - Operations – SOCWA: inflation factor assumptions related to South Orange County Wastewater Authority (SOCWA) 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 for the FY 2017-18 through FY 2020-21 period 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.

Table 2: Inflation Factors - Expenses

Inflation Factors	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
General - Expenses	2.5%	2.5%	2.5%	2.5%	2.0%
Salaries & Benefits					
Salaries	13.6%	6.0%	8.1%	5.2%	4.5%
Benefits - Medical	-5.7%	5.5%	5.5%	5.5%	5.5%
Benefits - Dental	6.6%	5.5%	5.5%	5.5%	5.5%
Benefits - CalPERS	11.0%	6.8%	24.6%	14.7%	5.5%
Benefits - Other	-13.1%	5.5%	5.6%	5.5%	5.5%
Insurance					
Insurance - District	2.5%	2.5%	2.5%	2.5%	2.0%
Insurance - Personnel	-16.0%	7.2%	9.9%	7.2%	5.5%
Operating Costs					
Operations - Utilities	2.5%	2.5%	2.5%	2.5%	2.0%
Operations - SOCWA	12.5%	2.3%	0.7%	1.5%	3.3%
Capital Costs					
Capital - District	0.0%	0.0%	0.0%	0.0%	0.0%

Inflation Factors	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27
General - Expenses	2.0%	2.0%	2.0%	2.0%	2.0%
Salaries & Benefits					
Salaries	4.5%	4.5%	4.5%	4.5%	4.5%
Benefits - Medical	5.5%	5.5%	5.5%	5.5%	5.5%
Benefits - Dental	5.5%	5.5%	5.5%	5.5%	5.5%
Benefits - CalPERS	3.0%	3.0%	3.0%	3.0%	3.0%
Benefits - Other	5.5%	5.5%	5.5%	5.5%	5.5%
Insurance					
Insurance - District	2.0%	2.0%	2.0%	2.0%	2.0%
Insurance - Personnel	5.5%	5.5%	5.5%	5.5%	5.5%
Operating Costs					
Operations - Utilities	2.0%	2.0%	2.0%	2.0%	2.0%
Operations - SOCWA	1.6%	1.6%	1.6%	1.6%	1.6%
Capital Costs					
Capital - District	0.0%	0.0%	0.0%	0.0%	0.0%

3.2 Inflation Assumptions - Revenues

- 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. As the global economy has recovered, property tax revenue for the District has steadily increased more than 25% 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 South Orange County property tax forecasts suggest about a four percent 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: a 1.75% factor is used for all years in the Model. The District has adhered to the financial plan outlined in the 2015 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 necessarily reduced the District's investment income; however, due to increased coordination between the District's Finance, Accounting, and Engineering departments has increased the accuracy of short-term and long-term cashflow forecasts, which has allowed 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 for the Property Lease Revenue is from leasing District facilities to cell site carriers to place antennae's and equipment on reservoirs and other District locations. These communications facilities are distributed among 17 District sites. Many cell carriers are merging such as Sprint and Nextel, and no long need duplicative sites. However, due to the changes to the license fees, revenues are projected above historical levels at $1.7 million through FY 2019-20. The Model accounts for the contracted amounts from retained sites and the decommissioning of sites as the lease contracts expire. As a conservative estimate revenues are assumed not to increase beyond FY 2019-20 levels in future years.

Table 3: Inflation Factors - Revenues

Inflation Factors	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
Revenue Assumptions					
General - Revenue	0.00%	0.00%	0.00%	0.00%	0.00%
Property Tax	3.50%	3.50%	3.50%	3.50%	3.50%
Investment Returns	1.75%	1.75%	1.75%	1.75%	1.75%

Inflation Factors	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27
Revenue Assumptions					
General - Revenue	0.00%	0.00%	0.00%	0.00%	0.00%
Property Tax	3.50%	3.50%	3.50%	3.50%	3.50%
Investment Returns	1.75%	1.75%	1.75%	1.75%	1.75%

3.3 WATER SUPPLY ASSUMPTIONS

The water supply portfolio used as a base case to project the cost of the water the District purchases is based on available water deliveries from Baker Water Treatment Plant (Baker) and Diemer Treatment Plant from Metropolitan Water District of Southern California (MWD). 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. Currently, the District imports all of its potable water supplies from MWD via MWDOC. In FY 2016-17, Baker started operations and ramped up to full capacity in FY 2017-18. The Baker Water Treatment plant provides the District approximately 9,400 acre feet annually from treating raw MWD water. The District projects continued reduction in water losses (Non-revenue water) from 7.50% of purchased water in FY 2017-18 to 7.40%in FY 2020-21. 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. Currently, the District is evaluating water loss control programs to lower this value, but to maintain a conservative estimate, the District is projecting water loss as shown in Table *4*. The Water Supply Portfolio is consistent with UWMP projections as a result of

- Regular meter testing
- Pressure reduction studies
- AMI deployment

Table 4: Water Supply Portfolio

Water Supply Usage	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Usage (AF)	22,118	22,068	22,018	21,968
Non-Revenue Water	7.50%	7.46%	7.43%	7.40%
Total Demand w/Water Loss (AF)	23,911	23,846	23,784	23,722
Supply Portfolio				
Diemer Treatment Plant (AF)	14,511	14,446	14,384	14,322
Baker Treatment Plant (AF)	9,400	9,400	9,400	9,400

Note: For Fiscal Years 2017-18 and beyond, the base case for the Financial Plan assumes the same supply portfolio and usage as in FY 2016-17. The decrease in usage every year in Table 4 is attributed to the assumption that Recycled Water demand increases at a rate of 50 AF every year due to recycled water account conversions.

Below are the projected supply cost escalation rates in *Table* 5. In Section 6 of this document, the Model evaluates an additional scenario at twice the baseline cost increases. 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 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
MWD Treated Variable Rate ($/AF)	$995.24	$1,033.13	$1,071.60	$1,106.79	$1,142.56
MWD Untreated Variable Rate ($/AF)	$679.83	$715.51	$759.47	$807.81	$854.56
Baker Variable Costs ($/AF)	$91.21	$93.49	$95.83	$97.75	$99.70
Baker Fixed Costs	$754,353.00	$773,211.83	$792,542.12	$808,392.96	$824,560.82
MWD Readiness-to-Serve Charge	$1,342,027.00	$1,370,784.72	$1,418,714.26	$1,495,401.51	$1,610,432.40
MWD Capacity Charge	$493,384.50	$510,397.76	$527,411.02	$550,095.36	$567,108.62
MWDOC Annual Connection Charge	$626,999.10	$642,966.88	$659,097.54	$675,383.14	$691,815.11

Projected Rates and Charges	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27
MWD Treated Variable Rate ($/AF)	$1,183.56	$1,225.99	$1,271.42	$1,318.90	$1,370.08
MWD Untreated Variable Rate ($/AF)	$895.56	$937.99	$983.42	$1,030.90	$1,076.15
Baker Variable Costs ($/AF)	$101.70	$103.73	$105.80	$107.92	$110.08
Baker Fixed Costs	$841,052.04	$857,873.08	$875,030.54	$892,531.15	$910,381.77
MWD Readiness-to-Serve Charge	$1,744,635.10	$1,878,837.80	$2,022,626.41	$2,185,586.83	$2,273,010.30
MWD Capacity Charge	$595,464.05	$629,490.57	$629,490.57	$640,832.74	$666,466.05
MWDOC Annual Connection Charge	$708,384.19	$725,349.33	$742,720.00	$760,505.86	$778,716.80

Utilizing all the factors detailed above results in the annual operating revenue requirement projections shown in Table 6. FY 2018-19 and beyond are projected based on the costs in FY 2017-18.

Table 6: Revenue Requirements

Revenue Requirements	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
Water - Imports & Production	$ 24,542,742	$ 26,183,642	$ 27,221,934	$ 28,482,410	$ 29,569,334
Water - Storage & Facilities	$ 793,341	$ 623,488	$ 639,076	$ 655,052	$ 671,429
O&M - General	$ 12,411,229	$ 12,494,247	$ 12,795,817	$ 13,104,338	$ 13,420,137
Salaries	$ 12,245,509	$ 12,987,335	$ 14,026,895	$ 14,755,744	$ 15,419,752
Benefits	$ 5,120,879	$ 5,693,884	$ 6,543,602	$ 7,217,672	$ 7,614,644
Waste Water Treatment	$ 10,933,922	$ 11,188,641	$ 11,270,632	$ 11,438,267	$ 11,812,361

Revenue Requirements	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27
Water - Imports & Production	$ 30,702,511	$ 31,869,137	$ 33,067,187	$ 34,355,567	$ 35,609,327
Water - Storage & Facilities	$ 688,215	$ 705,420	$ 723,055	$ 741,132	$ 759,660
O&M - General	$ 13,743,883	$ 14,075,778	$ 14,416,028	$ 14,764,845	$ 15,122,448
Salaries	$ 16,113,641	$ 16,838,755	$ 17,596,499	$ 18,388,341	$ 19,215,816
Benefits	$ 7,932,438	$ 8,264,683	$ 8,612,080	$ 8,975,365	$ 9,355,325
Waste Water Treatment	$ 12,002,164	$ 12,195,017	$ 12,390,968	$ 12,590,068	$ 12,792,367

3.4 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
Certificates of Participation	3.5%	30	$250,000
General Obligation Bonds	3.5%	30	$250,000
State Revolving Fund Loans	1.7%	30	Staff time

4 REVENUE REQUIREMENTS AND CURRENT REVENUE

4.1 REVENUE REQUIREMENTS

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

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

Table *8* below shows the summary of district-wide revenues, new debt issuances and revenue requirements.

Table 8: Current Revenue and Revenue Requirements

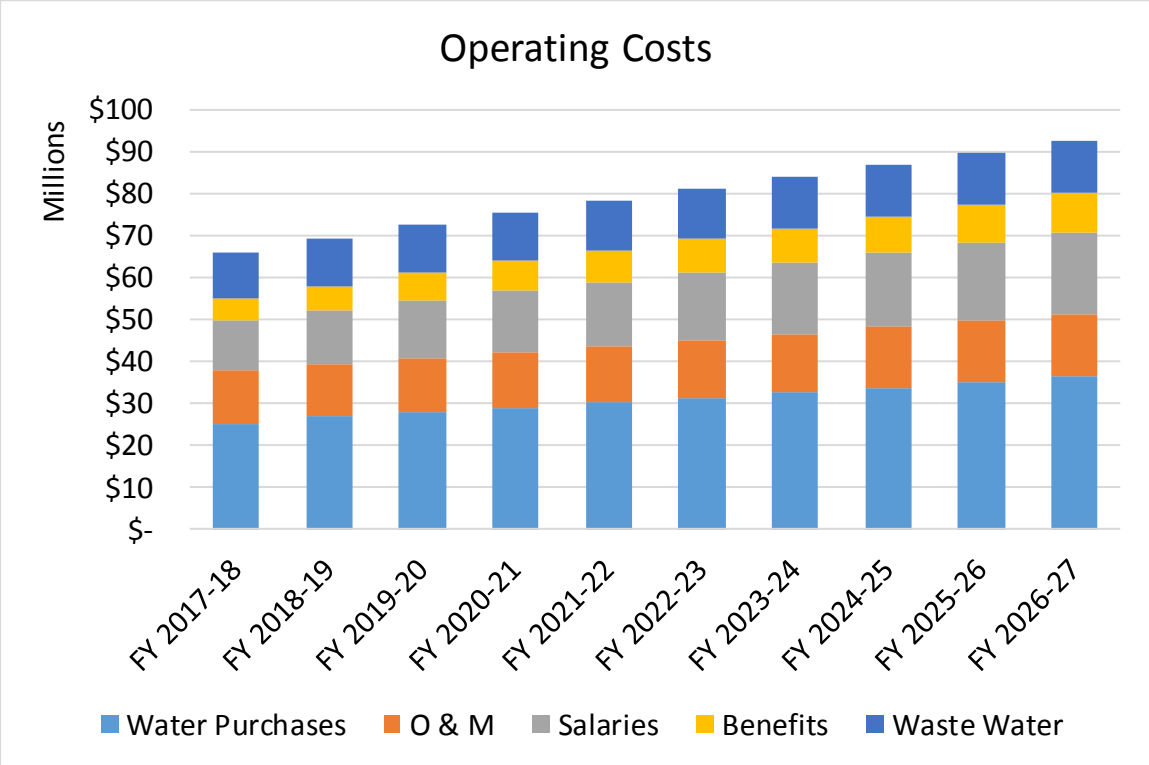
	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
Revenue					
Current Rate Revenue	$ 54,632,248	$ 56,873,571	$ 59,216,753	$ 61,666,840	$ 64,229,145
Proposed Adjustments	$ 2,167,116	$ 2,265,076	$ 2,367,874	$ 2,475,764	$ 2,589,014
Non-Rate Revenue	$ 33,665,689	$ 34,804,920	$ 35,351,065	$ 34,543,083	$ 35,689,504
Bond Issuance	$ -	$ 62,000,000	$ -	$ -	$ 42,000,000
Revenue Requirements					
Debt Service	$ 10,293,689	$ 9,622,591	$ 12,711,872	$ 11,218,836	$ 11,211,072
Operating Expenses	$ 66,196,361	$ 69,324,273	$ 72,655,596	$ 75,738,582	$ 78,516,739
Capital Expenses	$ 46,478,591	$ 56,145,082	$ 30,498,774	$ 26,089,449	$ 23,776,792

	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27
Revenue					
Current Rate Revenue	$ 66,909,260	$ 69,670,912	$ 72,527,925	$ 75,512,782	$ 78,631,632
Proposed Adjustments	$ 2,665,869	$ 2,756,393	$ 2,879,150	$ 3,007,796	$ 3,142,629
Non-Rate Revenue	$ 36,919,585	$ 37,844,394	$ 38,833,149	$ 39,964,580	$ 41,237,564
Bond Issuance	$ -	$ -	$ -	$ -	$ -
Revenue Requirements					
Debt Service	$ 13,297,939	$ 12,111,094	$ 12,319,482	$ 12,260,368	$ 12,204,501
Operating Expenses	$ 81,112,934	$ 83,796,048	$ 86,565,716	$ 89,485,640	$ 92,432,050
Capital Expenses	$ 23,566,270	$ 22,355,653	$ 21,923,996	$ 12,673,894	$ 13,164,923

The following figures and charts will breakdown the overall revenues and revenue requirements into their components and Section 5 will show the plan moving forward. Operations and maintenance expenses in the Long Range Financial Plan use actual FY 2016-17 expenses and budgeted expenses for FY 2017-18. After FY 2017-18, operating expenses are projected based on the inflation factors discussed in Modeling Assumptions.

Figure 2 depicts a breakdown of operating costs over the next 10 years into their major components.

Figure 2: Operating Costs

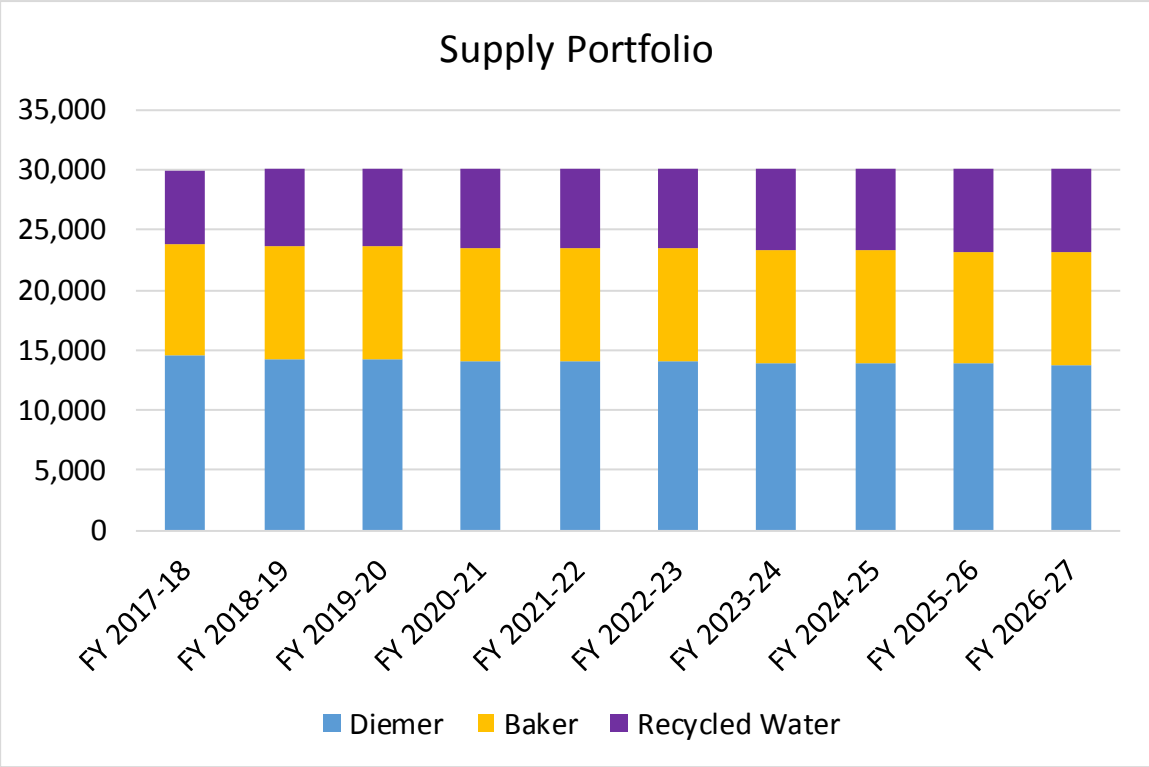


Given the significant annual financial contributions to wastewater treatment (approximately $25M annually for both operating and capital expenses) there is a growing need to ensure the District's ratepayers receive high-quality and cost-effective wastewater treatment services from its contract service 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 of the District's ratepayers. As the projected costs for wastewater treatment continue to increase at unprecedented rates, the District intends to review opportunities to identify the most effective ways to treat wastewater and managing costs to do so.

The largest operating expense is water purchases. Currently, the District purchases all of its potable water supply from the MWD via MWDOC. In 2016 the regional Baker Water Treatment Plant came online and met 22% of FY 2016-17 potable water demand. Over the next ten years, Baker is estimated to meet approximately 40% of potable water demand. In FY 2017-18, Recycled water production is estimated to meet 27% of potable water demand and is projected to grow at a rate of 50 AF until FY 2026-27 and remain constant thereafter.

Figure 3 shows the forecast water supply portfolio.

Figure 3: Supply Portfolio

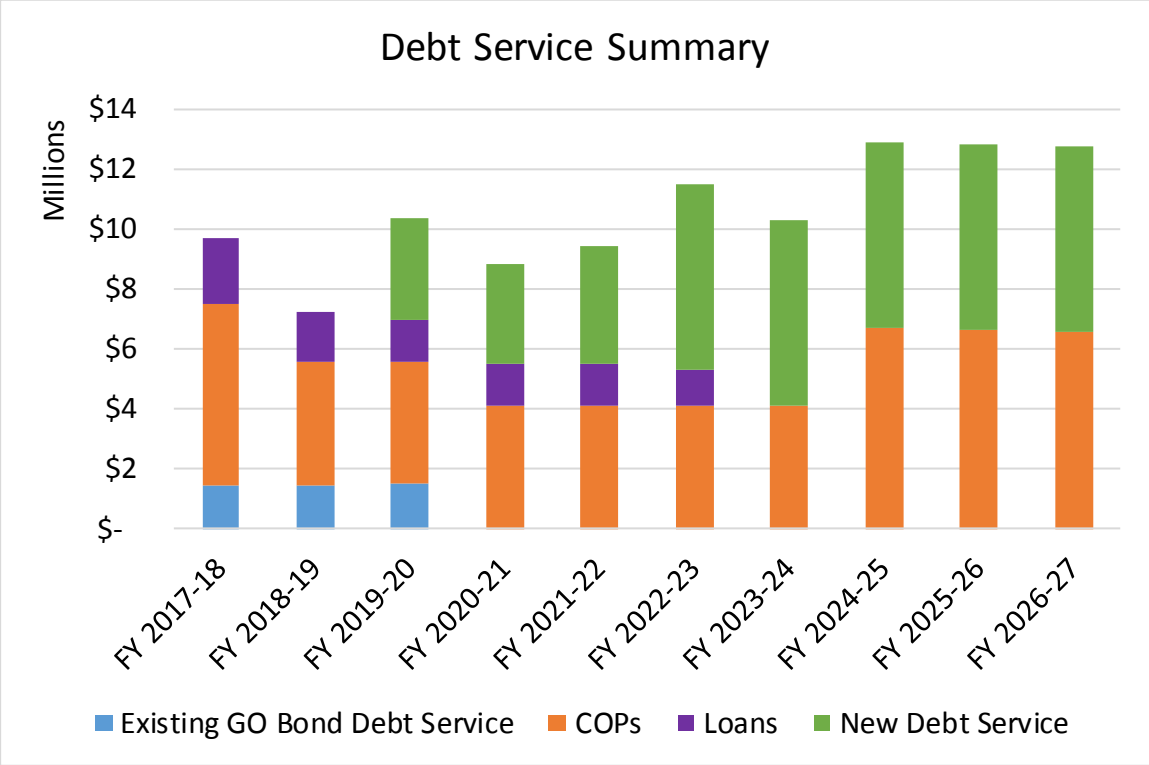


The Model has the capability to analyze the financial impacts of a mixed portfolio with specified supply allocations based on projects currently discussed such as expanded recycled water deliveries, San Juan Basin Groundwater expansion, local surface water in Irvine Lake, and water exchanges or transfers. The supply portfolio presented above is the base case used unless specified in a given scenario.

The financial plan includes the existing debt service schedules and projected issuances intended to smooth out large expected capital project costs over time. The baseline case projects a debt issuance of in FY 2018-19 for $62 million and in FY 2021-22 for $42 million to maintain smooth rate revenue adjustments in the near term.

Figure 4 provides a breakdown of both General Fund existing debt service by issuance type and projected debt issuances in FY 2018-19 and FY 2021-22 to fund capital expenditures and smooth rate adjustments.

Figure 4: Debt Service Summary



Note: Loans include DWR, 3 SRF, and 2 CIEDB Loans. The General Obligation bonds have bi-annual ad valorem property tax revenue equal to its bi-annual debt service payments.

Capital expenses are projected for Fiscal Years 2017-18 through 2026-27 from the District's 10 Year Capital Improvement Plan. Due to a combination of aging infrastructure with forecasted replacement and rehabilitation as well as large regional capital projects, the District has an expected CIP of approximately $295 million over the next 10 years. Currently, the District has budgeted for upgrades to its Operations Center and associated facilities over the next 2 years. For planning purposes only, capital expenses associated with the District's share of capital investments at the South Orange County Wastewater Authority ("SOCWA") over the next ten years have been included in this plan assuming a fully implemented program. 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 5 provides a summary of the major capital expenses in the District's 2018 Capital Improvement Plan.

Figure 5: Capital Projects Summary

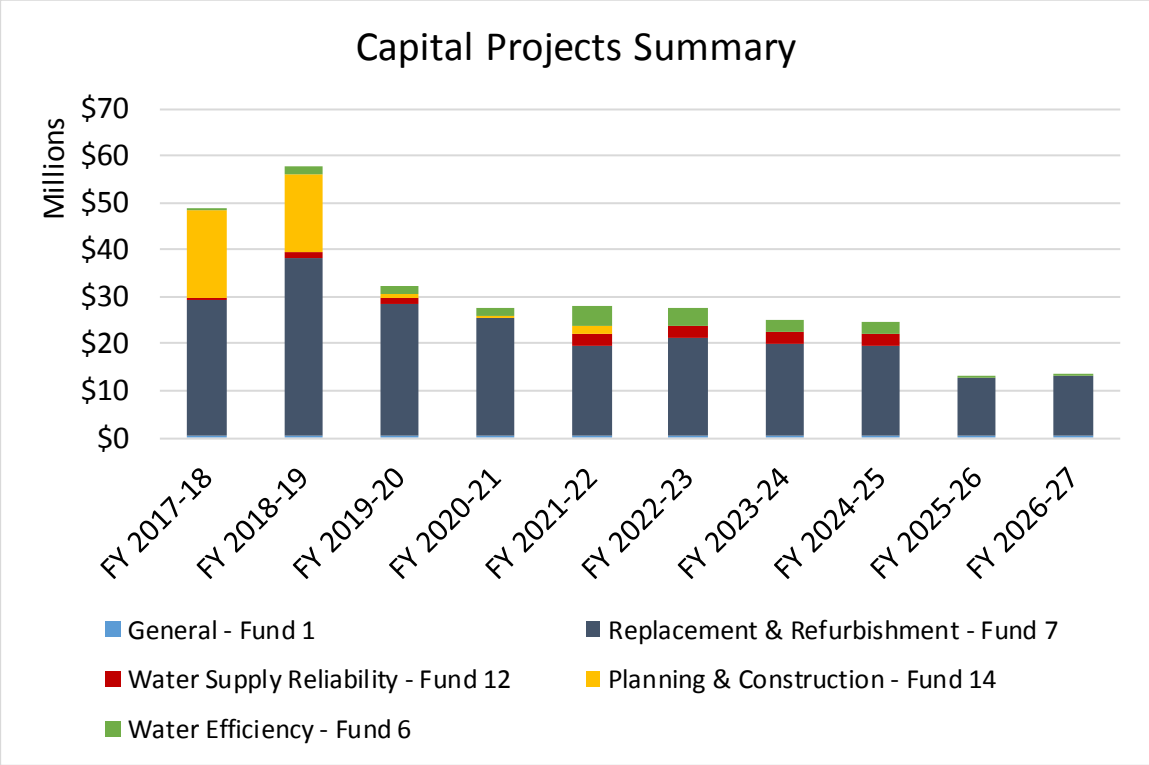
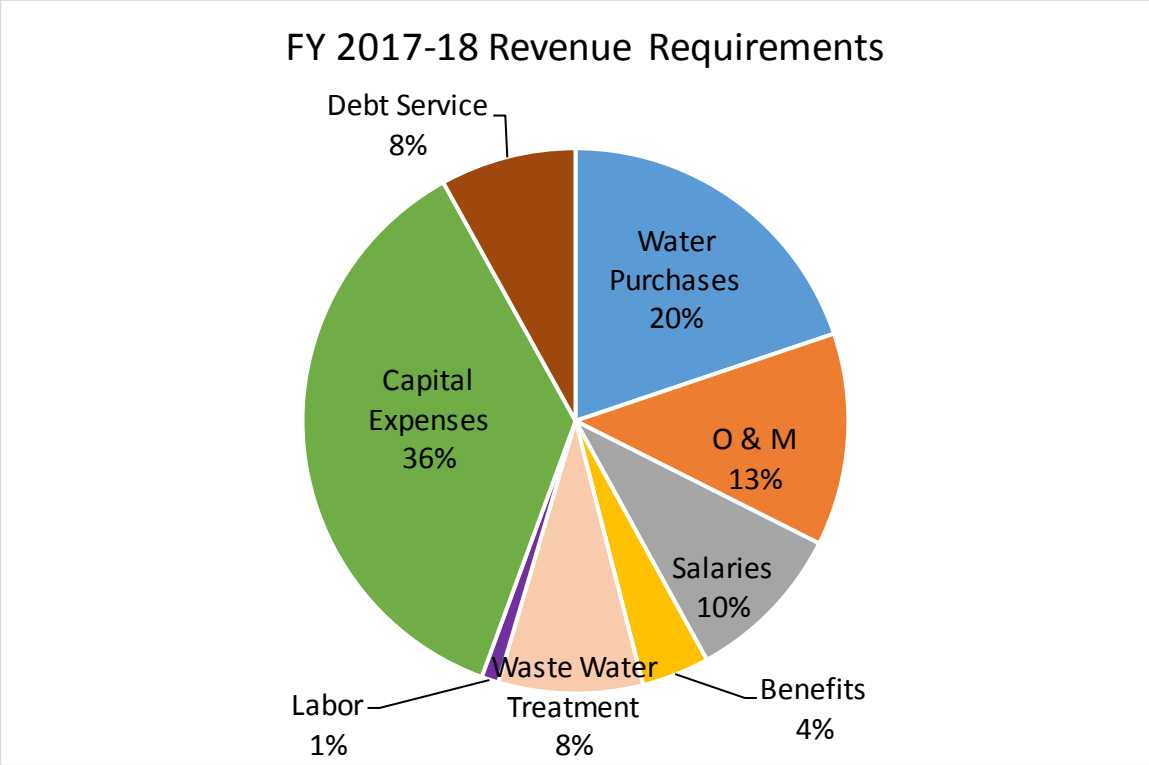


Figure 6 below shows combined operating and capital revenue requirements for FY 2017-18, the first year of the model.

Figure 6: FY 2017-18 Revenue Requirements



4.2 Current Revenue

The two largest sources of revenue derive from rate revenue from the three systems (water, recycled water, and wastewater) and ad valorem property tax revenue collected from taxable property owners within the District's service area.

4.2.1 Water Rates

The current water volumetric rate structure is composed of five tiers with the following tier widths for residential customers:

Tier 1 = Indoor Water Budget

Tier 2 = Outdoor Water Budget

Tier 3 = Usage above 100% of Total water budget up to 125% of the Total water budget

Tier 4 = Usage above 125% of Total water budget up to 150% of the Total water budget

Tier 5 = Usage above 151% of water budget

The indoor water budget, or Tier 1, is determined by first allocating 60 gallons per capita per day (gpcd) for the efficient indoor-use of water, multiplying that allocation by the number of days in the billing cycle and the number of people in the household. Customers are assumed to have four people in the household

for single family residential and two to three people for multi-family housing. If a customer has a different household size, they can submit a variance to adjust the number of people used to calculate their indoor water budget. The equation for Tier 1 is as follows:

Tier 1. Indoor Allocation = (Household Size) x (60 GPCD) x (Conversion Factor) x (Days Billed)

The outdoor water budget, or Tier 2, is determined by irrigable area, crop factor, and local climate conditions, as measured by evapotranspiration. The conversion factor converts from gallons to hundred cubic feet (ccf). The District used a combination of geospatial analysis and in-person site visits to determine the irrigable area associated with each meter. The crop coefficient used is 0.7 which represents a mixed landscape of turf and shrubs, currently the most common landscape feature in the District's service area. The equation for Tier 2 is as follows:

Tier 2. Outdoor Allocation = (ETo) x (Irrigable Area) x (Conversion Factor) x (Crop Coefficient 0.7)

Most commercial customers have two metered connections, a dedicated irrigation meter and a commercial meter. To determine the 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. 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.

For all irrigation meters, water budgets are calculated as follows:

Irrigation in-budget Usage = (ETo) x (Irrigable Area) x (Conversion Factor) x (Crop Coefficient 0.7)

Outdoor water budgets for areas irrigated with recycled water are calculated similarly to potable irrigation meters outdoor water budgets, but with a higher plant factor to account for the additional salinity of recycled water. The same calculation applies to water budgets for potable water and recycled water for areas defined as public spaces which includes public parks.

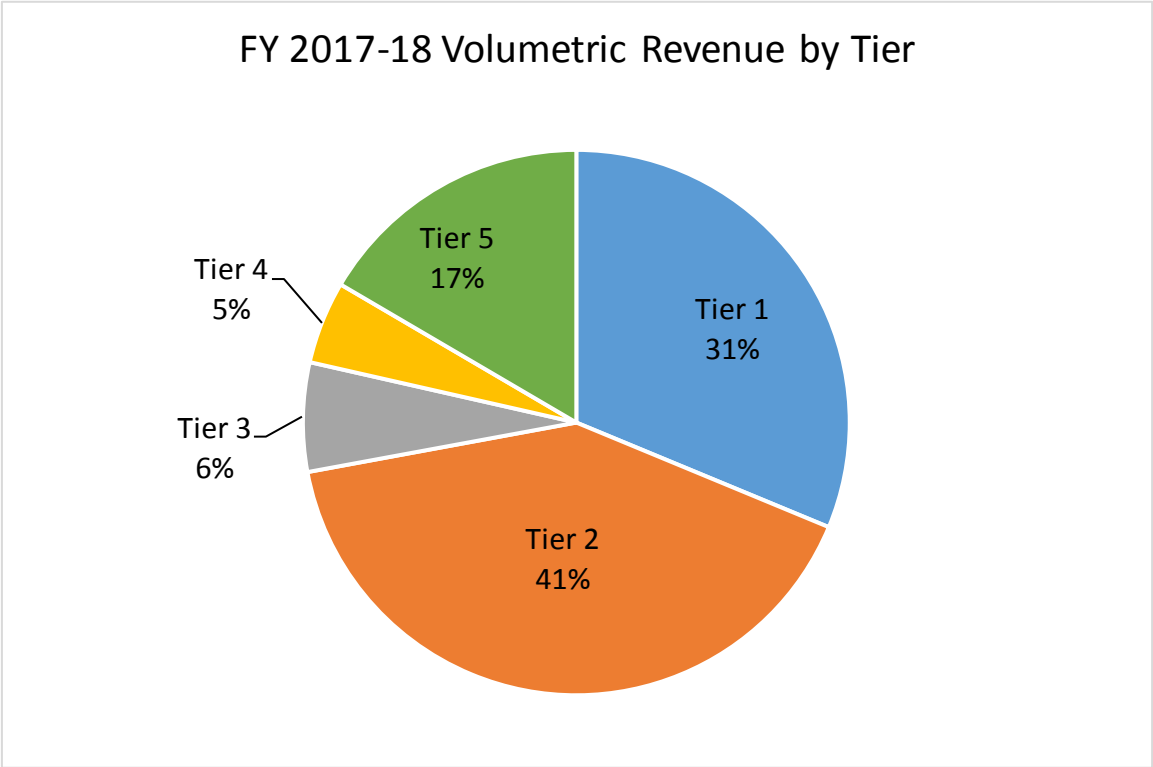
Recycled Water in-budget usage = (ETo) x (Irrigable Area) x (Conversion Factor) x (Crop Coefficient 0.8)

Public spaces in-budget usage = (ETo) x (Irrigable Area) x (Conversion Factor) x (Crop Coefficient 1.0)

Using water in excess of a customer's individually calculated water budget results in payment of higher rates, increasing up to $9.28 per ccf in the highest tier. For Recycled customers, usage above the basic use allocation results in an increase up to $8.36 in the highest tier. The revenue derived from the out-of-budget usage above the marginal cost of water is used to fund conservation and water use efficiency programs, education, outreach, and program administration. In addition, the water use efficiency revenue can be used to study and/or construct new water supply projects.

Figure 7 presents the projected revenue share for FY 2017-18 that will be received from each of the water budget tiers based on FY 2016-17 baseline usage levels and no assumed rate structure changes.

Figure 7: Current Volumetric Revenue by Tier



The District provides potable water and recycled water to customers via volumetric metered rates. Each customer receives a monthly bill. The District's third year of scheduled increases were implemented on Jan 1, 2017, and is shown in Table 9 for residential customers.

Table 9: Residential Tier Widths

Water Budget Based Rate Structure (Residential Tier Widths)		
Tier	**Allocation**	**Rate (per ccf)**
1	Indoor Water Budget	$1.56
2	Outdoor Water Budget	$1.78
3	101% to 125% Total Water Budget	$2.73
4	126% to 150% Total Water Budget	$4.49
5	Over 151% of Water Budget	$9.28

The current rate structure for the commercial and irrigation customers is a four tier allocation-based rate structure with Tier 2 up to 125 percent of the water budget and Tier 3 up to 150 percent of the water budget with the Irrigation rate structure. Non-Residential Water rate structure is shown in Table 10.

Table 10: Non-Residential Tier Widths

Water Budget Based Rate Structure (Non-Residential Tier Widths)		
Tier	**Allocation**	**Rate (per ccf)**
1	Up to Total Water Budget	$1.78
2	101% to 125% Water Budget	$2.73
3	126% to 150% Water Budget	$4.49
4	Over 151% of Water Budget	$9.28

Recycled water rates follow a similar water budget based rate structure and are shown in Table 11.

Table 11: Recycled Tier Widths

Water Budget Based Rate Structure (Recycled Water)		
Tier	**Allocation**	**Rate (per ccf)**
1	Up to Total Water Budget	$1.29
2	101% to 125% Water Budget	$1.81
3	126% to 150% Water Budget	$3.57
4	Over 151% of Water Budget	$8.36

Single family residential water meters are all assumed to be either 5/8", ¾" or 1" and billed at the same current monthly rate of $11.91 per month. The District applies a monthly service charge for each of the customer classes below. These charges are reflected below in Table 12.

Table 12: Monthly Service Charges

Monthly Service Charges						
Connection Size	**Residential**	**Multi-Family**	**Commercial**	**Irrigation**	**Recycled**	**Fire Protection**
5/8"	$11.91	$7.33	$6.55	$18.65	$18.65	$3.95
3/4"	$11.91	$7.33	$6.55	$18.65	$18.65	$3.95
1"	$11.91	$7.33	$6.55	$18.65	$18.65	$3.95
1 1/2"	$39.73	$24.45	$21.84	$62.15	$62.15	$13.19
2"	$63.57	$39.11	$34.94	$99.44	$99.44	$21.11
2 1/2"	$ -	$ -	$ -	$ -	$ -	$33.64
3"	$139.06	$85.57	$76.42	$217.54	$217.54	$46.17
4"	$238.36	$146.69	$131.00	$372.91	$372.91	$79.14
6"	$497.00	$305.85	$273.14	$777.51	$777.51	$164.88
8"	$715.10	$440.06	$393.00	$1,118.72	$1,118.72	$237.43
10"	$1,152.50	$709.24	$633.39	$1,803.00	$1,803.00	$382.52

4.2.2 Wastewater Rates

The wastewater system has two customer groupings: residential customers and non-residential customers. Residential customers are billed at a monthly charge of $26.22 and Multi-Family customers are billedbased on meter size as shown in Table *13*.

Non-residential customers (typically commercial) are assigned to one of the 4 classes below based on land-use; the rates for each of the non-residential customer classes are based on stregnth assumptions for a given land use and the rates are shown in Table *13*:

Class 1: Typical users include residential, bank, car washes, churches, department and retail stores, Laundromats, professional offices, schools and colleges.

Class 2: Typical users include beauty and barber shops, hospital and convalescent facilities, commercial laundry, repair shops, service stations and veterinary hospitals.

Class 3: Typical users include hotels with dining facilities, markets with garbage disposals, mortuaries and fast-food restaurants.

Class 4: Typical users include restaurants, auto-steam-cleaning facilities and bakeries.

Table 13: Wastewater Service Charges

Wastewater Service Charges						
Connection Size	**Residential**	**Multi-Family**	**Class 1**	**Class 2**	**Class 3**	**Class 4**
5/8"	$26.22	$28.58	$20.66	$44.02	$90.56	$97.70
3/4"	$26.22	$28.58	$20.66	$44.02	$90.56	$97.70
1"	$26.22	$28.58	$20.66	$44.02	$90.56	$97.70
1 1/2"	$26.22	$87.76	$61.35	$139.21	$294.33	$318.12
2"	$26.22	$138.50	$96.23	$220.81	$469.01	$507.08
3"	$26.22	$299.17	$206.69	$479.25	$1,022.23	$1,105.51
4"	$26.22	$510.54	$352.02	$819.25	$1,750.04	$1,892.81
6"	$26.22	$1,060.15	$729.89	$1,703.30	$3,642.47	$3,939.89
8"	$26.22	$1,525.19	$1,049.61	$2,451.32	$5,243.70	$5,671.99
10"	$26.22	$2,455.30	$1,689.08	$3,947.40	$8,446.24	$9,136.27

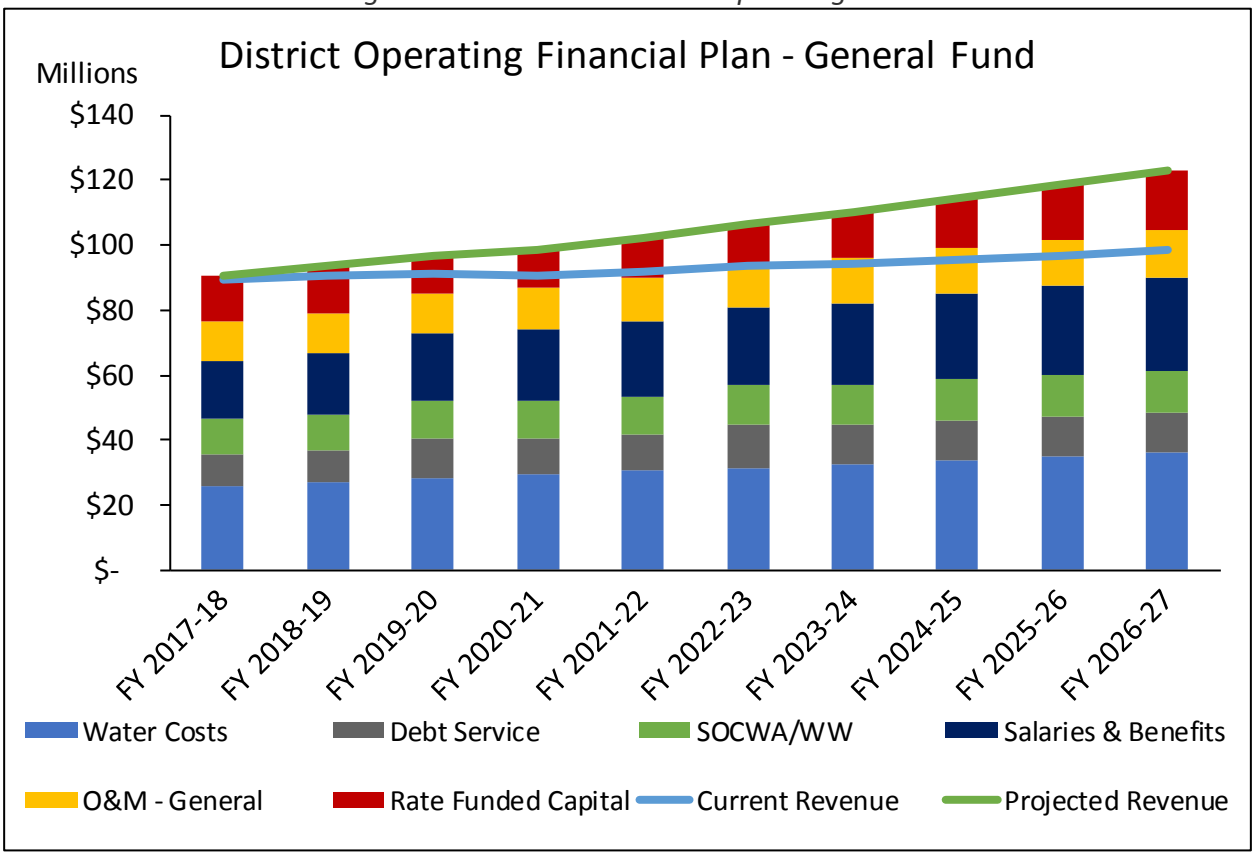
5 PROPOSED FINANCIAL PLAN

The LRFP incorporates both the revenue requirements and assumed inflationary factors for 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 while structuring rate adjustments and debt financing to maintain cash balances at targeted reserve levels in the future.

5.1 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.

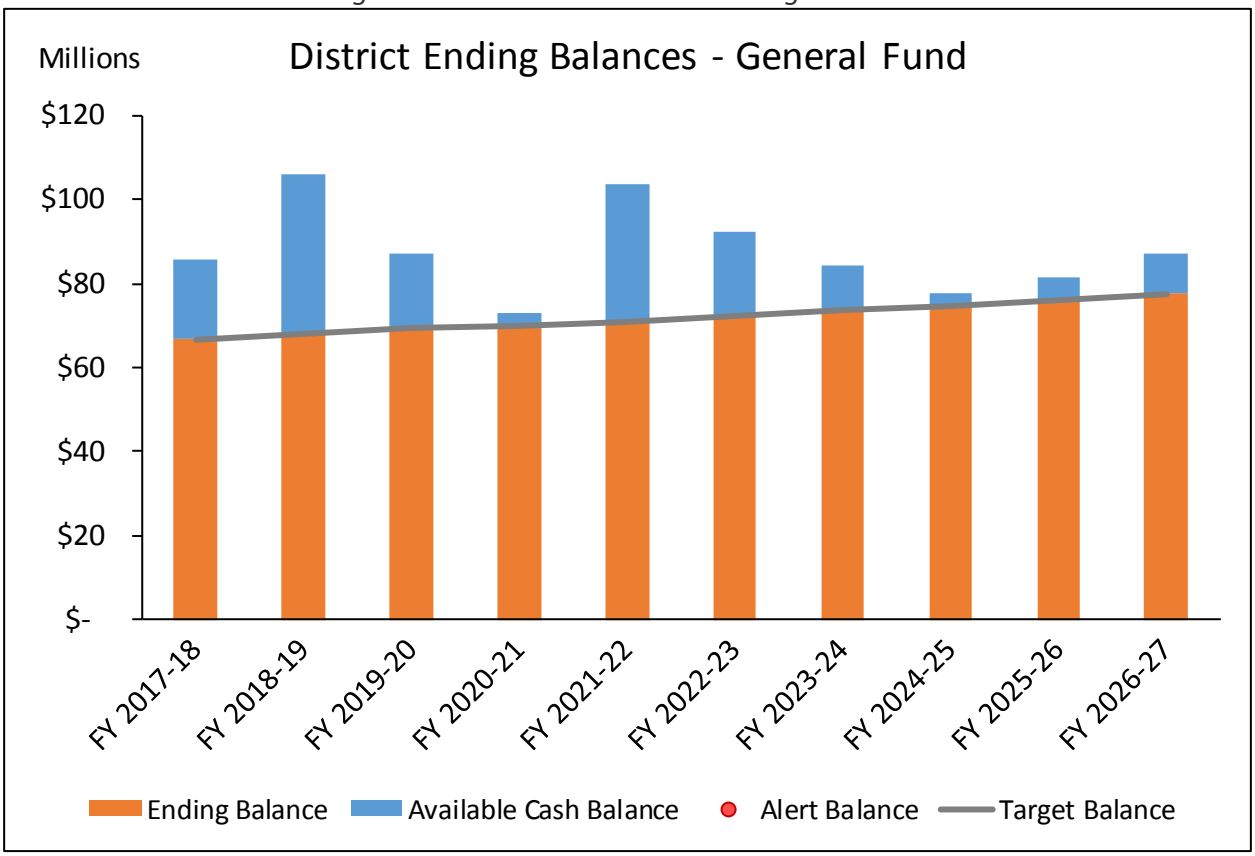
Figure 8:Gen. Fund – District Operating Plan



Rate Funded Capital is total revenue net operating and debt service related expenses that is used to cash fund the most of the Capital Improvement Plan. These funds can also be used to replenish reserve funds if they drop below reserve targets. 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 2022-23 as shown in Figure 8. When structuring future rate adjustments and debt issuance, the District should be cognizant of the impacts to the debt coverage ratio for which the District has a policy minimum of 1.75x.

In addition, the proposed revenue adjustments 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 can 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



The current debt coverage ratio has approached the policy minimum coverage ratio of 1.75 as shown in Figure 10. The proposed revenue adjustments keep the coverage ratio at or above the benchmark coverage ratio of 1.9, based on Moody's four-year average median coverage ratios for all US Water, Sewer and Combined Utilities of 1.9. Shown in Figure 10, the proposed debt issuances are timed to align with the retirement of existing debt. By utilizing the District's strong debt service coverage ratio and timing future issuances as the District's capacity to issue debt increases, the proposed financial plan maintains the 4 percent annual rate adjustments identified in the 2015 Long Range Financial Plan, while providing for inter-generational equity amongst today's customers and the rate payers of tomorrow.

Figure 10: Gen. Fund – District Revenue Adjustments

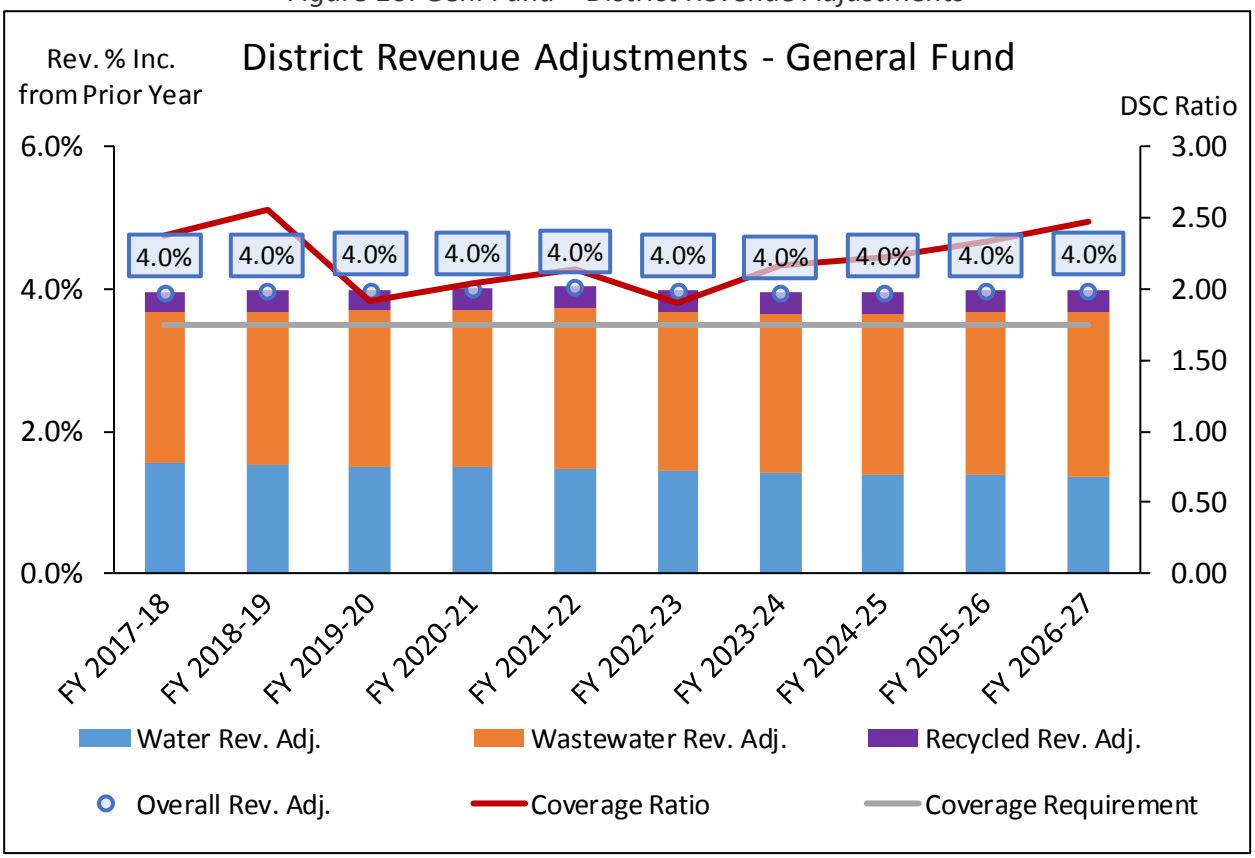


Table 14 below, the Pro-Forma, shows the overall revenues, operating expenses, debt service, capital expenses, and fund balances for the General Fund. Ending cash balances are broken down by funds allocated to meet specific reserve requirements per the District's reserve policy and available cash for capital projects.

Table 14: Proforma

MNWD Overall General Fund Pro-Forma - 2017 LRFP Report

	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27
General Fund Revenues - District										
Potable Water Sales	$ 28,539,552	$ 29,348,036	$ 30,153,708	$ 30,954,902	$ 31,749,833	$ 32,536,588	$ 33,341,973	$ 34,166,398	$ 35,010,281	$ 35,874,047
Sewer Sales	$ 21,610,076	$ 22,867,065	$ 24,196,952	$ 25,603,954	$ 27,092,530	$ 28,649,882	$ 30,259,572	$ 31,942,107	$ 33,717,905	$ 35,592,122
Recycled Water Sales	$ 5,385,584	$ 5,602,251	$ 5,852,707	$ 6,139,552	$ 6,465,538	$ 6,833,569	$ 7,217,864	$ 7,619,066	$ 8,037,844	$ 8,474,891
Other Operating Revenue	$ 516,900	$ 643,065	$ 529,464	$ 529,464	$ 529,464	$ 529,464	$ 529,464	$ 529,464	$ 529,464	$ 529,464
Property Tax	$ 29,000,861	$ 29,996,583	$ 31,036,218	$ 30,579,947	$ 31,650,246	$ 32,758,004	$ 33,904,534	$ 35,091,193	$ 36,319,385	$ 37,590,563
Investment Income	$ 1,766,390	$ 1,663,151	$ 1,677,646	$ 1,388,870	$ 1,531,055	$ 1,698,210	$ 1,529,295	$ 1,403,000	$ 1,381,282	$ 1,461,740
Property Lease	$ 1,723,533	$ 1,626,486	$ 1,644,355	$ 1,644,355	$ 1,644,355	$ 1,644,355	$ 1,644,355	$ 1,644,355	$ 1,644,355	$ 1,644,355
Misc. Non-Operating Revenue	$ 1,581,959	$ 1,581,959	$ 1,581,959	$ 1,581,959	$ 1,581,959	$ 1,581,959	$ 1,581,959	$ 1,581,959	$ 1,581,959	$ 1,581,959
Connection Fees	$ 340,198	$ 614,970	$ 262,684	$ 262,684	$ 262,684	$ 262,684	$ 262,684	$ 262,684	$ 262,684	$ 262,684
Total Revenues	**$ 90,465,053**	**$ 93,943,567**	**$ 96,935,692**	**$ 98,685,687**	**$ 102,507,662**	**$ 106,494,715**	**$ 110,271,699**	**$ 114,240,225**	**$ 118,485,158**	**$ 123,011,825**
District General Fund Revenue Requirements										
Operating Expenses										
Water - Imports & Production	$ 24,691,479	$ 26,336,677	$ 27,379,574	$ 28,631,985	$ 29,710,269	$ 30,834,823	$ 31,992,105	$ 33,179,478	$ 34,458,277	$ 35,702,242
Water - Storage & Facilities	$ 793,341	$ 623,488	$ 639,076	$ 651,857	$ 664,894	$ 678,192	$ 691,756	$ 705,591	$ 719,703	$ 734,097
O&M - General	$ 12,411,229	$ 12,494,247	$ 12,795,817	$ 13,043,057	$ 13,294,818	$ 13,551,675	$ 13,813,733	$ 14,081,100	$ 14,353,886	$ 14,632,203
Salaries	$ 12,245,509	$ 12,987,335	$ 14,026,895	$ 14,755,744	$ 15,419,752	$ 16,113,641	$ 16,838,755	$ 17,596,499	$ 18,388,341	$ 19,215,816
Benefits	$ 5,120,879	$ 5,693,884	$ 6,543,602	$ 7,217,672	$ 7,614,644	$ 7,932,438	$ 8,264,683	$ 8,612,080	$ 8,975,365	$ 9,355,325
SOCWA/WW	$ 10,933,922	$ 11,188,641	$ 11,270,632	$ 11,438,267	$ 11,812,361	$ 12,002,164	$ 12,195,017	$ 12,390,968	$ 12,590,068	$ 12,792,367
Subtotal O&M Expense	**$ 66,196,361**	**$ 69,324,273**	**$ 72,655,596**	**$ 75,738,582**	**$ 78,516,739**	**$ 81,112,934**	**$ 83,796,048**	**$ 86,565,716**	**$ 89,485,640**	**$ 92,432,050**
Debt Service										
Existing	$ 10,293,689	$ 9,622,591	$ 9,340,850	$ 7,847,814	$ 7,840,049	$ 7,643,321	$ 6,456,476	$ 6,664,864	$ 6,605,749	$ 6,549,883
Proposed	$ -	$ -	$ 3,371,023	$ 3,371,023	$ 3,371,023	$ 5,654,618	$ 5,654,618	$ 5,654,618	$ 5,654,618	$ 5,654,618
Subtotal Debt Service Expense	**$ 10,293,689**	**$ 9,622,591**	**$ 12,711,872**	**$ 11,218,836**	**$ 11,211,072**	**$ 13,297,939**	**$ 12,111,094**	**$ 12,319,482**	**$ 12,260,368**	**$ 12,204,501**
Total Revenue Requirement (Non-CIP)	**$ 76,490,049**	**$ 78,946,864**	**$ 85,367,468**	**$ 86,957,419**	**$ 89,727,811**	**$ 94,410,873**	**$ 95,907,143**	**$ 98,885,198**	**$ 101,746,008**	**$ 104,636,551**
Net Change in General Fund before CIP	**$ 13,975,003**	**$ 14,996,703**	**$ 11,568,223**	**$ 11,728,268**	**$ 12,779,852**	**$ 12,083,842**	**$ 14,364,556**	**$ 15,355,026**	**$ 16,739,150**	**$ 18,375,274**
Capital and Ending Balances										
Capital Expenses (CIP + Outlays)	$ 46,478,591	$ 56,145,082	$ 30,498,774	$ 26,089,449	$ 23,776,792	$ 23,566,270	$ 22,355,653	$ 21,923,996	$ 12,673,894	$ 13,164,923
Bond Proceeds	$ -	$ 61,750,000	$ -	$ -	$ 41,750,000	$ -	$ -	$ -	$ -	$ -
Beginning Balance	$ 118,071,550	$ 85,567,962	$ 106,169,583	$ 87,239,032	$ 72,877,851	$ 103,630,911	$ 92,148,483	$ 84,157,387	$ 77,588,417	$ 81,653,674
Ending Balance (Includes Interest)	$ 85,567,962	$ 106,169,583	$ 87,239,032	$ 72,877,851	$ 103,630,911	$ 92,148,483	$ 84,157,387	$ 77,588,417	$ 81,653,674	$ 86,864,025
Reserve Balance	$ 66,599,520	$ 67,879,360	$ 69,232,008	$ 69,774,619	$ 71,004,308	$ 72,207,235	$ 73,451,279	$ 74,737,025	$ 76,081,102	$ 77,453,294
Future Capital Improvement Projects	$ 18,968,442	$ 38,290,223	$ 18,007,024	$ 3,103,232	$ 32,626,603	$ 19,941,248	$ 10,706,108	$ 2,851,392	$ 5,572,571	$ 9,410,731
Debt Coverage Ratio	2.36	2.56	1.91	2.05	2.14	1.91	2.19	2.25	2.37	2.51

5.2 WATER USE EFFICIENCY 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 continue to use water efficiently (i.e. within their calculated water budgets). Because of 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 water use 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 demand from inefficient water use.

By establishing the Water Use Efficiency Fund, 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 "lived within their [water] 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 an historic drought, 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: in FY 2014-15 and FY 2015-16, the District expended over 95 percent of its rebate and water efficiency program budgets. 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 its newly launched direct install and commercial site assessment programs.

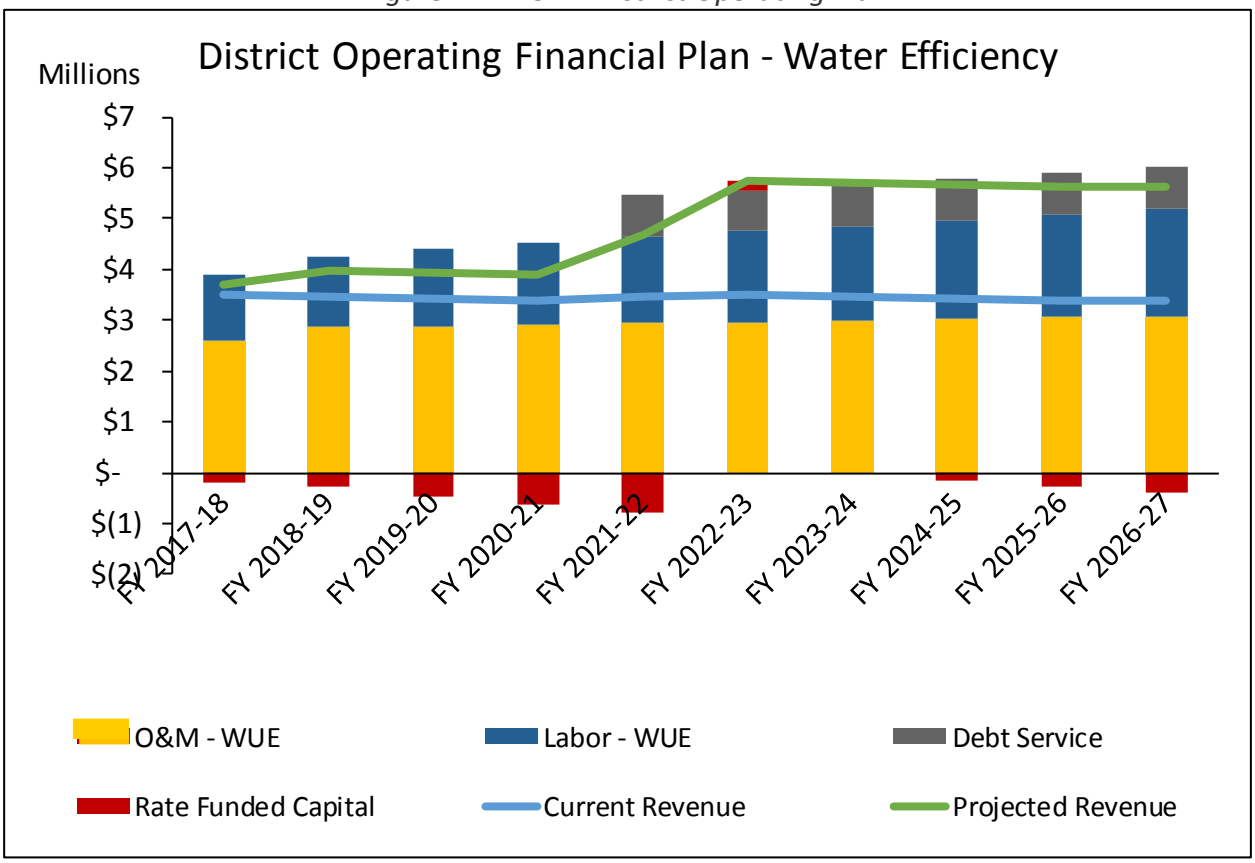
However, District staff is also cognizant of the deluge of conservation messaging from the state that customers received during the height of the drought emergency and its likely contribution to an overall increased awareness of rebate programs and a general concern from customers about their future water supply. As the state has seen wet winters and begins to moves out of the emergency stage of the drought, District staff has seen a reduction in rebate program participation compared to the past two fiscal years. In FY 2016-17 the District expended only 58 percent of its rebate and efficiency program budgets. It is important to note that when the FY 2016-17 budgets were developed there was little to no indication that the emergency stage of the drought would be lifted within the fiscal year, and program funding levels were established to ensure that rebates would continue to be available to customers. Additionally, though rebate program participation was significantly lower in FY 2016-17 than in the previous two years, total rebate payments for FY 2016-17 were approximately double their FY 2013-14 level.

In the absence of the District's new direct install and efficiency assessment programs, the combined effect of reduced conservation messaging from the state and rescinding the District's Water Shortage Contingency Plan Stages I & II would warrant a reduction in water use efficiency cost projections in future years. However, as the District continues to take a more active role in the administration of its water use efficiency and rebate programs, it is expected that program participation will increase beyond the level seen in FY 2016-17 and has been reflected in the FY 2017-18 budget. From a financial planning perspective, these potentially offsetting impacts warrant a different methodology be used to develop rate revenue

requirements for future years from that which was used to develop the FY 2017-18 budget. Recognizing this, District finance staff has reduced its non-labor related operating expenses to 59 percent of their budgeted values based on the minimum ratio of actuals to budget over the past four years to serve as an estimate of the District's rate revenue requirements for operating costs over the planning horizon. If customers participate below minimal levels, the projected debt issuance could be reduced or eliminated to provide financial resiliency and meet financial expense projections.

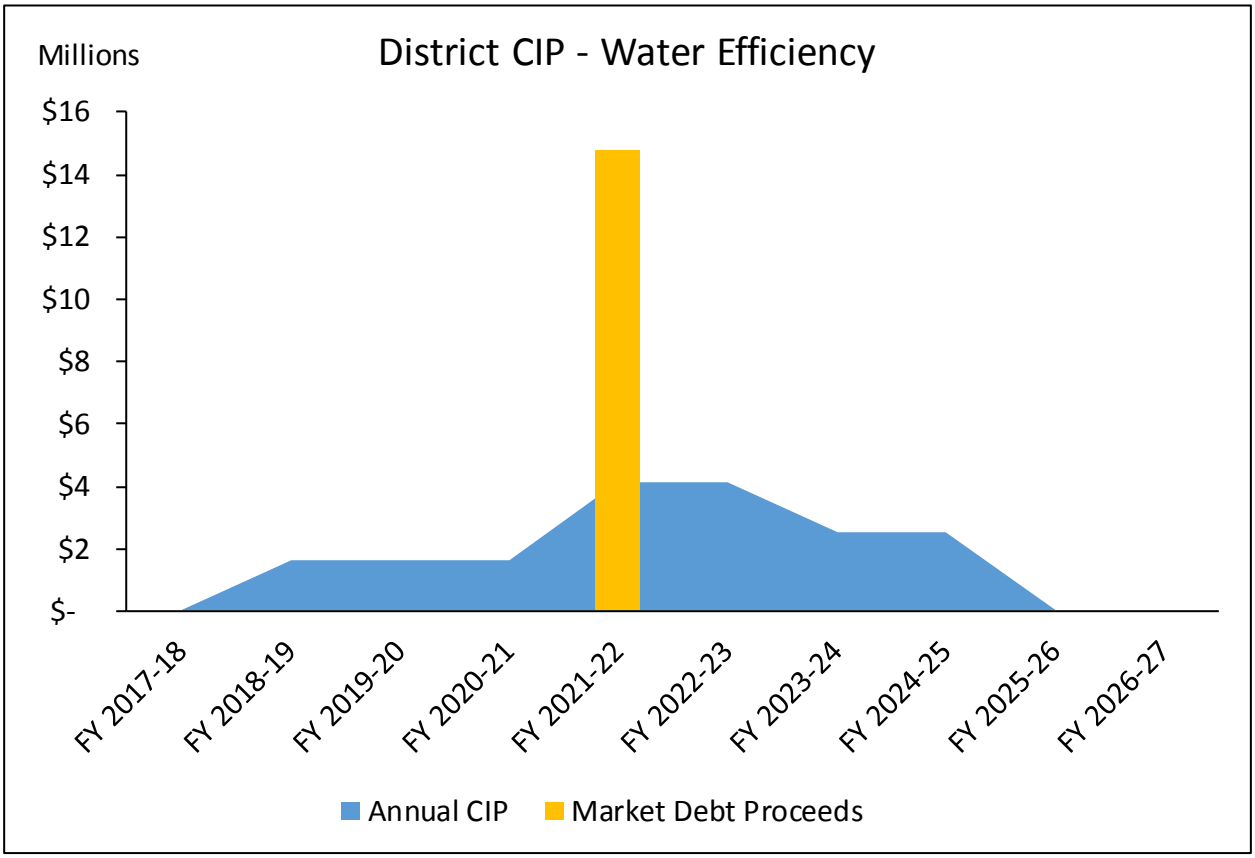
Figure 11 below is the Water Efficiency operating financial plan that breaks down the major component costs and compares the proposed revenue stream to the status quo.

Figure 11: WUE – District Operating Plan



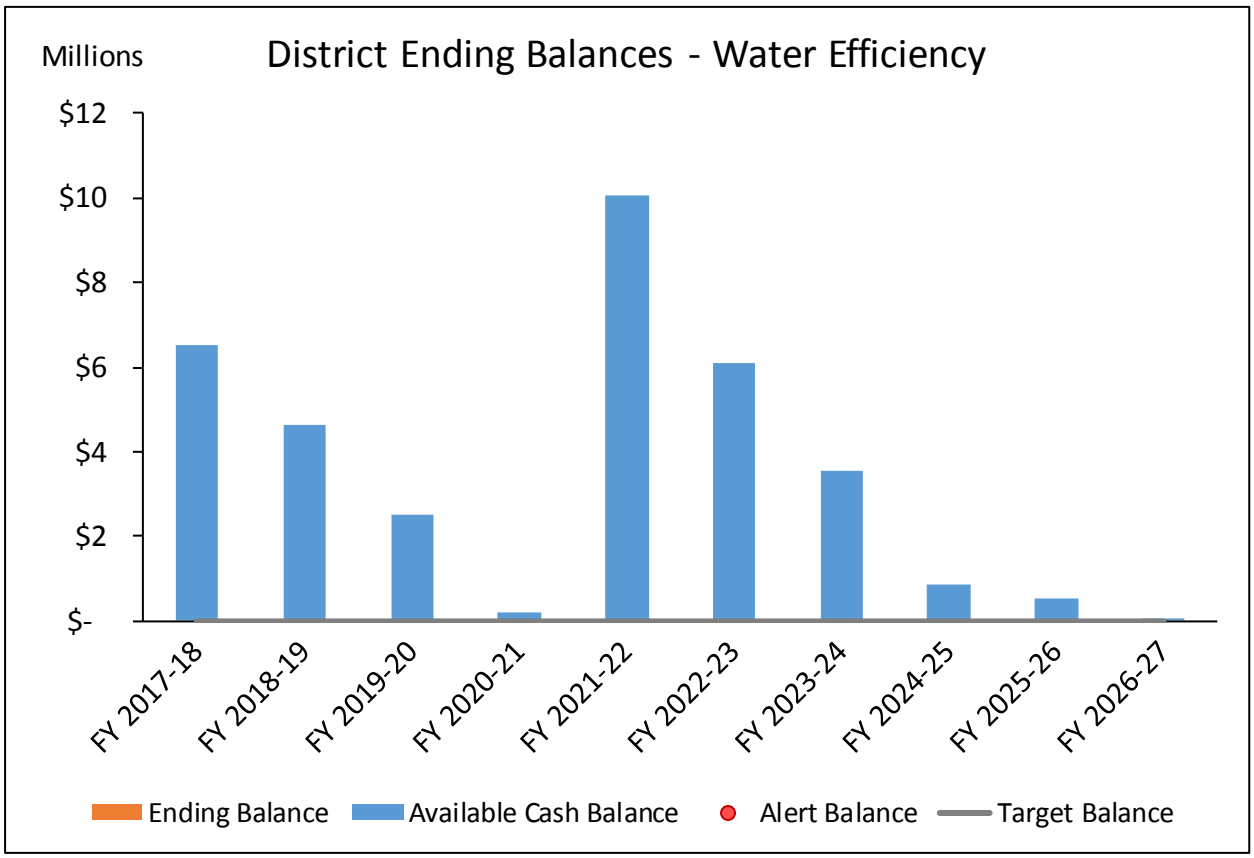
In addition to the costs associated with the ongoing management of the District's water use efficiency and conservation programs, a portion of the capital costs associated with future water supply reliability enhancement projects have been allocated to the Water Use Efficiency Fund. There is a natural nexus between efficient water use and long-term supply reliability, as any reductions in inefficient water use decrease the size, and ultimately cost, or future supply reliability projects. Conversely, continued inefficient water use necessitates more costly reliability projects; the costs of which should be recovered from inefficient usage. Combined with the project costs associated with the District-wide deployment of AMI, the District has identified $18 M in total capital project costs that are allocated to the Water Use Efficiency Fund, as shown in Figure 12.

Figure 12: WUE - 10-Year CIP and Proposed Bond Issuance



The District's continued investment in conservation efforts and rebate programs and its future supply reliability investments will draw down current Water Use 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 Use Efficiency fund balances, District staff is proposing a one-time adjustment to its Water Use Efficiency surcharges as part of the recommended four year rate structure, specifically a total annual increase of $0.5 million in additional revenue requirements. The District has historically rate-funded all costs associated with the Water Use Efficiency fund; however, staff is cognizant of the significant rate impact that continuing this approach would have on customers as well as the financial volatility in the fund historically. To mitigate the potential impacts to today's customers, District staff is also proposing that $15 M of the projected new money bond issuance in FY 2021-22 be allocated to Fund 6 along with an additional one-time revenue adjustment sufficient to maintain the fund through the remainder of the planning horizon. Staff considers the proposed funding strategy optimal as FY 2021-22 would coincide with the District's 2020 Long Range Financial Plan at which point Fund 6 revenue requirements would be re-evaluated. This one-time adjustment in rates paired with the proposed FY 2021-22 is sufficient to avoid a negative fund balance in any one year of the financial plan. The proposed plan addresses the significant program changes that have occurred since the development of the 2015 Long Range Financial Plan, and should rebate program participation decline significantly from current levels the proposed issuance will not be necessary and the unspent available cash will be used to fund the supply reliability and AMI projects.

Figure 13: WUE – District Ending Balances



6 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. Three main assumptions were tested:

Scenario 1: Double the assumption on expected MWD rate increases. (11.3% annual compound rate increase up from a projected approximately 4.8% average compound annual growth rate for Tier 1 Treated Water, and an 18.4% annual compound rate increase up from a projected approximately 7.2% average compound annual growth rate for Tier 1 Untreated Water)

Scenario 2: 4% annual increase of within budget water usage is analyzed from the flat demand shown in the Long Range Financial Plan as the baseline.

Scenario 3: Assume an additional $60 M in overall 10-year total CIP expenditures.

6.1 SCENARIO 1: INCREASED COST OF WATER

Assuming MWD's estimated annual rate increases on the wholesale supply cost double to approximately an 11.3% and an 18.4% increase annually compounded for Tier 1 Treated and Untreated supplies, respectively, supply costs by FY 2026-27 increase to $48.9 million, up from the baseline scenario of FY 2026-27 supply costs at $35.8 million. The net effect is a decrease from a baseline ending balance in FY 2026-27 from $85.7 million to $23.1 million. To account for this increase in supply costs, the District must effectively offset that increase by 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 MWD rate increases or newly imposed charges in excess of those currently forecasted. AB 3030 allows for water and wastewater agencies to make adjustments to rates in future years 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 simply wait and address the unexpected level of supply cost increases as part of the next rate study. However, it is worth noting a possible shortfall of this strategy: any delay in adjusting rates to meet the increased supply costs would result in an even larger than expected rate adjustments to make up for the difference in revenue and expenses. This shortfall could be offset by the use of the District's rate stabilization reserve, though it would reduce the District's ability to respond to other unexpected crises.

6.2 SCENARIO 2: INCREASED WITHIN BUDGET DEMAND

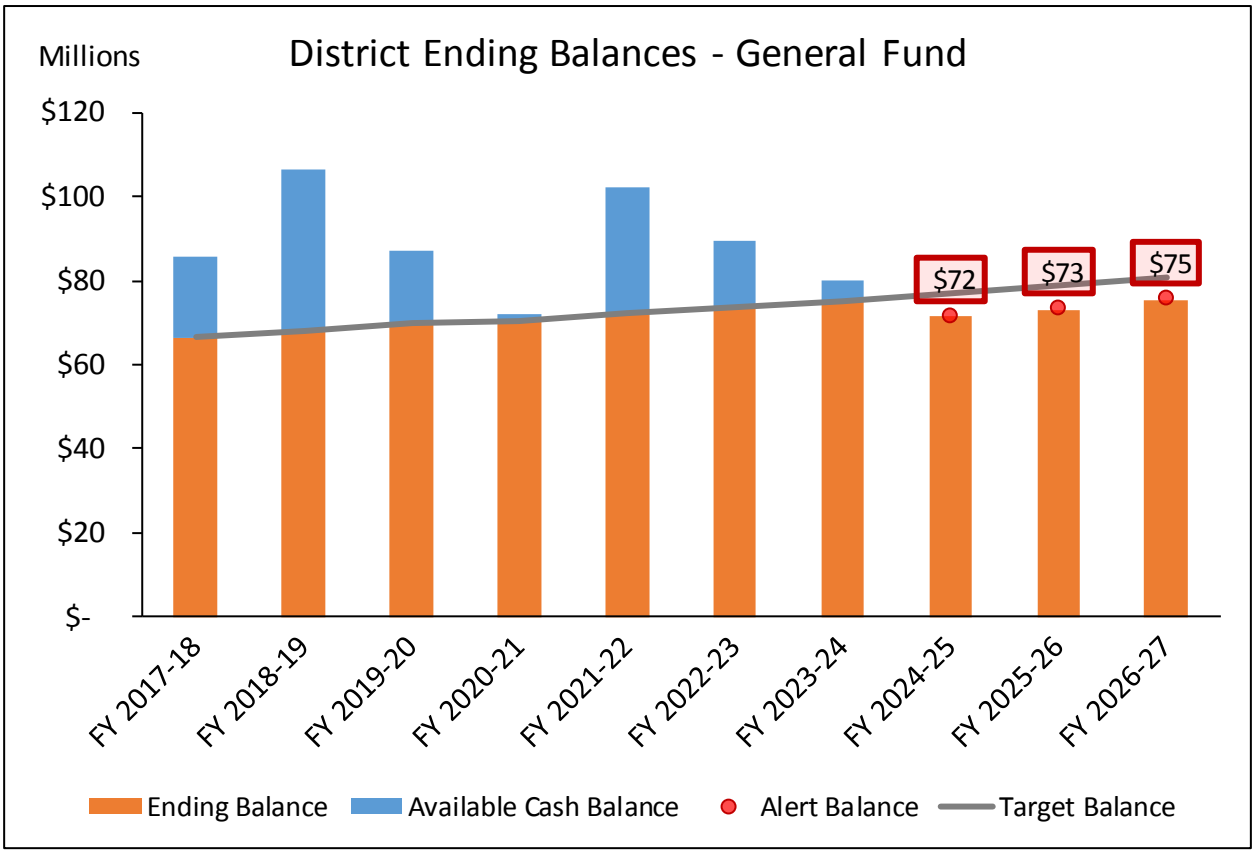
Moulton Niguel Water District has invested heavily since 2011 to instill a water efficiency ethic in its service area through the combination of a water budget based rate structure and aggressive conservation rebate programs. There is a natural concern that as a part of this ethic the District will ultimately reduce water sales, which represent a large share of the District's annual revenue. As part of the 2015 Long Range Financial Plan, an analysis of demand reduction was conducted to determine what financial impact the District could expect from increased conservation and efficiency. The District's rates are structured so that any incremental revenue collected from the higher tiers is allocated to the Water Use Efficiency fund for water efficiency and water reliability expenditures. As a result, the decrease in sales from the higher tiered water does not affect the District's General Fund or daily operating revenues. This result was validated empirically during the last drought, as the District's financial position improved while meeting

the 20 percent reduction target implemented by the State. This flexibility in financial structure allows the District to focus water efficiency efforts without concern for the financial impacts of decreased water sales.

A different analysis is performed here, in which only within budget demand usage is increased to better understand what affect those demands have on the District's financial position. To perform this analysis, a scenario in which within water budget usage (usage in Tier 1 and Tier 2) was increased by 4 percent annually, while usage in the out of budget tiers was held fixed. The baseline financial plan assumed status quo water usage at FY 2016-17 levels.

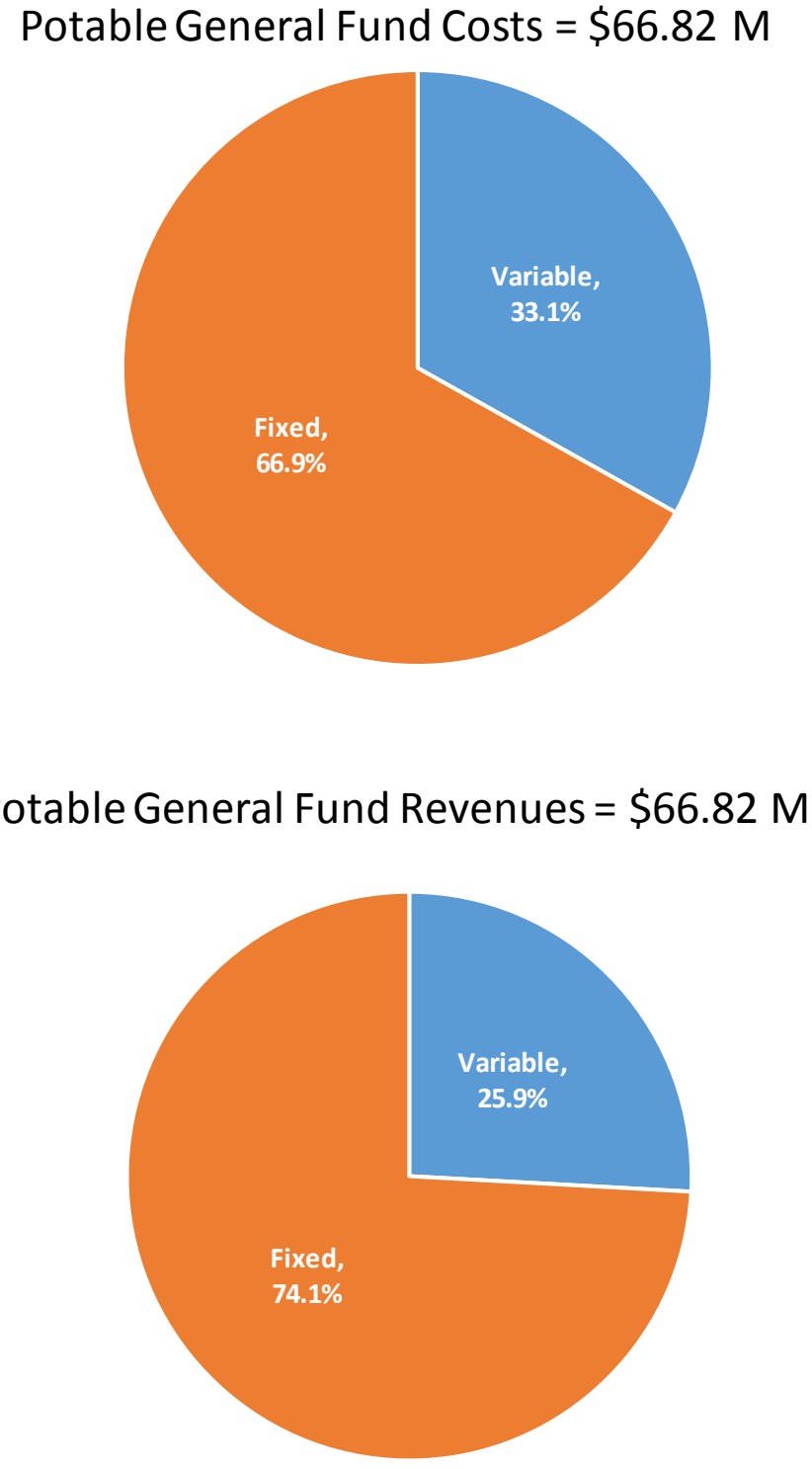
With annual in budget usage increases of 4 percent between FY 2018-19 and FY 2026-27 there is a cumulative decrease in ending balances of $34.1 million in comparison to the proposed financial plan base case, as shown in Figure 14.

Figure 14: Increased In-Budget Usage Impacts to Ending Balances



Currently, the District utilizes revenues from property tax to offset the supply cost of water to its customers for within budget usage as a way to incentivize efficient water use. As a result, the District recovers a portion of its variable costs from fixed revenues. The discrepancy between cost and revenue structures is shown by comparing the two pie charts in Figure 15.

Figure 15: Ratio of Fixed to Variable Costs and Revenues



Because of this relationship between fixed and variable costs and revenues, the District faces a potential risk from increases in water demand for supplies that are sold at a discount. The District could minimize

or eliminate this potential risk by better aligning the ratio of its fixed and variable revenues with its ratio of fixed to variable costs.

6.3 Scenario 3: Increased CIP Spending

Repair and replacement cost contained in the CIP represents $220 million out of the $295 million adopted 10-year CIP budget. The District has been proactive in the maintenance of its infrastructure and developed its 10-year CIP budget to continue that trend; however, given changing customer demands and the additional wear and tear placed on assets during the historic drought and following winter, there may be additional infrastructure costs that were not previously identified. To better understand the District's ability to absorb potential infrastructure repair costs, a scenario was evaluated in which an additional $60 million of project costs were added to the 10-year CIP budget.

The status quo scenario retains the proposed 4 percent annual revenue adjustments and $62 million bond issuance in FY 2018-19 identified in the General Fund Financial Plan, but assumes that no other corrective actions are taken. The additional CIP and impacts to ending fund balances can be seen in Figure 16 and Figure 17, respectively.

Figure 16: Additional General Fund CIP

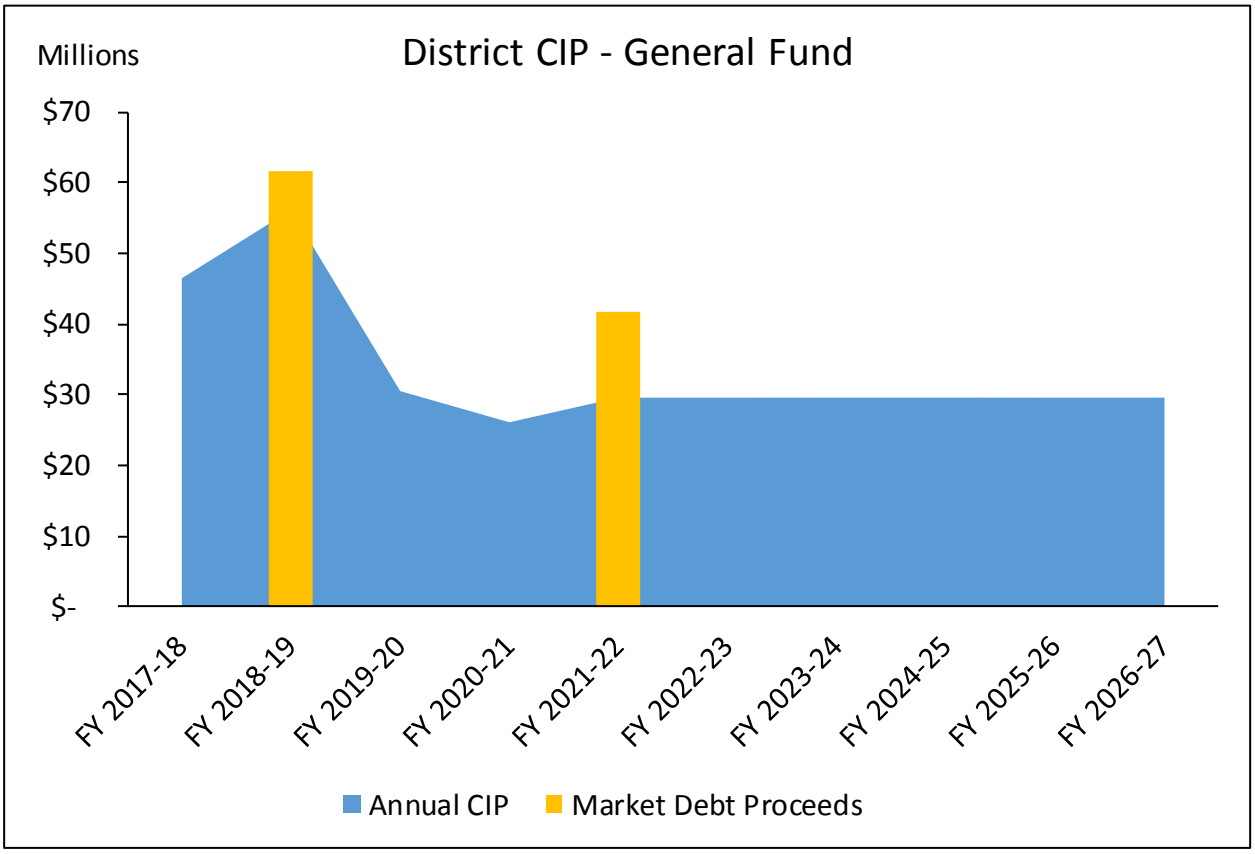
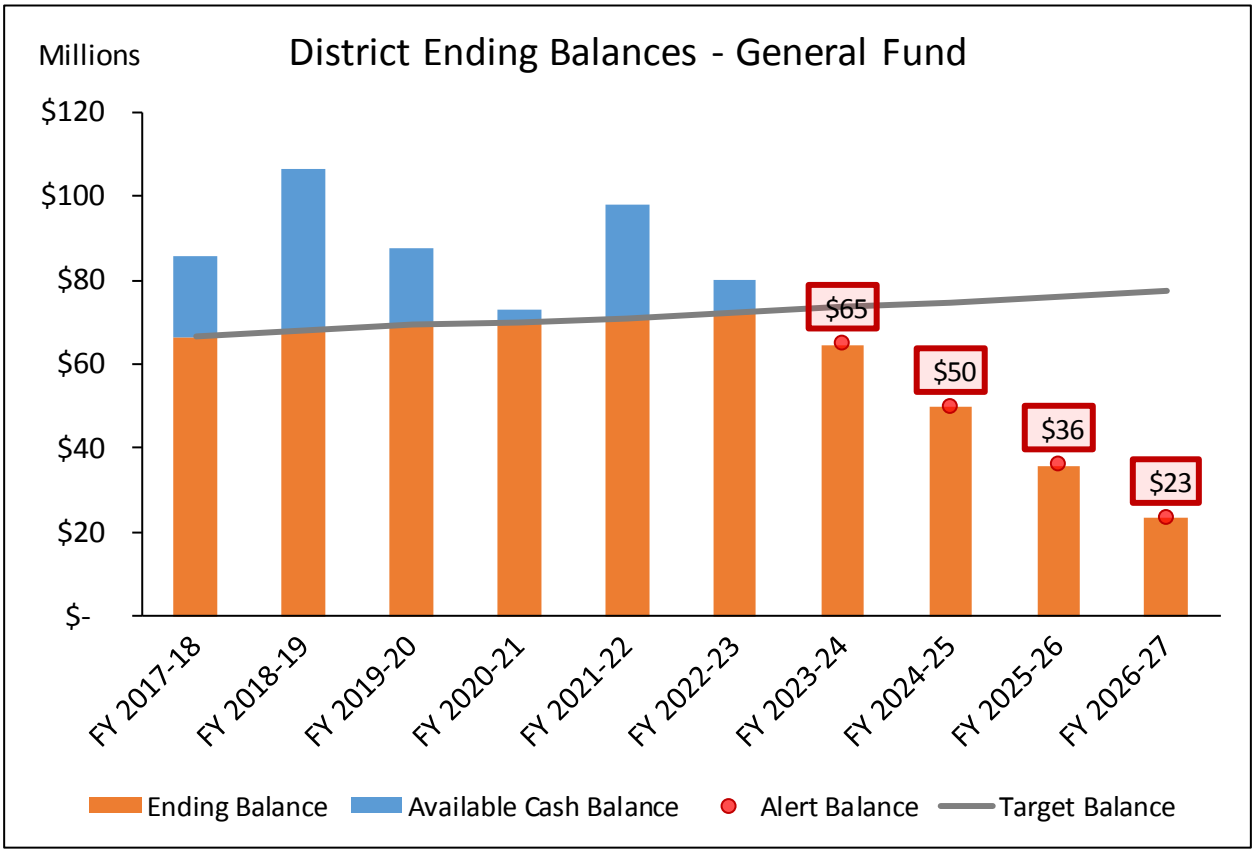
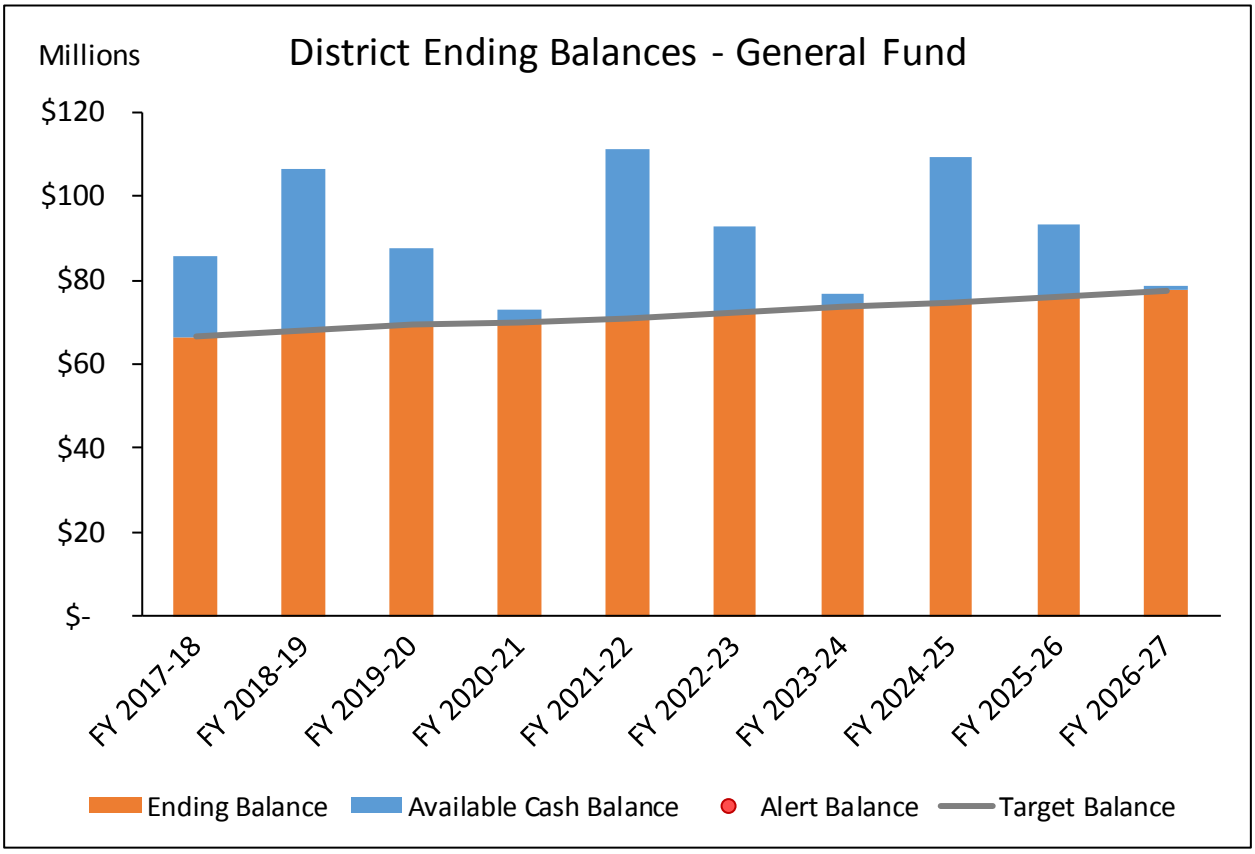


Figure 17: Additional CIP Impacts to Ending Balances



Without corrective action, the District's General Fund ending balances would drop below reserve targets by FY 2023-24. The District could address this potential by issuing additional debt. By increasing the proposed issuance in FY 2021-22 to $106 million and issuing an additional $48 million in debt in FY 2024-25, ending balances will stay above identified reserve targets in all years of the planning horizon, as seen in Figure 18. This response complies with the District's policy of a 1.75 debt service coverage ratio, which is maintained above the 1.25 debt service coverage ratio that is required by existing bond covenants.

Figure 18: Additional Debt Issuance Impact on Ending Balances



7 Financial Management Tools

When considering revenue requirements and the need to periodically adjust revenues the District has a number of tools that may be utilized as outlined in this section.

7.1 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 required revenues.

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

7.3 Cooperative Agreements

The District continually looks for ways to save rate payers money in order to mitigate 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 surrounding agencies on capital projects that may bring regional water reliability benefit and costs sharing. They also look to find operational cost savings by participating in shared service opportunities with other local agencies.

7.4 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.

7.5 Rates and Fees

The District can use the rate structure to determine revenue generated from each system and recovery of costs from variable or fixed revenue components. In additional 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.

7.6 District Owned Property

The District owns a number of properties that house District facilities as well as multiple vacant properties. The District has the ability to evaluate future projected needs for each property and aspire to achieve the maximum value possible from each asset. Property management options include the expanding operations, leasing land, or exchange or sale of District owned land to maximize potential revenues from that source.

Each of the components in this section are reviewed on a periodic basis and updated if necessary to reflect changes to operations, the economy or the environment.

8 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 provide a roadmap for future needs and actions. 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. With all the future considerations to account for, the Model provides a tool to create adaptive management strategies to be evaluated as major assumptions fluctuate.

In order to maintain District financial stability based on expected future expenditures and revenues, the following overall adjustments to revenue collected are suggested in Table 15:

Table 15: Gen. Fund Revenue Adjustments

General Fund Revenue Adjustments		
Implementation Day & Month	**Implementation Year**	**Revenue Adjustment**
January 1	FY 2017-18	4.0%
January 1	FY 2018-19	4.0%
January 1	FY 2019-20	4.0%
January 1	FY 2020-21	4.0%
January 1	FY 202122 - FY 2026-27	4.0%

The revenue adjustments in Table 15 represent needed additional revenue collected from rates but could be offset from non-rate revenue growth beyond baseline assumptions and achieved utilizing the financial management tools outlined in section 7 of this report. 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
- MWD and MWDOC wholesale rate adjustments

The proposed revenue adjustments maintain the District's debt coverage ratio above the Board adopted policy to maintain a 1.75 coverage ratio. In addition, the revenue generates the needed funds to meet the funding requirements of Ten Year Capital Improvement Plan with the caveat that the Financial Plan assumes a $62 million debt issuance in FY 2018-19 and a $42 million issuance in FY 2021-22. Lastly, the Financial Plan maintains reserve and available cash balances to hedge risk exposure for the agency. The District will provide updated recommendations based on any significant changes to the baseline reflected in this Financial Plan.